

MINUTES  
OF  
REGIONAL RESOURCE STEWARDSHIP COUNCIL  
MEETING

November 1, 2000  
Knoxville, Tennessee

Present

1. Senator Roger Bedford, Jr.
  2. Mr. Lee Baker
  3. Mr. Austin Carroll
  4. Mr. Phil Comer
  5. Ms. Ann Coulter
6. Mr. Jim Creighton (Council Consultant)
  7. Mr. Bill Forsyth
  8. Mayor Thomas Griffith
  9. Ms. Julie Hardin
10. Dr. Kathryn J. Jackson (DFO)
  11. Mr. Al Mann
  12. Mr. Bob Matheny
  13. Ms. Miles Mennell
  14. Ms. Elaine Patterson
  15. Mr. Bruce Shupp
16. Mayor Eddie L. Smith, Jr. (Council Chair)
  17. Dr. Stephen A. Smith
  18. Dr. Paul F. Teague

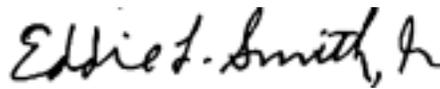
Absent

1. Mr. Jimmy Barnett
2. Mr. Herman Morris, Jr.
3. Mr. W. C. Nelson
4. Mr. Jim Sutphin

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1. Transcript
2. Bob Matheny's resignation letter from the Council
3. Letter from David Brown, America Outdoors (letters available at TVA Corporate Library)

Approved by



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REGIONAL RESOURCE STEWARDSHIP COUNCIL MEETING

NOVEMBER 1, 2000

LOCATION:

TENNESSEE VALLEY AUTHORITY  
400 WEST SUMMIT HILL DRIVE  
KNOXVILLE, TENNESSEE 37902

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REGIONAL RESOURCE STEWARDSHIP COUNCIL

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TENNESSEE VALLEY AUTHORITY REPRESENTATIVE

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1 P R O C E E D I N G S

2 MAYOR EDDIE SMITH: Good morning.

3 Would you get your seat, please? There's plenty of  
4 seats for the spectators around here. If you would  
5 come around, that would help us some for those that  
6 may come in late.

7 Well, I guess it's about time to call  
8 this session to order. I think we will start out  
9 this morning with a moment of silent meditation  
10 before we begin with our business today.

11 As you can see, we have a real busy  
12 day and we have a number of presentations that we  
13 have been looking forward to. So we're going to get  
14 right on into our business for today, and I'm going  
15 to ask Jim to review the agenda for us at this time.

16 MR. JIM CREIGHTON: We do have a full  
17 day of briefings. The thing I do want you to note  
18 in passing is that we have moved from TVA initiated  
19 briefings. Now, all of these briefings are  
20 initiated by either a subcommittee or a request from  
21 members of the subcommittees, or members of the  
22 Council, that is.

23 The first presentation is a  
24 presentation on the U.S. General Accounting Office  
25 Report titled, TVA: Future Study of Lake Levels

1 Should Involve Public and Consider Cost and  
2 Benefits. We had extended an invitation a couple of  
3 months ago and we weren't able to arrange it for the  
4 last meeting, so we will begin with that, and that  
5 be will our first presentation.

6                   For those of you in the audience who  
7 might not be aware, the U.S. General Accounting  
8 Office is a creation of the Congress. It's not a  
9 part of the Executive Branch, it's part of the  
10 Congressional Branch, and it's created to provide  
11 nonpartisan advice and counsel to the members of  
12 Congress.

13                   And while the accounting applies a  
14 purely fiscal focus, in fact, their mandate is  
15 somewhat broader. They focus generally on how  
16 effectively and efficiently that agencies are  
17 operating.

18                   At the last meeting I mentioned  
19 several Council members had requested that the  
20 Tennessee Valley Public Power Association have an  
21 opportunity to join in the discussion about river  
22 flows and lake levels and management of the river  
23 system.

24                   For any of you in the audience who  
25 are unfamiliar with TVPPA, this is an association of

1 all of the consumer owned utilities that purchase  
2 power from Tennessee Valley Authority. This  
3 includes large municipal utilities like Memphis,  
4 Nashville, Knoxville, but also a number of small  
5 utilities in rural communities, and the TVPPA  
6 Executive Director will be talking about how the TVA  
7 decisions affect its member utilities.

8                   We are expected to have a public  
9 comment period at about 11:00 a.m. this morning.  
10 Then after lunch we will have a series of briefings  
11 brought to us by the water quality subcommittees.  
12 These will look at the impact of instream flows upon  
13 navigation. Then we will discuss a new program to  
14 create buffer zones around lakes and streams to  
15 protect water quality. Then we will conclude with  
16 any reports from subcommittees and a discussion of  
17 the agenda for November 29th, which will be the last  
18 meeting of the year.

19                   Let me tell you, at this point I know  
20 of three agenda items for the 29th, and I am kind of  
21 cueing you on this so that at the end of the day you  
22 can let me know if there are others.

23                   I know that the water quality  
24 subcommittee wants some time to talk about water  
25 quality downstream of tributary reservoirs. I know

1 that there are presentations scheduled with rafting  
2 representatives and also discussion by one of the  
3 utilities that's regulating its flows for  
4 regulation -- for recreation purposes as part of its  
5 Federal Energy Regulatory Commission permitting  
6 process. So this afternoon, when we get to that, I  
7 will ask for other things.

8                   Basically the way we're setting the  
9 agenda now is you tell me at the end of each meeting  
10 items, and also I check with the TVA support people  
11 to each of the subcommittees and ask them what they  
12 have heard. I am not calling chairs of  
13 subcommittees directly for fear that we get two or  
14 three people coordinating with the chairs and we'll  
15 have too much chance of miscommunication. So,  
16 please, be sure you let your TVA advisors know what  
17 your subcommittee wants in terms of time on the  
18 agenda.

19                   And we're shooting for adjournment  
20 about 5:00 or even maybe slightly earlier.

21                   MAYOR EDDIE SMITH: Okay. Thank you,  
22 Jim. Our speakers from the General Accounting  
23 Offices are John Hunt, who is Assistant Director for  
24 Natural Resources and Environment, U.S. General  
25 Accounting Office; and Mahrzad Nadji, Assistant

1 Director for Economic Analysis Applied Research and  
2 Methodology from the GAO; and Philip Farah, Senior  
3 Economist, Applied Research and Methodology from the  
4 GAO. I think all of these persons were involved in  
5 the actual study itself.

6                   Again, this morning we will, when  
7 they make their presentation, we ask you to do our  
8 ground rule that we usually do; that is, allow them  
9 to make the complete presentation. If you have a  
10 point that you want to offer, please make a notation  
11 of that and do it at the end. And again, we're  
12 asking Jim to facilitate the question-and-answer  
13 period.

14                   And that's -- with that, we will have  
15 our first presentation from the General Accounting  
16 Office.

17                   MR. JOHN HUNT: Thank you, Mayor  
18 Smith, and good morning to the Council members. My  
19 name is John Hunt, and I am an Assistant Director  
20 with the General Accounting Office and I work out of  
21 Atlanta, Georgia.

22                   As Mayor Smith mentioned this  
23 morning, accompanying me this morning are Mehrzad  
24 Nadji, an Assistant Director for Economic Analysis;  
25 and Philip Farah, a Senior Economist for our Office

1 of Applied Research and Methodology of Washington,  
2 D.C.

3                   We're here this morning to talk about  
4 the report we issued in May of 1999. That report  
5 dealt with TVA's multipurpose tributary projects.  
6 And the title of the report is, The Tennessee Valley  
7 Future Study of Lake Levels Should Involve Public  
8 and Consider Cost and Benefits. We issued that  
9 report at the request of Representative Van  
10 Hilleary.

11                   What we want to do this morning is  
12 talk about the report and give you some overview  
13 information. We want to make some things clear up  
14 front, that our presentation is based solely on that  
15 information in that report. Again, it was issued in  
16 May of 1999.

17                   We will not be able to comment on  
18 specific issues that deal with impacting lake level  
19 policy changes that may be considered since that  
20 point in time. Also, we have not performed an  
21 evaluation of those potential changes and we could  
22 be requested to examine this issue again in the  
23 future.

24                   I think each of you have a copy of  
25 the presentation. You also have a copy of our

1 report. Our report's divided into five chapters, an  
2 introductory chapter and four specific chapters  
3 addressing each of the objectives we agreed with  
4 Representative Hilleary on.

5                   The first chapter deals with the  
6 purposes served by TVA multipurpose tributary  
7 projects and how TVA operates those projects. The  
8 third chapter deals with operational changes that  
9 were made to these projects as a result of TVA's  
10 1990 review and what major factors influenced those  
11 changes. The fourth chapter deals with the actions  
12 TVA had taken since the '90 review to address  
13 request for changes in the way these projects are  
14 operated, and the last chapter dealt with plans TVA  
15 had for the future and what was going to happen.

16                   Again, this report was issued about  
17 18 months ago. In preparing for today's testimony  
18 what I noticed was that the Council's already had  
19 specific meetings and they have heard a lot of  
20 testimony so far from TVA and Janet Herrin's group  
21 about river operations and the integrated system,  
22 and in June you heard from Chris Ungate about TVA's  
23 1990 review, which was referred to as the Lake  
24 Improvement Plan. So what I want to try to do  
25 today, and Phillip also, is to give an idea of some

1 of the things that we found and give you an  
2 overview.

3 Can you still hear me?

4 MR. JIM CREIGHTON: Move it up just a  
5 little.

6 MR. JOHN HUNT: In Chapter Two we  
7 provide information showing that TVA's network of  
8 projects, an integrated system of some 54 projects,  
9 were created for a variety of reasons and are  
10 operated for many purposes.

11 In operating the multipurpose  
12 tributary projects, and that was the focus of our  
13 review, TVA is guided by the operating principles  
14 and priorities in the TVA Act of 1933. These  
15 priorities required TVA to operate its system of  
16 projects primarily to promote navigation and flood  
17 control, and to the extent consistent with those  
18 purposes, for hydroelectric power production. In  
19 addition, other purposes have developed over time.  
20 Those would include water quality and recreation.

21 As the Council knows, the integrated  
22 system has 54 projects. What we show on this slide  
23 are the types of projects, 13 multipurpose tributary  
24 projects, nine multipurpose main river projects, ten  
25 single purpose tributary projects, and 22 non-power

1 tributary projects.

2                   Because the focus was on the  
3 multipurpose tributary projects, I just want to give  
4 you a little bit more information on those. Those  
5 projects are located on the various tributaries of  
6 the Tennessee River and were constructed to serve  
7 multiple purposes, including hydroelectric power  
8 production, one or more of the following, flood  
9 control, navigation, recreation, and water supply.

10                   Most of these projects have a  
11 significant amount of drawdown during the year, and  
12 they operate primarily for flood control and  
13 hydroelectric power production. The drawdown begins  
14 in late summer, as everyone knows here, and fall to  
15 help ease or potentially avert flooding.

16                   We have a graphic in the report that  
17 basically shows the Tennessee Valley area, and on  
18 this graphic we show where the multipurpose  
19 tributary projects are and where the main river  
20 tributary projects are. At one point in time we  
21 were going to show all the projects, but as you can  
22 see, it gets kind of cluttered.

23                   In Chapter Two we talk extensively  
24 about the multipurpose tributary projects, and those  
25 projects, just to review, are Boone, Chatuge,

1 Cherokee, Douglas, Fontana, Hiwassee, Melton Hill,  
2 Norris, Nottely, South Holston, Tellico, Tims Ford,  
3 and Watauga. We also include in our report the Blue  
4 Ridge project, which is a single purpose tributary  
5 project, and we did that for a couple of different  
6 reasons; Blue Ridge has an annual drawdown similar  
7 to the multipurpose tributary projects and Blue  
8 Ridge was also included in the 1990 review. So we  
9 thought it was important to include it in our  
10 review.

11                   What we show here on this slide is  
12 that there is a significant drawdown. Using Douglas  
13 as an example, it has a difference of 50 feet of  
14 elevation change during the year from 990 feet on  
15 August 1st target level to a target level of  
16 940 feet above sea level on January 1.

17                   In our report on pages 28 and 29 we  
18 include slides of two of the projects, Fontana and  
19 Hiwassee, to try to give the reader an idea of what  
20 it looks like when the projects are drawn down. So  
21 I have included some slides here, the quality isn't  
22 as good as in the report, so just bear with these  
23 slides. This is Fontana before drawdown. Fontana  
24 after drawdown. Hiwassee before drawdown. Hiwassee  
25 after drawdown. As you can see, a lot of boats are

1 out on the mudflats and the water is way off in the  
2 distance.

3                   In Chapter Two we include a  
4 discussion providing all the definitions of the  
5 various project purposes, navigation, flood control,  
6 recreation, and so on. We also talk about the  
7 factors that influence how TVA operates its  
8 multipurpose tributary projects. A couple of those  
9 are the specific design characteristics of the  
10 projects themselves and two sets of broadly defined  
11 policies and guidelines that TVA uses. These  
12 guidelines include lake level policies and reservoir  
13 release policies, and I think you have heard some of  
14 that in terms of the operating curves that TVA uses  
15 to operate.

16                   We include in the Chapter Two some  
17 characteristics of all the projects. What we try to  
18 do here is just highlight some of those, and what  
19 this shows is the flood control capacity in three of  
20 the projects. As you can see, these represent about  
21 3.7 million acre feet of flood control capacity in  
22 these three projects as of January 1. It actually  
23 reduces down to June 1 to about 900,000 acre feet.

24                   At the end of Chapter Two we talk  
25 about the balancing act that is an issue that TVA

1 faces in operating these projects. It has to do  
2 them within the operating priorities it has, but  
3 also it has conflicting and/or competing needs of  
4 various users throughout the valley. What we tried  
5 to highlight here are some of those conflicting and  
6 competing uses, higher levels for recreation, low  
7 cost benefits of hydropower, maintenance of an  
8 11-foot navigation channel, protection from floods,  
9 water quality environmental concerns.

10 I am going to turn now to the third  
11 chapter of our report where we talked about the 1990  
12 review that TVA did that was called technically the  
13 Tennessee River and Reservoir System Operation and  
14 Planning Review, and it's been referred to as the  
15 Lake Improvement Plan.

16 I know on June 22nd the Council was  
17 given a pretty detailed briefing by Chris Ungate  
18 about that review. We're going to highlight some of  
19 the things here in this chapter, but I think you  
20 have heard a lot of these things already.

21 To highlight, the review in 1990  
22 included analyses of seven alternative lake level  
23 policies, ranging from drawdown restricted for ten  
24 projects from Memorial Day to August 1, that was  
25 referred to as Alternative 1; drawdown restricted

1 for the ten projects from Memorial Day to  
2 October 31, alternative 3. There were various  
3 alternatives between these, and I will mention two  
4 of those. Alternative 1(A) required an additional  
5 two-month drawdown delay for three of the ten  
6 projects, and alternative 2, an additional one-month  
7 drawdown delay for all ten projects.

8                   We talked originally about 13  
9 multipurpose projects. We added Blue Ridge, which  
10 made a 14th project. Back in 1990, they only looked  
11 at ten projects, Blue Ridge was one of those. The  
12 others that were included in that review were  
13 Chatuge, Cherokee, Douglas, Fontana, Hiwassee,  
14 Norris, Nottely, South Holston, and Watauga. The  
15 four projects that were excluded were Boone, Melton  
16 Hill, Tellico, and Tims Ford. In our report on page  
17 42 we include a footnote that gives the reasons why  
18 those projects were excluded.

19                   Ultimately, there was several factors  
20 affecting the alternative that was selected, which  
21 was alternative 1. Among those was the lowest  
22 estimated annual average increase and system-wide  
23 cost to supply electric power, \$2,000,000 per year,  
24 sloping targets allowed for TVA to do hydropower  
25 production during June and July where the lake

1 levels were actually higher then, they were August 1  
2 target levels, and they were able to still meet the  
3 target levels for August 1.

4                   There were minimal effects on  
5 navigation and flood control efforts. There was an  
6 estimated increase in recreation visits of  
7 21 percent. And there also was improved navigation  
8 on the Ohio and Mississippi Rivers during September  
9 and October.

10                   We took a look at the changes that  
11 had taken place since the 1990 review, and what we  
12 do in this slide is show the median lake levels on  
13 August 1st prior to the '90 review and after the  
14 1990 review. Using Cherokee as an example, the  
15 average increase was 7.4 feet before and after the  
16 1990 review.

17                   We thought it was important also in  
18 our report to provide some perspective about what  
19 were the total elevation changes that took place  
20 during the year. We include in our report an  
21 Appendix 2 that shows for each of the 14 tributary  
22 multipurpose tributary projects we looked at, the  
23 actual elevation change that took place each month  
24 and showed what was the minimum and what was the  
25 maximum during the year.

1                   In this slide I just try to highlight  
2 for the same three projects what those changes were.  
3 And again, this was in 1998, the last full calendar  
4 year that we had data on. As you can see, Douglas,  
5 during the year, had a total of 55.0 feet of  
6 elevation change.

7                   We also showed the flood control  
8 levels and the minimum targeted summer levels for  
9 each of the projects in our report. And to use  
10 Douglas as an example, we show at January 1 the  
11 target level is 940 feet above sea level. On  
12 March 15th it's targeted to go to 958. It's  
13 targeted June 1st to go to 992, and then go down to  
14 990 on August 1st. As you can see, the 992 on June  
15 1 helps provide that sloping target level that TVA  
16 thought was important back in the 1990 review.

17                   At this point Philip Farah is going  
18 to talk more about the 1990 review and also about a  
19 1999 update analysis that we had TVA do at our  
20 request.

21                   MR. PHILIP FARAH: I am going to talk  
22 about the very exciting subject of the modeling that  
23 TVA did both for -- in 1990 and the update that they  
24 did in 1999. Yesterday I tried that over dinner and  
25 everybody's eyes started glazing over, so we quickly

1 switched to talking about archeology in Palestine,  
2 exciting topic.

3                   Anyway, the object -- in 1990 TVA  
4 published an environmental impact statement, and  
5 part of the environmental impact statement dealt  
6 with the impacts that changes in lake level policy  
7 would have on the cost of supplying electricity in  
8 the TVA region, that was just part of the 1990 EIS,  
9 and we reviewed that to determine how well it was.

10                   We evaluated that 1990 estimation  
11 procedure, but we felt that things had really  
12 changed considerably from 1990 to 1999. So we got  
13 together with TVA and asked them to obligate some of  
14 their analyses they did to see how cost impacts on  
15 electricity supplies would change under current  
16 conditions.

17                   The essential modeling procedure is  
18 to model the system under the base case, which is  
19 like the current operations of the lakes, and then  
20 to model the system again with all of the different  
21 lake level policy changes and see the difference in  
22 cost from one alternative -- compare the costs in  
23 the alternative -- in a given alternative with the  
24 costs in the base case, and the difference would be  
25 the cost impact of the lake level changes.

1                   For that they used three elaborate  
2 computer models and we evaluated their procedure.  
3 The first model is essentially a hydro regulation  
4 model, and what it does is to take the river and all  
5 the water conditions that are prevailing and the TVA  
6 hydropower system of reservoirs and dams and the  
7 operating conditions and the operating constraints  
8 on navigation, on flood control, et cetera, and  
9 convert the river flows into hydroelectric  
10 generation capacity and hydroelectric production and  
11 compare that among the alternatives, each time  
12 comparing alternative with the current conditions,  
13 the base case.

14                   Next you get the hydropower  
15 production from the hydro regulation model, and  
16 there's very long words in this presentation, and  
17 you plug it into another model that decides --  
18 determines the best, meaning meeting the least  
19 cost -- least cost combination of all of your  
20 electricity generation resources to find what is the  
21 cheapest way of meeting a given level of demand, a  
22 given level of load to meet the load in the TVA  
23 region. So, again, you do that with the alternative  
24 and the base case and see the difference in costs  
25 now for the entire system, for fossil generation,

1 for the fossil power plants, as well as the hydro,  
2 comparing costs of energy.

3                   Then the third model essentially  
4 looks at the hydro resources and how lake levels are  
5 going to affect the capacity needs in the system,  
6 the logic being that changing lake level policies  
7 will have an effect on how much generation capacity  
8 there is and you may need to add generation  
9 capacity, which entails capital expenditures, and  
10 again, you compare between the scenarios.

11                   In the 1999 update we asked for only  
12 two of the scenarios, two of the alternatives. In  
13 1990 TVA considered seven different lake level  
14 policies. So we requested the study. And both in  
15 the 1990 and 1999 evaluations the focus was entirely  
16 on the cost of meeting the electricity needs of the  
17 region.

18                   TVA did not attempt to evaluate other  
19 costs, such as navigation costs associated with  
20 changing the lake levels, or the economic benefits,  
21 such as increased recreation or values of the  
22 property or the lake.

23                   As you can see in the next slide, the  
24 results of the 1999 update, the Alternative 1(A),  
25 which would start drawdown in -- October 1st, right,

1 instead of August 1st, that would increase the cost  
2 of the system by \$14,000,000 annually. There are  
3 more drastic lake level policy change alternatives,  
4 which we call Alternative 2, that would add  
5 considerably more, 47,000,000, but as you can see in  
6 the graph, in the table, there would be great  
7 variability.

8 Under certain hydrologic conditions,  
9 the cost might be a lot less or a lot more, also  
10 depending on future prices of electricity, future  
11 demands conditions, all kinds of other variables  
12 that TVA took into consideration.

13 I am going to switch to slide 27.  
14 Here I give a kind of brief description of the  
15 highlights of the 1999 review. It was actually a  
16 lot more elaborate than the 1990 review, partly  
17 because the electricity industry has become a lot  
18 more complex with deregulation.

19 The object was -- of the 1999 update  
20 was to look 25 years into the future. So TVA used  
21 its forecast of demand conditions over the next 35  
22 years wholesale prices of electricity, their own  
23 forecast, and so on, and then -- but you also have  
24 to deal with the issue of the uncertainty of water  
25 conditions. So for that reason they looked 96 years

1 of -- looked at 96 years of history to capture  
2 the -- all the different possibilities of hydrologic  
3 conditions, meaning how much water there is, because  
4 that's the fuel that you're working with.

5 I am going to switch to the basic  
6 differences on page 29 between the 1999 and the 1990  
7 reviews. The most important difference perhaps is  
8 the fact that the base case now is the same. In  
9 1990 the drawdown started in -- Memorial Day, on  
10 Memorial Day, whereas, after the 1990 EIS that was  
11 changed and the drawdown was delayed until  
12 August 1st. So the impacts are going to be less in  
13 1990 because you're starting from a different base  
14 case.

15 The 1990 review considered only one  
16 year, kind of like a test year, and used that as the  
17 basis for analysis, whereas, the 1995 review -- 1999  
18 update looked at 25 years into the future, and  
19 that's based essentially on the fact that wholesale  
20 markets are going to be much more important, so  
21 future conditions, future demand conditions will  
22 play a much more important role in a market based  
23 economy industry as opposed to a regulated cost  
24 based industry.

25 Another thing that was different is

1 that in 1990 only generation costs were examined,  
2 whereas, in 1999, today we have what's called  
3 unbundling of electricity services, and now you have  
4 separate services being sold and valued in the  
5 market separately, including ancillary services, and  
6 hydro has high value as a source for ancillary  
7 services, so that was another difference. Before  
8 electricity was just one bundle and now you separate  
9 the different services and value them separately.

10 I am just going to turn it back to  
11 John briefly.

12 MR. JOHN HUNT: That was the end of  
13 Chapter Three in our report. And what we also have  
14 in our report is some details about all of these in  
15 Appendix 3 that goes into everything that Phillip  
16 has talked about but in more detail. I am really  
17 glad Phillip and Mahrzad was involved in that job  
18 because all of the economics, it's pretty complex.

19 In Chapter Four we discuss what  
20 actions had taken place since the 1990 review. What  
21 we found is not much really changed. What we found  
22 is that TVA continued to receive requests for lake  
23 level changes. At a point in time, March of 1997,  
24 TVA decided to adopt a four-year moratorium on lake  
25 level changes. TVA said this would position them

1 for future competition in the electric utility  
2 industry by retaining the current operating  
3 flexibility afforded by the hydroelectric power  
4 facilities.

5                   TVA also believed that the moratorium  
6 would minimize the public's perception of favoritism  
7 for any particular lake on the system and would  
8 allow TVA staff time to evaluate how studies on  
9 policies impacting lake levels should be evaluated  
10 in the future.

11                   In this chapter we also talk about  
12 two studies that were done that looked at some of  
13 the economic benefits. One we refer to as the  
14 Cherokee and Douglas Lake Study and another is the  
15 Georgia Mountain Lake Study.

16                   I think at the last meeting you had  
17 on September 21st you had presentations by the  
18 principal authors of those two studies, plus another  
19 study that we did not take a look at. What I am  
20 going to have Philip do is highlight some  
21 information about the Cherokee/Douglas Lake Study,  
22 and that will be the finishing part of Chapter Four.

23                   MR. PHILIP FARAH: As I said before,  
24 the TVA analysis -- economic analysis was confined  
25 only to the impact of the lake level changes on the

1 cost of supplying electricity in the region. They  
2 did not look at any other costs, such as navigation  
3 or flood control or any of the benefits.

4                   The two studies that John mentioned  
5 attempted to look at the benefits of lake level  
6 changes to the immediate region, the immediate  
7 region of the lakes. In these cases Cherokee and  
8 Douglas was one of them, one of the studies, and the  
9 other was a mountain lake study.

10                   The Cherokee and Douglas study looked  
11 at -- used different approaches to try to estimate  
12 economic impacts on the region. One approach was to  
13 serve lake users on how much more expenditures would  
14 accrue to the region if lake levels were kept  
15 higher; that is, essentially how much more visitors  
16 would be coming to the region and spending money on  
17 recreation and other increases and expenditures.

18                   They did a kind of statistical  
19 analysis looking at lake levels and statistically  
20 tried to relate them over time to various economic  
21 indicators in the regions and other approaches.

22                   And the result of the study is shown  
23 in the next table. The alternative lake level  
24 policy that we call 1(A), roughly the same as TVA's  
25 1(A), would result in increased expenditures of

1 between one and \$7,000,000 annually. That would  
2 translate into net income increases of about .6 to  
3 5.7 million annually, some employment increases and  
4 tax increases, as you can see.

5 But we talked to the authors of the  
6 study and to other stakeholders, such as L.O.U.D,  
7 and there was some criticism of the study, even by  
8 the authors themselves, because they felt they  
9 didn't have enough resources to work with and they,  
10 you know, recognized that there was some  
11 limitations. They felt that the estimates were  
12 maybe on the low sides -- on the low side.

13 On the other hand, TVA felt that the  
14 estimates may capture increases in economic activity  
15 in that particular region, but that might be at the  
16 expense of other regions, meaning that there would  
17 be substitution going from to some lakes in other  
18 counties to visitation in these affected counties.  
19 So it doesn't consider the economic impact on the  
20 region as a whole.

21 And we also looked at the Georgia  
22 Mountain Lake studies, and I can comment on that if  
23 you have any questions.

24 MR. JOHN HUNT: In the last chapter  
25 of our report, Chapter Five, we talked about TVA's

1 future plans, and what we found is that TVA had been  
2 doing some things since the 1990 review, but a lot  
3 of that wasn't made known to a lot of people.

4                   What we saw was that there was a task  
5 force created on lake level issues, and in July of  
6 1998 that task force recommended that while TVA  
7 should continue its moratorium on any changes  
8 impacting lake levels, a re-evaluation should be  
9 initiated within the next two to four years. And  
10 again, that was in July 1998.

11                   The task force estimated at that  
12 point in time the cost to conduct a comprehensive  
13 review of TVA's current policies impacting lake  
14 levels would total about \$8,000,000 and would take  
15 three to five years. The tasks force also concluded  
16 that in order to conduct such a review, TVA needed  
17 to do several things. First, refine, develop, and  
18 apply analytical tools aimed at re-evaluating flood  
19 risks, which had not been done for quite some time,  
20 the impact of policy changes to its system-wide cost  
21 of supplying electric power, and economic benefits  
22 related to lake level changes.

23                   They also needed to develop and  
24 implement a proactive, let me emphasize that again,  
25 a proactive communication plan to increase the

1 public's understanding of TVA's integrated river  
2 system operations. TVA also had budgeted some funds  
3 at that point in time to create and start some of  
4 the preparatory work.

5                   At the end of Chapter Five we make a  
6 number of conclusions. We agree that -- with TVA  
7 that a re-examination of lake level policies was  
8 warranted. We added that an important aspect for  
9 TVA to consider in those efforts was a formal and  
10 continuing communication with public and the other  
11 stakeholders.

12                   Such communications are needed for  
13 several reasons, and we highlighted five in our  
14 report. So I think it's worth repeating here.  
15 Further educate TVA regarding the concerns and needs  
16 of the various stakeholders that must be considered  
17 in the re-examination process. Give TVA additional  
18 opportunities to explain the operation of its  
19 integrated river management system. Three,  
20 establish realistic expectations of the time  
21 required to evaluate changes in policies impacting  
22 lake levels. And four, keep the public informed of  
23 TVA's ongoing activities and progress achieved. And  
24 last, increase the overall credibility of the  
25 re-examination process.

1                   We also concluded the past  
2 examinations evaluating changes of lake level  
3 policies tended to emphasize either the costs, as  
4 had been the case with most of TVA's work in the  
5 past, or the benefits as some of the studies that  
6 were done by lake user groups that benefit from the  
7 lakes.

8                   When re-examining any potential  
9 changes to such policies, we believe a balanced and  
10 comprehensive decision can only be reached through  
11 consideration of the costs and benefits of the  
12 alternatives considered.

13                   As a result of this, we made two  
14 recommendations in our report, and we highlighted  
15 them on this line. First was to provide for a  
16 formal and continuing communication process with the  
17 public participation in TVA's re-examination  
18 efforts. I firmly believe the outgrowth of this  
19 Council is part of trying to implement that  
20 recommendation.

21                   The second recommendation was to  
22 ensure that re-examination efforts consider the  
23 costs and benefits of any potential policy change.  
24 What we feel has happened over time is one part has  
25 been emphasized over the other part. We haven't

1     tried to put them both together.  It's a difficult  
2     process, but if you're going to evaluate these  
3     changes, they both need to be put together.

4                     That concludes the presentation we  
5     have for this morning.  We welcome any questions  
6     from the Council.

7                     MR. JIM CREIGHTON:  Are there any  
8     questions from Council members?

9                     Austin?

10                    Incidentally, today for questions  
11    let's use the tent up thing, it makes it much easier  
12    for me to know whether you're twitching or really  
13    volunteering for a question.

14                    Austin?

15                    MR. AUSTIN CARROLL:  In the -- when  
16    you asked TVA to run their models again against  
17    alternative 1(A) and 2, can you go back to that  
18    slide which shows those costs and maybe run through  
19    that with a little bit more explanation?

20                    MR. JIM CREIGHTON:  Do you have a  
21    page number down at the bottom?

22                    MR. AUSTIN CARROLL:  No, there's not  
23    one on this, but it's the results of the -- running  
24    the model against alternative as far as the costs  
25    are concerned.

1 MR. PHILIP FARAH: This one?

2 MR. AUSTIN CARROLL: Yes. Could you  
3 explain, I mean, just for the benefit of everyone  
4 here one more time, alternative 1(A) and 2, and  
5 again, what these costs reflect?

6 MR. PHILIP FARAH: Okay. Alternative  
7 1(A) is -- you have -- you delay the drawdown for  
8 three lakes, Douglas, Cherokee, and Nottely, I  
9 think, or Norris.

10 MR. JOHN HUNT: Norris.

11 MR. PHILIP FARAH: Norris. Douglas,  
12 Cherokee, and Norris you delay it from August 1st  
13 until October 1st and you leave everything else the  
14 same. Alternative 2, you delay drawdown to Labor  
15 Day for all ten lakes.

16 MR. AUSTIN CARROLL: All ten until  
17 Labor Day?

18 MR. PHILIP FARAH: You will have to  
19 go to the report to see which ten lakes exactly they  
20 were. Did you kind of want me to explain the  
21 difference between the average and the low and the  
22 high?

23 MR. AUSTIN CARROLL: Okay. This is  
24 the cost of lost hydro production alone, is that  
25 correct?

1                   MR. PHILIP FARAH: The costs of not  
2 just the losses in hydro production but also the  
3 difference in scheduling the hydro. See, hydro is  
4 generally scheduled to meet more of the peak demand.  
5 So essentially what you're doing is you're  
6 displacing -- think of it as you bring on a hydro  
7 unit in order to avoid having to bring on a fossil  
8 fueled plant, which is a more expensive unit to run  
9 than your average.

10                   You know, the way they schedule  
11 electricity, I'm sure many of the people in the  
12 audience are familiar, you have your baseload, which  
13 is running all the time, and the operations and  
14 maintenance costs, the variable costs of the  
15 baseload are pretty low. Then as demand rises  
16 during the day, for example, you bring on your  
17 increasingly more expensive units. You bring on the  
18 hydro in order to avoid the more expensive  
19 generation.

20                   So if you have less flexibility in  
21 bringing on hydro in August when the demand is very  
22 high because of air conditioning, then you're having  
23 to bring on, you know, say, another kind of plant,  
24 natural gas plant, which has higher variable costs.  
25 So it's not only -- actually over the entire year

1 you're producing pretty much as much hydro, you're  
2 just reshaping the production from more peak load  
3 production to off peak.

4 MR. AUSTIN CARROLL: But it didn't  
5 include such things as lost production at the  
6 nuclear plants due to low flows or anything like  
7 that, this was just displacing hydro production?

8 MR. PHILIP FARAH: The nuclear plants  
9 are -- if I am correct on this, are baseload plants,  
10 they run all the time. They run as much as  
11 possible. We don't want to turn them on and off  
12 because it's very expensive to do that.

13 And the modeling takes into  
14 consideration -- it dispatches the entire system.  
15 As I said, the first model just looks at how the  
16 lake levels would change the hydro production. Then  
17 you take the hydro production and plug it into a  
18 model that dispatches the entire system and cost it  
19 out, so you see the difference in costs between the  
20 two alternatives.

21 MR. AUSTIN CARROLL: Okay. But it  
22 would not -- it did not include any, you know,  
23 effects relative to flood control or costs of  
24 additional flooding or any of that kind of stuff?

25 MR. PHILIP FARAH: No. It looked

1 only at the electricity supply costs.

2 MR. JIM CREIGHTON: Can I make a stab  
3 at summarizing what you're saying and you tell me if  
4 it's right?

5 You're saying that they really are  
6 still going to produce the same amount of hydropower  
7 because it's the cheapest one?

8 MR. PHILIP FARAH: Pretty much.

9 MR. JIM CREIGHTON: But what they're  
10 doing is moving it from August or something like  
11 that into the fall, but when they go to market with  
12 it in August it's worth much more because it's more  
13 valuable during the hot summer days, and so forth,  
14 than it is when it's sold in October or November,  
15 and so on, so you have to account for the difference  
16 in its value?

17 MR. PHILIP FARAH: You can also view  
18 it from a cost perspective, you know, in August the  
19 hydro is displacing more expensive units, all right,  
20 because you're at peak, you know, and you have to  
21 bring in the very expensive grungy units, so to  
22 speak, but if you don't have that flexibility you  
23 can't displace that really expensive-to-operate  
24 unit.

25 MR. JIM CREIGHTON: So there's sort

1 of a double effect, both the --

2 MR. PHILIP FARAH: No, really it's  
3 one effect. You can view it either from a cost  
4 perspective or from a -- you know, it's about the  
5 same.

6 MR. JIM CREIGHTON: But the hydro  
7 is -- generally speaking, the hydro is still  
8 produced, it's just the value of the hydro or the  
9 cost, whichever is displaced from one month to  
10 another, they are not the same?

11 MR. PHILIP FARAH: Exactly.

12 MR. JIM CREIGHTON: Other questions  
13 from Council members?

14 Paul?

15 DR. PAUL TEAGUE: You're talking from  
16 August 1st, October 1st, those figures, can you  
17 extrapolate that to say what it would be at  
18 September 1st, another 30 days before drawdown  
19 rather than 60 days?

20 MR. PHILIP FARAH: Well, the 1990  
21 analysis, I think, considered that as one of the  
22 seven alternatives. I'm not sure. I would have to  
23 go back to the EIS and see what all the seven  
24 alternatives were in 1990.

25 I think one of them was September

1 drawdown as opposed to October 1st, right?

2 MR. JOHN HUNT: Right. Well,  
3 Alternative 2 was Labor Day for the ten projects.  
4 Alternative 3 was October 31. But it's hard to  
5 extrapolate from any of these things other than what  
6 was specifically looked at. And I know what we  
7 looked at in the 1999 update was just Alternative  
8 1(A) and 2.

9 And as Philip went through, there was  
10 a change base case where a lot of things changed  
11 since 1990.

12 DR. PAUL TEAGUE: Did you people look  
13 at the figures from the original date, and I believe  
14 that was July 1st when they used to draw it down?

15 MR. PHIL COMER: June 1.

16 DR. PAUL TEAGUE: What it cost extra  
17 from -- to the August 1st drawdown?

18 MR. PHILIP FARAH: That was the 1990  
19 review. The 1990 review looked at June -- Memorial  
20 Day to August 1st, and then other alternatives as  
21 well.

22 MR. PHIL COMER: That was \$2,000,000?

23 MR. PHILIP FARAH: Right. Exactly.

24 MR. JIM CREIGHTON: Paul, what you're  
25 sort of getting at, is there an option in between

1 1(A) and 2?

2 DR. PAUL TEAGUE: Yes.

3 MR. JIM CREIGHTON: And is there any  
4 basis to estimate what the cost is with that  
5 in-between option?

6 MS. MEHRZAD NADJI: I don't think in  
7 general you can extrapolate what it is. That's why  
8 we asked them to redo it for the different changes  
9 that has happened.

10 The modeling is not linear, to say we  
11 divide the difference between the two months and  
12 half of it happens this month and half of it happens  
13 the other month.

14 DR. PAUL TEAGUE: Let me rephrase  
15 that. Since you can't put it on a calculator and  
16 extrapolate it, can you give me a guesstimate? You  
17 people don't guess?

18 MR. PHILIP FARAH: No.

19 MR. JOHN HUNT: We're definitely not  
20 in the guessing business.

21 MR. PHILIP FARAH: It's somewhere in  
22 between, but to say that it's linear --

23 DR. PAUL TEAGUE: That's my point.  
24 Is it linear?

25 MR. PHILIP FARAH: No, it's not

1 linear.

2 MS. MEHRZAD NADJI: If it was that  
3 easy they wouldn't need three different models to  
4 estimate it. It's really difficult to do that in  
5 the sense that it's -- it's not a linear model.

6 Some of the costs that is happening  
7 in this slide that you see has to do also with  
8 capacity replacement costs, and that we won't be  
9 able to estimate.

10 MR. PHILIP FARAH: 1(A) -- we chose  
11 1(A) because it's closest to the alternative that  
12 was examined in the Douglas and Cherokee study.

13 DR. PAUL TEAGUE: We're talking about  
14 1990 versus 1999. Was inflation figured into  
15 this -- into this model?

16 MR. PHILIP FARAH: 1999 you didn't  
17 need inflation because that's current dollars, you  
18 know.

19 DR. PAUL TEAGUE: The cost of 1990  
20 versus 1999?

21 MR. PHILIP FARAH: I think the 1990  
22 cost, if you applied inflation to them, instead of  
23 \$15,000,000 for 1(A), you get something like  
24 \$18,600,000 per year, that's in the Douglas and  
25 Cherokee study. They applied an inflation rate to

1 the 1990 estimates.

2 MR. PHIL COMER: We weren't happy  
3 with that fact, but they did, Paul.

4 MR. JIM CREIGHTON: Paul, the day you  
5 get the GAO to say, I guess, will be -- don't expect  
6 it anytime soon.

7 Okay. Anybody else?

8 MR. BILL FORSYTH: I just want to be  
9 clear that your Alternative 2 that you show there is  
10 for ten lakes, with a Labor Day drawdown for ten  
11 lakes?

12 MR. PHILIP FARAH: That's right.

13 MR. BILL FORSYTH: Why do you give  
14 these two examples, one for three lakes and one for  
15 ten?

16 MR. JOHN HUNT: At the time we had to  
17 make some choices. Obviously there was no way to do  
18 all seven of those, and what we were trying to do is  
19 give a flavor. Obviously things have changed since  
20 1990, and what we said was, let's take a couple of  
21 looks at some that were similar.

22 But obviously as we went through the  
23 slides there were a lot of differences that took  
24 place, and it's to sort of give you some reference  
25 of, here's what it kind of looks like today if you

1 redid it. If you redid it now in 2000, those  
2 numbers would be different once again. It depends  
3 on so many different assumptions. So we were trying  
4 to give a little bit more update.

5                   When you look at something that's  
6 almost ten years old, people say who cares. So we  
7 said, let's try to update some of it, and that was  
8 the purpose for our update.

9                   MR. PHILIP FARAH: Do you know -- TVA  
10 had a team of analysts working for quite some time  
11 to do these two alternative scenarios, and it would  
12 have required a lot more effort to do the full blown  
13 seven alternatives. So we had -- you know, we  
14 decided to choose only two alternatives and not the  
15 whole gamut.

16                   MR. JIM CREIGHTON: The order in  
17 which I saw them go up were Roger, Phil, and then  
18 Austin.

19                   SENATOR ROGER BEDORD: Thank you,  
20 Jim. I think you may have already answered part of  
21 this on Bill, but you didn't -- you made some  
22 choices, and so you chose not to study all ten being  
23 drawn down on October 1st, is that correct?

24                   MR. PHILIP FARAH: Uh-huh. Labor Day  
25 was --

1 MR. JOHN HUNT: Was Alternative 2.

2 MR. PHILIP FARAH: Labor Day was  
3 Alternative 2 for all ten lakes.

4 SENATOR ROGER BEDFORD: 1(A) is just  
5 the three lakes?

6 MR. PHILIP FARAH: Correct.

7 SENATOR ROGER BEDFORD: Can you break  
8 out the costs for just those three lakes drawn down  
9 on September 1 so we can put apples to apples?

10 MR. JOHN HUNT: You can't.

11 MR. PHILIP FARAH: That would have to  
12 be another, you know, modeling effort, which  
13 wouldn't be trivial.

14 MR. BILL FORSYTH: What about Labor  
15 Day, could you pick out those three for Labor Day?

16 MR. JOHN HUNT: Not based on what was  
17 done, no.

18 MR. PHILIP FARAH: You'd really have  
19 to ask TVA that question.

20 MR. JOHN HUNT: See, I think another  
21 thing, what we were trying to do, there was no  
22 suggestion that any of these alternatives were going  
23 to be adopted at that point in time. What we were  
24 trying to do is use this for illustration purposes.  
25 You can't get an idea of what would happen unless

1 you took a really detailed look. And as Philip  
2 said, there was a lot of effort put in by TVA's  
3 analysts going through these two alternatives.

4 SENATOR ROGER BEDFORD: No, I commend  
5 TVA for doing that study. I'm just trying to see if  
6 we can break out apples to apples, and you're  
7 telling us we can't, but I think we've got two  
8 updated models, which I think is very helpful to us.

9 The second question is on a different  
10 track. You said in July 1998 TVA said it would take  
11 about \$8,000,000 in three to five years to do a new  
12 study as part of the proactive future plans; did I  
13 hear you to say that that 8,000,000 has been  
14 budgeted?

15 MR. JOHN HUNT: No, I did not say  
16 that. At that point in time they were budgeting  
17 some money to do some of the preparatory work to get  
18 towards the point in time where they could start  
19 some of this evaluation. What that was was an  
20 estimate by TVA in the lake level policy task force  
21 to say, here's what it would cost, about \$8,000,000  
22 and take three to five years.

23 They had started budgeting some of  
24 the monies at that point in time to update some of  
25 the models. In our report we provide some further

1 detailed information about that.

2                   SENATOR ROGER BEDORD: Well, today  
3 where are we in the recommended process about doing  
4 a study and in gathering the resources to complete  
5 that?

6                   MR. JOHN HUNT: That would be a  
7 question to ask TVA. What we have done is our  
8 report was issued 18 months ago.

9                   SENATOR ROGER BEDFORD: Kate, where  
10 are we with that?

11                   DR. KATE JACKSON: We have budgeted  
12 some of the money, again, to do the updates on  
13 developing analytical tools to allow us to do some  
14 of the economic modeling for things like the costs  
15 of changes in flood risks or the changes in  
16 navigation levels and what the costs in the region  
17 would be, based on that. We have not budgeted for a  
18 full blown reservoir study.

19                   SENATOR ROGER BEDFORD: And do I  
20 understand that as of today we're still under the  
21 moratorium on lake level policy changes?

22                   MS. KATE JACKSON: Yes.

23                   SENATOR ROGER BEDFORD: Thank you.

24                   MR. JIM CREIGHTON: Phil?

25                   MR. PHIL COMER: I think the comment

1 I wanted to make has already been made, but I will  
2 repeat it anyway. I think, John, that the reason  
3 you-all picked the two you did to have TVA restudy  
4 is because that's two of the more prominent of the  
5 seven that TVA had dealt with in the first place in  
6 1990.

7 I think that's -- you know, that was  
8 a -- so they could be compared apples and apples  
9 with the 1990 study. They didn't just arbitrarily  
10 make up those two new ones.

11 MR. JOHN HUNT: No. Again, what we  
12 were trying to do is that the base case had changed  
13 from Memorial Day to August 1. We tried to get them  
14 as close together as we could during that exact, and  
15 again, it was for illustration purposes.

16 MR. PHIL COMER: The odd thing to  
17 many of us is and has been that in the 1990 study  
18 TVA jumped from Labor Day to October 30th, and oddly  
19 enough, did not include October 1, which was kind of  
20 a logical in-between. No one has ever been able to  
21 adequately explain why they made such a large leap  
22 and did not include the study of October 1.

23 MR. JIM CREIGHTON: Austin?

24 MR. AUSTIN CARROLL: Aside from the  
25 fact that TVA's study did not look at all of the

1 costs and all of the benefits which you-all are  
2 recommending for the next study, did you-all agree  
3 with their -- say, their modeling methodology?

4 MS. MEHRZAD NADJI: We find the  
5 methodology reasonable. The models that they are  
6 using, they are predominantly used nationwide and  
7 are established models. The data that they are  
8 using, the data that was used prominently in their  
9 own evaluation and decision-making, and we asked  
10 them data evaluation questions that agreed with our  
11 standards, and we sat down with them through many,  
12 many discussions and learned their process and we  
13 found their general framework reasonable and their  
14 methodology reasonable, and that was our  
15 conclusions.

16 MR. AUSTIN CARROLL: Okay. Then  
17 jumping over to the Cherokee and Douglas study,  
18 which only looked at the benefits and not the costs,  
19 did you-all agree with that methodology that was  
20 used in those studies?

21 MR. PHILIP FARAH: We identified  
22 some -- I mean, we made some observations. One of  
23 them is that the study looked only at benefits to  
24 the region itself, the immediately affected region,  
25 which is what it intended to do. I mean, it didn't

1 purport to go beyond that.

2                   But in order to really -- you know,  
3 to have a comprehensive cost benefit analysis for  
4 decision-making you have to look at cost and  
5 benefits in general to everybody. So you have to  
6 look at cost -- really the national guidelines on  
7 doing this kind of analysis as contained in the  
8 Water Resources Council Principles and Guidelines  
9 recommend that you look at what's called the  
10 National Economic Developments Account, which means  
11 that you have to look at the economic impacts for  
12 the country as a whole.

13                   So as I said earlier, the regional  
14 impacts, for example, there may be more visitation  
15 to Douglas and Cherokee because of lake level  
16 changes, but this could possibly be a substitution  
17 effect from other lakes. If I am making a decision  
18 today to take my family to a lake and I'm  
19 considering lake X in Virginia, and all of a sudden  
20 Douglas and Cherokee look more attractive because  
21 the lake levels are higher longer, then I may  
22 substitute from the Virginia lake to Lake Douglas or  
23 Cherokee. So these things are not taken fully into  
24 consideration.

25                   MS. MEHRZAD NADJI: I was going to

1 jump in and talk to you in general about how you --  
2 what was the purpose of the benefit study. If the  
3 purpose of benefit study was to compare it with the  
4 cost, then you need to make sure that the benefit  
5 and cost have a lot of consistency elements in them.  
6 For one thing, they have to look at the same general  
7 area, regional consistency. You cannot look at the  
8 cost as it applied to a large area and they benefit  
9 only to a small area.

10                   In terms of timing, they have to be  
11 also consistent in the sense of what time the costs  
12 and benefit happens, over what period of time, and  
13 also what period of time the benefits or costs  
14 appears, either side, either way, it has to be  
15 consistent.

16                   In terms of the actual measurement,  
17 what is it that you measure, the array of costs and  
18 also the array of benefits are also quite extensive.  
19 You know, if you want a complete cost benefit  
20 analysis, then it has to be -- a decision has to be  
21 made on what all these costs are and what all these  
22 benefits are.

23                   And as Philip referred, the Water  
24 Resources Council can be a good starting point in  
25 a -- the guidelines that they put out in terms of

1 all the costs and benefits that can be captured in  
2 an analysis. It's an old publication, but it's a  
3 very good starting point in terms of having  
4 specified how you go about measuring benefits and  
5 how you go about measuring the costs.

6                   In terms of benefit of recreation,  
7 which is applicable in this case, the Water  
8 Resources Council actually recommends using what is  
9 called the willingness to pay approach, which means  
10 how many people are willing to pay to have the added  
11 benefits of recreation, and the studies we looked at  
12 does not explicitly have that as a measure of their  
13 benefits.

14                   So there are good studies. They look  
15 at the impacts and they have generated numbers to  
16 show the impact on very specific areas, but it has  
17 to be looked at as what the purpose of the studies  
18 were and not in terms of what it would be at as  
19 compared with the benefits.

20                   MR. JOHN HUNT: Let me add one  
21 additional thing, because I did look at the  
22 transcript from last month and what Dr. Murray had  
23 said about his study, and really what you come away  
24 with is that there was certainly some limitations in  
25 the scope and methodology. It focused on those six

1 counties.

2                   Some of the survey responses they  
3 received back, from what I recall, there were 1,100  
4 questionnaires sent out to commercial businesses and  
5 they got back about 200 responses. There was not a  
6 follow-up as to why those didn't respond.

7                   I think another thing is he had, I  
8 think, \$28,000 to spend on that study. That's not  
9 very much money. It was focused on those six  
10 counties. You'd need to go a lot further if you're  
11 going to do that. And that's why I think we see, as  
12 you do these studies, some of it has been focused  
13 here, some of it has been focused here, how do you  
14 get them focused all together, and that's what we  
15 have not seen so far.

16                   MR. AUSTIN CARROLL: The third part  
17 of my question, you people were personally here  
18 during your investigation?

19                   MR. JOHN HUNT: Well, I wouldn't call  
20 it an investigation.

21                   MR. AUSTIN CARROLL: Whatever GAO  
22 does. But did you sense or was there any reluctance  
23 on the part of TVA to give you information or  
24 cooperate or any of those kind of things?

25                   MR. JOHN HUNT: None whatsoever. I

1 have been involved with doing TVA work since the  
2 early '90s, and over that past we have had some  
3 problems with TVA. Those problems dissipated over  
4 the last several years. We got complete  
5 cooperation.

6 In the past it had gotten so bad to  
7 the point where we would not share a draft report  
8 with TVA out of our presence. That has not taken  
9 place the last few years. We provided a draft of  
10 the report to TVA for its comment. We received  
11 those comments promptly.

12 I think it was a very professional  
13 relationship we had with TVA. I think it's one in  
14 which nobody wants GAO to come in the door and talk  
15 to them, no one, and I have been doing this for 30  
16 days. We did it in a professional way. We got  
17 complete cooperation. Nothing was denied us, access  
18 to records or anything like that.

19 MR. AUSTIN CARROLL: Thank you.

20 MS. MEHRZAD NADJI: I was just going  
21 to add to that. As somebody who has been doing  
22 modeling evaluations for a long time, you cannot  
23 evaluate models as complex as TVA's without total  
24 cooperation of people who work on it.

25 And I think they took the time to sit

1 down with us and really make us learn what they were  
2 doing, and we wouldn't have been able to do what we  
3 have unless we had their total cooperation.

4 MR. JOHN HUNT: I will just add one  
5 additional thing. I'm a generalist. Philip and  
6 Mahrzad are economists. Part of our task was to try  
7 to put this in understandable terms for a lot of  
8 different people.

9 I listen to Philip and Mahrzad talk  
10 and sometimes it just goes right over my head, but I  
11 had that same problem in college with economics.  
12 What we tried to do in this report is put a  
13 comprehensive document together tying all of this  
14 together. It was done at a point in time, and  
15 that's where the evaluation ended, in May of 1999.  
16 I think we tried to do a pretty good job to make it  
17 understandable to most of the lay people and the  
18 public, and I think it's a concern to a lot of  
19 people here.

20 MR. JIM CREIGHTON: Bob?

21 MR. BOB METHANY: I'm not too  
22 familiar with these type studies but -- and I am not  
23 trying to debate or question any of the numbers on  
24 here, but the numbers on the Cherokee and Douglas  
25 study are -- have a wide variance, you know, seven

1 to ten times; is this normal in this type study?

2                   And again, I am not trying to cut to  
3 this particular study, but this is a huge difference  
4 and it's -- you know, if we're going to have to make  
5 some decisions or question some things, it's kind of  
6 tough to do it when you have got a ten time  
7 multiplier.

8                   MS. MEHRZAD NADJI: Are you talking  
9 about different numbers that were on the table?

10                   MR. BOB METHANY: Right. Like, you  
11 know, you go from the estimated impact from one to  
12 7,000,000, income impact from .6 to 5.7, jobs from  
13 200 to 2,000, again, is this -- if the study or the  
14 report that comes out or the reports that have been  
15 out, is this typical of the results with this type  
16 of wide variance in them or can -- are most of them  
17 a little closer than this?

18                   MR. PHILIP FARAH: The benefit  
19 studies, the differences are essentially because  
20 they used many different -- well, they used four --  
21 at least four different approaches.

22                   Now, the -- they did not really  
23 consider different assumptions about how people are  
24 going to behave in the future. It was mostly a  
25 difference in methodology. And I must agree that,

1 you know, they did not really attempt to reconcile  
2 differences.

3                   Now, on the cost side, the TVA  
4 analysis, there are really very, very good reasons  
5 for the wide ranges that you see here, and I have  
6 been looking at other similar studies on hydropower  
7 cost impacts elsewhere. We looked at Glen Canyon,  
8 and more recently the lower Snake River Dams in the  
9 northwest, and you do have a wide range of  
10 uncertainties because, for example, in this case,  
11 they looked at all kind of scenarios with respect to  
12 water, that's one very big source of uncertainties.  
13 And as you know, water conditions can vary  
14 tremendously. I mean, you can have dry years and  
15 hydropower production is very different from very  
16 wet years. So they tried to capture that.

17                   What I am trying to say is that on  
18 the cost side, the differences are not because of  
19 methodological differences, they are because of --  
20 they are trying to capture future uncertainty. And  
21 so they have different assumptions about how  
22 consumers are going to behave in the future, how  
23 much demand for electricity is going to grow, so  
24 there's a high, low, and medium for prices of  
25 electricity in the future, which is going to affect

1 the estimates, hydrology, different discount rates,  
2 they looked at different discount rates, different  
3 scenarios with respect to carbon dioxide, emission  
4 controls, with more carbon dioxide emission controls  
5 are going to have higher costs, because when you  
6 replace that hydro with natural gas or whatever,  
7 you're going to have to have more scrubbers and  
8 pollution control equipment. So all of these really  
9 are very good assumptions. They are trying to cover  
10 uncertainty. It's very similar to what other  
11 studies have in this kind of analysis.

12 MR. BOB METHANY: I guess I  
13 understand more TVA because I am an engineer and  
14 more involved in that, but the benefit type study,  
15 again, you know, is TVA going to spend \$8,000,000  
16 and still get this kind of range or is that typical?  
17 And if it is, I guess, how do you deal with it as  
18 far as a -- a range from 1,000,000 to 10,000,000,  
19 that's really what I was questioning, is that a  
20 typical result of a study for a benefit type  
21 analysis? And if it is, then fine.

22 MS. MEHRZAD NADJI: I would submit  
23 that there is no typical study. It depends on the  
24 uncertainty that the analysts sees in their  
25 analyses. They provide a range to capture the

1    uncertainties, both upper and lower.  So to say the  
2    two percent range or the five percent is typical, I  
3    will not be correct.  Depending on the uncertainty,  
4    you will observe a different -- a range that the  
5    analyst tries to provide around a number.

6                    And I think from our perspective,  
7    when we view something, it's better for us to have a  
8    range showing that they are not certain about the  
9    numbers that are in this study, and that way we can  
10   look at the numbers in proper perspective.  In terms  
11   of the -- okay.  I am just going to stop.

12                   MR. JIM CREIGHTON:  We're beginning  
13   to get tight on time.  Let me see if I can  
14   summarize, and again, correct me if I'm wrong.

15                    You're saying on the TVA studies, the  
16   difference -- the range, here you have got a plus  
17   two to -- or a minus two to 33,000,000 in costs,  
18   that's a function of different scenarios of  
19   operating conditions and so on?

20                    MR. PHILIP FARAH:  In the future.

21                    MR. JIM CREIGHTON:  Okay.  On the  
22   benefit study for Douglas County, the difference was  
23   they used four different methodologies and each  
24   methodology produced a somewhat different answer,  
25   and all they did was report the answers and that's

1 what the range represents.

2 MS. MEHRZAD NADJI: Actually, the  
3 methodology is somewhat different measures, so we  
4 have to have that in mind, like some measures the  
5 total expenditure in the county but another one  
6 measures only the difference -- the expenditure by  
7 non-residents in the county. So you will expect to  
8 see some differences in that.

9 MR. JIM CREIGHTON: And is it fair to  
10 say that your impression of the Douglas County one  
11 was it was reasonable given the money they had, but  
12 if TVA were to do it, it would have to meet Water  
13 Resource Council's standards and it would have to  
14 look at a national benefit, that sort of thing?

15 MS. MEHRZAD NADJI: Water Resource  
16 Council is a recommended guideline, and most of the  
17 people who do work with the water projects follow it  
18 because it's, you know, an easy guideline to follow,  
19 or at least it's well -- extensive enough for people  
20 to be able to follow it. There is no -- I don't  
21 think there is no requirement to follow it, but it's  
22 followed as an accommodation.

23 MR. JIM CREIGHTON: It's a recognized  
24 approach, so it has some credibility?

25 MS. MEHRZAD NADJI: Exactly. And the

1 reason they look at the national economic  
2 development or changes in value of services and so  
3 forth as a measure is because deciding what area or  
4 what region to delineate as your region of study is  
5 not very easy, you know, it may be -- a small region  
6 may be better for specific projects, but it's not  
7 easy to decide which region to delineate for your  
8 study.

9 MR. JIM CREIGHTON: Okay. Roger?

10 SENATOR ROGER BEDFORD: I will make  
11 it quick, Jim. I appreciate both your presentations  
12 and the earlier presentations where the earlier lake  
13 level studies focused only on the benefit without  
14 looking at the costs, and they were very up front  
15 about that, and I think that's appropriate that they  
16 should be.

17 I have got a more specific follow-up  
18 question to one earlier. If your data is based on  
19 1,100 mail-outs and only one in five, basically 200,  
20 comes back, to really have a valid statistical base,  
21 you would need to know a little more about why only  
22 one in five responded and why the other four didn't  
23 feel it appropriate to respond, and then, B, what  
24 motivated those 200 people to respond to really have  
25 a better understanding of what that database says?

1                   MR. JOHN HUNT: That's true. And I  
2 think Dr. Murray last month when he talked about  
3 that said there were probably a lot of reasons why  
4 they didn't respond. It seems like I recall he used  
5 an example of K-Mart or Wal-Mart being one of them  
6 and maybe they didn't really care a lot about that  
7 issue at all, but I don't think there was a lot of  
8 follow-up done. I think in terms of us doing  
9 statistical analyses of mail-outs and  
10 questionnaires, we would certainly want a much, much  
11 higher response rate than 200 out of the 1,100.

12                   MR. JIM CREIGHTON: Steven, real  
13 quick.

14                   DR. STEPHEN SMITH: My question was:  
15 As you begin to look at how they are going to  
16 replace the hydro capacity that is displaced during  
17 that period, was it that you were finding that more  
18 of it was natural gas peaking or was it actually  
19 dispatching some of the older coal fired power  
20 plants that have higher emission rates?

21                   Did y'all -- were you able to  
22 quantitate that, and then if you were, sort of the  
23 differential of that?

24                   Then were you able to come back and  
25 look at the impacts in the same region of regional

1 air quality? I mean, the Smokies, which is, in  
2 essence, in the same cluster there is having what  
3 many people feel are negative tourist trends based  
4 on the air quality in the region, and is there some  
5 way to -- do you feel like you can adequately  
6 capture the sort of trade-off associated, because  
7 many of the worst ozone days, many of the worst  
8 visibility days are actually in this same period  
9 that you would be thinking about backing out of the  
10 hydro and dispatching more fossil?

11 MR. PHILIP FARAH: That's a reason to  
12 evaluate air quality impacts. Now, it's true that  
13 in the -- let me say a couple of things. The  
14 displaced hydro would have to be replaced with  
15 other -- with electricity from other sources.  
16 You're probably going to run existing resources more  
17 intensively, but more importantly I think there's  
18 going to be replacement from new capacity. And the  
19 new capacity they assumed in their study was going  
20 to be mostly natural gas fired combined cycled  
21 plants, combined cycled combustion plants.

22 MS. KATE JACKSON: Can I add  
23 something?

24 Part of it would be running our  
25 existing units harder. Part of it would be

1 additional capacity, probably gas fired. It would  
2 probably not be combined cycled if it's solely  
3 peaking. So it would not -- it would be CT's. It  
4 would also be off-system purchase.

5                   And those would change in percentage  
6 based on how hot, how expensive, what kind of  
7 hydrologic year, and what assumptions you're making  
8 about demand, about capacity demand. So each of  
9 those years change.

10                   I guess I would like to address one  
11 other thing with that. In those years where there  
12 are -- where it's very wet, we would end up  
13 spilling. So there is some spill. So the statement  
14 was made that the same kilowatt hour production is  
15 in either case, that's not the case.

16                   So depending upon the hydrologic  
17 year, that changes. Depending upon the demand  
18 estimates and the temperature estimate and the  
19 hydrologic year, you would change whether or not you  
20 would run existing systems harder, whether or not  
21 there would be an extended capacity addition need,  
22 and then you would invest capital or you would  
23 purchase off-system.

24                   And there are issues associated with  
25 purchasing off system that are reliability based.

1 Off-system purchases are less reliable. They are  
2 more expensive. So you're making a trade-off as to  
3 the reliability of your system based on that, too.

4 MR. JIM CREIGHTON: We're beginning  
5 to cut into time for other things. Remember the  
6 time.

7 Phil?

8 MR. PHIL COMER: All right. I want  
9 to make one point. You-all are speculating as to  
10 what was used in the 1990 TVA study as to  
11 replacement.

12 MS. KATE JACKSON: No. We're talking  
13 about the 1999 update.

14 MR. PHIL COMER: I know you were, but  
15 earlier that was not the question that Steve asked  
16 and I want to answer Steve's question. That was --  
17 in the 1990 study \$560,000,000 was included in the  
18 cost to replace the hydro peaking, and that was to  
19 be a new fossil plant, that was the 1990 study.

20 What Kate has just said obviously is  
21 a much better answer than what they used in 1990.  
22 That \$560,000,000, which was used in the 1990 study,  
23 is easily refuted by the fact that just recently TVA  
24 released a news release that they created in the  
25 past two years almost that same amount of

1 replacement, or added, I shouldn't say replacement,  
2 added electricity production for a cost of  
3 \$200,000,000 capital cost versus the 560,000,000  
4 that was used in 1990. I have discussed that with  
5 Chris Ungate, and he agrees, it's just a difference  
6 in time. I mean, it isn't right or wrong or any bad  
7 intentions.

8 MR. PHILIP FARAH: Let me say  
9 something real quick about that. The 1999 update  
10 did not take into consideration capacity expansions.  
11 They assumed that there was going to be deregulation  
12 and that they would buy the replacement power on the  
13 market or at least value it. Even if they  
14 themselves produced it, even if TVA produced it,  
15 they would value it as wholesale electricity market  
16 prices which they forecast, and that could come from  
17 independent power producers, from anybody. So they  
18 did not look at capacity cost independently. Of  
19 course, capacity costs are going to be implicitly  
20 included in the purchase of electricity from  
21 wholesalers.

22 DR. STEPHEN SMITH: The question  
23 where I was really trying to go was to understand if  
24 there is implicit -- the capacity that is existing  
25 capacity on the TVA system, there's a world of

1 difference between dispatching a more efficient  
2 power plant and then bringing on some of these  
3 older, dirtier power plants because emit -- the  
4 pollution is dramatically different in the emission  
5 rates.

6                   And I guess where I am going is, is  
7 there -- was there a point at which -- when they  
8 started losing hydro capacity based on this, were  
9 they already maxed out on the existing capacity or  
10 did that lost hydro require them to actually  
11 activate units that wouldn't normally be operating  
12 in the August time frame that actually had higher  
13 emission rates, and therefore, were creating  
14 increased air pollution problems that then  
15 exacerbate existing problems in the region? And  
16 that's, I guess, what I was wondering.

17                   Are we already assuming those are  
18 running full board and then any replacement for this  
19 hydro would be more efficient combined -- I mean,  
20 combustion turbines or would there be existing  
21 resources that have to be activated that pollute a  
22 lot higher, and that's the question.

23                   MR. PHILIP FARAH: Let me say a  
24 couple of things. TVA would have to give you a more  
25 complete answer than mine, but I think that part of

1 the capacity -- part of the replacement power is  
2 going to come from new capacity.

3                   Let me just tell you, even though TVA  
4 did not analyze air quality impacts explicitly,  
5 certainly not in the 1999 update, they didn't look  
6 at air quality impacts at all, but we have looked at  
7 other analyses -- similar analyses of hydropower,  
8 you know, what happens if you take out some dams in  
9 the northwest, for example, and what you see there  
10 is that the air quality impacts are relatively  
11 minor.

12                   In the case of the four lower Snake  
13 River dams, which produce five percent of the  
14 existing of the northwest, their replacement is  
15 going to be mostly from natural gas combined cycled  
16 plants, and because you're running -- you're running  
17 your entire system a lot more efficiently because  
18 you have this new capacity, the increasing air  
19 quality, the increase in carbon dioxide emissions is  
20 less than one percent.

21                   DR. STEPHEN SMITH: Yeah. Well, I  
22 hope that's the case. The only thing is that this  
23 part of the country, because of its preponderance of  
24 primarily cold units, has worse air quality than the  
25 Pacific Northwest, and therefore, there are unique

1 things that are happening here that I think need to  
2 be modeled in order to capture those impacts.

3 MR. PHILIP FARAH: I agree fully. We  
4 did not at all look at the air quality impacts, and  
5 I don't think -- certainly, in the 1999 update TVA  
6 did not consider air quality impacts at all. So I  
7 agree fully that a complete analysis -- you know, a  
8 complete evaluation of air quality impacts would  
9 have to include some elaborate modeling probably.

10 MR. JIM CREIGHTON: Okay. Thank you  
11 very much. Appreciate the presentation.

12 MAYOR EDDIE SMITH: Thank you, John,  
13 Philip, and Mehrzad. And now we will move right to  
14 our next presenter, who is Mike McDowell, the New  
15 Executive Director of the Tennessee Valley Public  
16 Power Association. He will discuss the impact that  
17 the TVA's environmental stewardship decisions will  
18 have upon the TVPPA's member utilities.

19 Mike?

20 MR. MIKE MCDOWELL: Is the mic on?  
21 Can you-all hear me? Great. My name is Mike  
22 McDowell. I am here on behalf of the 158  
23 distributors of TVA power. I want to visit with you  
24 a little bit this morning about the impact on our  
25 ratepayers of changes in management policies which

1 would reduce the amount of hydroelectric power  
2 available to the system and get into some of the  
3 side benefits of the way TVA currently operates its  
4 system.

5                   Probably a little bit about me first,  
6 I've worked for consumer owned utilities for almost  
7 all of my adult career. I have at one time operated  
8 a municipal generation and distribution system. I  
9 have worked in various capacities around coal fired  
10 power plants, gas fired power plants, hydroelectric  
11 power plants, and have experience with the  
12 distribution and transmission of electricity.

13                   I'm relatively new to the Valley.  
14 I'm glad to be here. I think that the TVA system,  
15 in general, is operated as well and as efficiently  
16 as any that I have been around in the country, and I  
17 have been around a number of them.

18                   A little bit about TVPPA. We are a  
19 full service trade association. We have within our  
20 membership 50 co-ops and 108 municipal power  
21 systems. One of the things which we need to  
22 re-emphasize, I think, about TVA's hydroelectric  
23 power resource, under the TVA operational scheme the  
24 2.8 million residential customers are the sole  
25 beneficiaries of the hydroelectric power benefits

1 that are produced by the TVA system. That has been  
2 reserved to them as a matter of public policy and so  
3 any changes in the availability of hydroelectric  
4 power affects residential customers across the  
5 region, and we estimate there's about 2.8 million of  
6 them.

7 TVPPA is about 55 years old, and as I  
8 said, is a full service trade association. The  
9 bullets you see there pretty well cover what we do,  
10 a wide range of activities ranging from legislative  
11 and regulatory monitoring to adult education to  
12 research and development projects. We provide our  
13 members with a number of business services, the  
14 largest of which is property and casualty insurance.

15 Most of this I think you've --

16 MR. AUSTIN CARROLL: Mike, could you  
17 hold up? A lot of our members exited. And, you  
18 know, I left first. I thought I was the only one  
19 that had to go, but it looks like I started a  
20 stampede here. For the benefit of the Council  
21 members, if you could hold up until they get back.

22 MR. MIKE MCDOWELL: Sure.

23 MS. JULIE HARDIN: We will take it  
24 out of our lunch.

25 DR. STEPHEN SMITH: Mike, while we're

1 waiting, I guess, can you update me on the hydro  
2 preference, because my sense is that while I  
3 understand that that has historically been an issue,  
4 I guess I don't fully appreciate how that is being  
5 guaranteed to the residential customers.

6                   Because it seems like to me that when  
7 they are offering economy surplus power and all the  
8 other rates for the large industrial users are as,  
9 quote, unquote, non-firm, those rates are actually  
10 getting below what the residential rate is being and  
11 that it ultimately ends up being a wash or even a  
12 deference to the industrial customer. And I guess I  
13 am trying to understand how that -- how you can  
14 guarantee that that hydro preference is actually  
15 going --

16                   MR. MIKE MCDOWELL: Actually the TVA  
17 Act itself requires that the hydro benefit be solely  
18 reserved for domestic and rural consumers, that has  
19 been interpreted to mean residential customers. And  
20 I think TVA could probably tell you this better than  
21 me, but basically the benefit and the value of the  
22 hydroelectric power generation in their system is  
23 calculated and set aside and applied to residential  
24 electric bills.

25                   Is that the most simple explanation

1 of the way this works?

2 MS. KATE JACKSON: I have got to say,  
3 I am not the expert here on the rate structure. So  
4 my preference would be to actually have -- I mean,  
5 if you're interested in understanding that is to  
6 have a person whose specialty is the rate structure.  
7 It's extremely complicated.

8 DR. STEPHEN SMITH: I would certainly  
9 like to understand it, because I understand that  
10 there's always been this -- and I think historically  
11 it was probably there. My sense is that there's  
12 been so much shenanigans played with the rates to  
13 help out the industrial customers that I don't  
14 really fully appreciate how that preference is going  
15 to help residential customers anymore.

16 My sense is that it's going to help  
17 make up for the mistakes of the past, and it's  
18 probably being equally applied across the system or  
19 even somehow or another being worked into  
20 preferential rates for industrial customers. I  
21 would certainly benefit from that because I just  
22 certainly don't believe it anymore.

23 MR. MIKE MCDOWELL: I appreciate what  
24 you're saying. The information that we have  
25 available to us indicates that the value of the

1 hydroelectric benefit is set aside specifically and  
2 reserved and applied to residential electric bills.

3 DR. STEPHEN SMITH: Yeah, I would  
4 like to see that.

5 MR. MIKE MCDOWELL: I think probably  
6 the best thing probably is to bring one of your rate  
7 people in here and have them go through your rate  
8 structures.

9 MR. JIM CREIGHTON: My apologies. I  
10 should have just called a break, but I think all the  
11 over 50's are back.

12 MR. MIKE MCDOWELL: I am not going to  
13 touch that one.

14 DR. PAUL TEAGUE: All the over 50's  
15 didn't go.

16 MAYOR THOMAS GRIFFITH: Speak for  
17 yourself.

18 MR. JIM CREIGHTON: Let's start over  
19 again.

20 MR. MIKE MCDOWELL: Let me just back  
21 up a little bit. TVPPA, for those of you who were  
22 out of the room, is the trade association of the 158  
23 distributors that purchase TVA power. There are  
24 roughly 108 municipal systems and 50 co-op systems  
25 representing, depending on whose counting, roughly

1 8,000,000 electric meters, about 2.8 million of  
2 these are residential customers who, and we have  
3 been having a discussion back and forth here, are  
4 the beneficiaries of the hydroelectric power  
5 resource.

6                   We have calculated the hydroelectric  
7 capacity available to TVA to be about 5,492,000  
8 kilowatts. This includes about 405,000 kilowatts  
9 from Corp of Engineers' projects on the Cumberland  
10 River. Using a rough calculation of seven kilowatts  
11 per house, that's enough electricity to light  
12 785,000 homes.

13                   In an average water year our  
14 hydrologists calculate that TVA generates somewhere  
15 in the neighborhood of about 14 and 1/2 billion  
16 kilowatt hours of energy from these hydroelectric  
17 plants. In recent years, with the drought, that  
18 production has been less than it would be in an  
19 average water year, and that's going to vary from  
20 year to year depending on how much rain and -- I  
21 started to say snow, which reflects where I was  
22 living before I came here, how much rain falls.

23                   It's been said before and it bears  
24 repeating, hydroelectric power is the one power  
25 source that TVA has available to it which produces

1 zero emissions. We calculate that if we had to  
2 replace all of the hydroelectric power, it would be  
3 somewhere in the neighborhood of 300, \$450,000,000,  
4 depending upon a lot of factors, not the least of  
5 which is the volatile price of gas, and I don't know  
6 that given the price of the natural gas market that  
7 we could get any closer than that kind of broad  
8 based estimate.

9                   The above calculation, and that will  
10 mean more to those of us that work in the electric  
11 industry, it does not include hydroelectric units'  
12 value as quick operating reserves or its ability to  
13 follow load changes faster than any of the other  
14 type of generation sources available.

15                   What that really means is when you  
16 and I flip a light switch on in our house an  
17 electric generator on the system somewhere has to  
18 ramp up a little bit in its generating capacity.  
19 Hydroelectric units are capable of doing that faster  
20 even than gas fired units, and as a result of that  
21 are the most effective tool of maintaining reliable  
22 electric service coming into and out of our houses  
23 as we flip the switches on, and it's really as  
24 simple as that. The flip side of that is if you  
25 have during peak times a non-hydro unit go out and

1 you can ramp up a hydro unit to replace that, you  
2 can do that usually within less than ten minutes.

3                   As I said earlier, hydropower is the  
4 one zero emission power source that TVA has. There  
5 was some discussion earlier about what the  
6 replacement sources would do, but it doesn't really  
7 make any difference what replacement source it is,  
8 they are going to produce emissions.

9                   The chief emission from natural gas  
10 fired generation, which we assume would be the  
11 replacement for the hydropower, is nitrogen oxides.  
12 There's an irony to this. TVA is committed to  
13 spending probably billions of dollars to reduce  
14 nitrogen oxide emissions. They are under pressure  
15 from EPA to do even better than that.

16                   It would be a supreme irony in our  
17 view if on the one hand they were spending billions  
18 to reduce nitrogen oxide emissions at their coal  
19 fired power plants and having to replace a zero  
20 emission power source with power sources that would  
21 increase nitrogen oxides. And whether or not those  
22 are purchased from outside the region or produced  
23 inside the region, the fact is that a hydro kilowatt  
24 hour that's replaced by something else is going to  
25 be replaced by something that produces emissions.

1                   TVA's hydropower, and this is  
2 something that's important to us as we work in our  
3 communities, TVA's hydropower is actually a  
4 byproduct and a partner of TVA's larger mission and  
5 it's one that we support very strongly.

6                   Obviously, the flood control has been  
7 alluded to. The navigation has been talked about.  
8 Water quality and erosion control, I'm sure, have  
9 been talked about earlier, as well as the other  
10 factors, but it is somewhat unique in the country  
11 that the TVA has the broad based mission that it  
12 does.

13                   We have tried to put a pencil to at  
14 least the flood control benefit to our communities,  
15 and we estimate that the current operations mitigate  
16 something in the neighborhood of \$138,000,000 a year  
17 in flood damage prevention. Over the course of its  
18 life, our hydrologic experts have estimated that TVA  
19 has probably mitigated something in the neighborhood  
20 of \$5,000,000 in flood damages.

21                   Chattanooga, where I live, was  
22 flooded 34 of the 40 years prior to TVA's management  
23 of the river. And a 500 year flood, which I  
24 experienced back in the middle '80s back in Oklahoma  
25 where we raised our family, in Chattanooga alone

1 caused \$273,000,000 in flood damages. Chattanooga  
2 is one of the flood pinch points on the system, and  
3 I'm sure you have probably heard that from other  
4 presenters.

5                   The navigation industry, which  
6 supplies coal to TVA's power plants, as well as  
7 economic stimulus to the communities that we work  
8 for, we have estimated its value, under the current  
9 management system, is something in excess of  
10 \$500,000,000.

11                   There is a unique arrangement, which  
12 I was made privy to when I got here, with the  
13 whitewater rafting industry that seems to be working  
14 out extremely well both for the hydroelectric power  
15 users as well as the rafting industry.

16                   I want to get into a little bit some  
17 of the ancillary benefits of the stream flows. The  
18 stream flow that currently exists on the river is  
19 designed to produce a lot of different results, one  
20 of which is a healthy fish population. And I have  
21 been around some rivers where the stream flow was  
22 reduced and the fish came to the surface and died  
23 because of low dissolved oxygen levels. The stream  
24 flows that are used in the Tennessee system provide  
25 cooling water for the thermal power plants. They

1 provide an improved quality of water over what would  
2 otherwise be available.

3                   Our reading of TVA's thermal  
4 discharge plant permits tells us that the current  
5 stream flows are actually required to maintain  
6 minimum temperatures from the coal fired power  
7 plants, as well as maintain a minimum temperature in  
8 the event that there would be a shutdown on an  
9 emergency basis of one of the nuclear units.

10                   We believe, based on our look at the  
11 overall system, that if current stream flows were  
12 reduced in any significant way you would see an  
13 increase in aquatic weed growth. And I have taken a  
14 look at some of the reservoirs this summer that were  
15 affected with aquatic weed growth, and I would hate  
16 to see aquatic weed growth get to the point where it  
17 was not only making surrounding landowners mad but  
18 begin to drift into the intake of TVA's power  
19 plants. It could cause some significant problems  
20 for those.

21                   As I indicated, the current stream  
22 flows keep dissolved oxygen levels up, which means  
23 we have got a healthy fish population. It also  
24 means that we have less mosquitos than we would have  
25 if the stream flows were not available to hold down

1 the mosquito populations.

2 I have mentioned most of these  
3 points. One of the problems that concerns us  
4 greatly about the possibility of reduced stream  
5 flows goes beyond the hydroelectric generation. If  
6 there is not the minimum temperature of water  
7 flowing past the power plants, our look at how they  
8 would have to react to this indicates to us that the  
9 only alternative they would have in order to be in  
10 continued compliance with their discharge permits  
11 would be to curtail their generation. If the  
12 generation is curtailed a sufficient amount, you  
13 have got the potential for rolling brownouts.

14 We don't know because we didn't  
15 calculate what losses there would be for the rafting  
16 industry if the water was held black. We don't know  
17 because we didn't calculate the losses to the  
18 navigation industry, but we believe that it would  
19 run into the millions of dollars, in addition to  
20 putting how many additional 18 wheelers on already  
21 crowded interstates.

22 We know there would be increased  
23 aquatic weed growth. We know there would be the  
24 probability, if not the possibility, of less  
25 reliable electric service and higher costs to

1 residential consumers.

2                   And again, I want to tell you that in  
3 Oklahoma where water was held back one fall we did  
4 have a 500 year rain, and we had one structure, the  
5 Keystone Dam, which because it had no storage  
6 capacity, its integrity was threatened, and the  
7 downstream landowners were subjected to a flood,  
8 none of which they had ever seen. And I can tell  
9 you that with one of my family members downstream  
10 from that dam, we stood in three-foot of silk on his  
11 farm, and it had never been flooded before.

12                   You have to be very careful about  
13 changing the elements of a water management plan  
14 because it really is like dropping a Ping-Pong ball  
15 on a set of mousetraps. The law of unintended  
16 consequences begins to take effect. I think there's  
17 a good argument to be made here that before TVA is  
18 pressured into doing anything that we would probably  
19 need to revisit the lake management study that's now  
20 ten years old.

21                   Again, I want to emphasize that from  
22 our standpoint, every hydro kilowatt hour that's  
23 lost in the peak period is going to result in  
24 additional nitrogen oxide emissions, probably in the  
25 Valley. The difference between using a hydro

1 kilowatt hour at 5:00 in the afternoon in August and  
2 using it at 5:00 in the afternoon in October is the  
3 difference between a filet mignon and a McDonald's  
4 hamburger in terms of its value to electric  
5 consumers.

6                   As the industry restructures that  
7 hydropower will become more and more valuable to us  
8 as a method to keep our rates stable. We have seen  
9 what happened in California when rates were  
10 destabilized, and it scares us to death. We don't  
11 want that to happen here and we think hydro kilowatt  
12 hours are a vital part of preventing that from  
13 happening.

14                   I think we have covered the -- what  
15 we believe to be the mandate that TVA has to operate  
16 the river. The bottom line for us is that before  
17 any changes are made in the current management plan,  
18 we're going to want to be part of a long-term study  
19 that does a very careful risk analysis of the  
20 impacts on all of the other uses of the river.

21                   From our standpoint, we and the  
22 direct service industrial customers, are the only  
23 source of revenue for TVA. So whatever decisions  
24 are made our consumers are going to pay for them one  
25 way or the other, and so we're going to want to be

1 very much involved as this process unfolds.

2                   One of the strengths of the Valley,  
3 in terms of its competitive position, is relatively  
4 low electric rates, and I think we have to be very,  
5 very careful in the decisions we make as to what  
6 kind of electricity costs we're going to be imposing  
7 on ourselves by making changes in the way the river  
8 operates.

9                   Dr. Smith alluded to this, I don't  
10 think there's anybody in this room who wants higher  
11 nitrogen oxide emissions in the Valley. I know we  
12 don't. One way to avoid that is to keep  
13 hydroelectric kilowatt production as high as we can  
14 possibly keep it.

15                   I would be glad to answer questions.

16                   MR. JIM CREIGHTON: Phil?

17                   MR. PHIL COMER: Mr. McDowell, I  
18 think you have done an excellent job of painting a  
19 very dismal picture should there be any changes  
20 whatsoever made in the stream flow pattern that TVA  
21 has been following for the last ten years.

22                   Were you living here in 1990 or were  
23 you still in Oklahoma?

24                   MR. MIKE MCDOWELL: No. I was in  
25 Oklahoma.

1                   MR. PHIL COMER: Okay. The reason I  
2 ask that, there are many of us who are advocating  
3 that a restudy be made so that we believe there can  
4 be some alternative lake level strategy used by TVA.

5                   Before 1990 TVA had pursued a very  
6 different policy of water management in the total  
7 system, particularly relating to the tributary  
8 lakes, for 50 years. And during that 50-year period  
9 there were many, many groups and many, many  
10 individuals who had attempted to pursue TVA to make  
11 some changes and to not start the unrestricted  
12 drawdown of the tributary lakes on June 1 as had  
13 been their practice for 50 years.

14                   During that entire 50-year period  
15 many, many people within TVA, their PR department in  
16 particular, but also your organization was always  
17 vehemently saying the very same things you're saying  
18 today, that it would be a disaster, that it would be  
19 a tremendous cost penalty to customers, et cetera,  
20 et cetera, et cetera, et cetera, and so they made no  
21 changes.

22                   But after 50 years TVA did make a  
23 change beginning in 1991, which the TVA people have  
24 renamed the Lake Improvement Plan, and it did allow  
25 a delay of two months from June 1 to August 1 in the

1 unrestricted drawdown of these tributary lakes that  
2 we have been referring to.

3                   If you study that book that was  
4 published in 1990, which from some of the comments  
5 you made I suspect you may or may not have read,  
6 your organization was the principal one who raised  
7 these very same questions, and they are contained in  
8 the appendix, the very same questions that you're  
9 raising today, but in this intervening ten-year  
10 period there's been no evidence that there's been  
11 any of these great disadvantages.

12                   In fact, one of the benefits that has  
13 accrued is that the dissolved oxygen level in the  
14 tail waters of these dams has been drastically  
15 improved. See, that was one of the things that was  
16 remarkably improved. Stream flows actually were  
17 improved in conjunction with this procedure. So  
18 there's really no reason to think the same thing  
19 could not happen if there was another modification.

20                   MR. MIKE MCDOWELL: Well, I actually  
21 spoke at length with one of the then TVA employees  
22 who worked on this study prior to coming here. I  
23 can't speak to what went on before 1990. I can only  
24 speak to you about what we believe is the benefit of  
25 the current operating regime. And I think the data

1 is ten years old. As I said earlier, it's time to  
2 restudy these issues.

3 MR. PHIL COMER: You would support  
4 that?

5 MR. MIKE MCDOWELL: Oh, sure. It's  
6 time to restudy these issues. What we're asking is  
7 for a very careful risk analysis before any of the  
8 types of changes that would make any significant  
9 alteration in the current management plan is  
10 implemented, and I don't -- but I don't have any  
11 objection, and I don't think the distributors do, of  
12 relooking at ten-year old data. I think probably  
13 TVA ought to be doing that every ten years as a  
14 matter of course.

15 MR. JIM CREIGHTON: Miles?

16 MS. MILES MENNELL: Mike essentially  
17 has spoken to my concern. I just wanted to make a  
18 clarifying comment to be sure I understood TVPPA's  
19 position. And essentially what I hear you saying is  
20 that there are many, many factors to be considered  
21 in altering the reservoir levels in any way, and I  
22 think what I heard you saying was that you hadn't  
23 taken a position specifically on that issue except  
24 to say that these are things that again need to be  
25 considered and studied very carefully, that it's not

1 that easy simply to alter the reservoir levels.

2 MR. MIKE MCDOWELL: No. And I think  
3 probably, and I am not an expert in this area, any  
4 significant alteration in the current management  
5 plan is going to require a full blown Environmental  
6 Impact Statement, which is going to involve  
7 expenditures of time and money beyond what we're  
8 just talking about here.

9 MS. MILES MENNELL: Because the  
10 impacts potentially are so far ranging?

11 MR. MIKE MCDOWELL: Yeah.

12 MS. MILES MENNELL: And I just had  
13 one other comment I wanted to make to you, Mike, you  
14 talked about the importance of navigation of the  
15 Tennessee River, obviously TVPPA -- or not  
16 obviously, you support TVA's management of the  
17 integrated -- the integrated management of the  
18 Tennessee River system by TVA?

19 MR. MIKE MCDOWELL: Yes, I do. I  
20 have lived in management areas of the country  
21 outside of the Valley and dealt with river system  
22 issues both on the Missouri River and on the  
23 Colorado River, and I can tell you that it's my  
24 personal opinion that TVA does the best job of any  
25 of the federal resource management agencies in

1 managing its river resources.

2 MS. MILES MENNELL: And visa via  
3 Chickamauga, it would be TVPPA's position that  
4 rebuilding Chickamauga is essential to the continued  
5 navigability certainly of the Tennessee River and  
6 important to all of our --

7 MR. MIKE MCDOWELL: Are you speaking  
8 of the lock?

9 MS. MILES MENNELL: Yeah, the lock,  
10 sorry.

11 MR. MIKE MCDOWELL: Yes, we support  
12 the rebuilding of the lock.

13 MR. JIM CREIGHTON: Any questions?

14 MAYOR EDDIE SMITH: Al.

15 MR. JIM CREIGHTON: Sorry Al.

16 MR. AL MANN: You were talking about  
17 the hydro as being non-polluting. What noxious air  
18 pollutant does a nuclear plant put out?

19 MR. MIKE MCDOWELL: None that I know  
20 of, but a nuclear plant cannot be used to provide  
21 peaking power. So we're talking about apples and  
22 oranges here.

23 MR. AL MANN: Right, I understand  
24 that.

25 MR. MIKE MCDOWELL: A nuclear unit,

1 like most coal fired units, can only be used for  
2 baseload. It doesn't have the capability of  
3 responding quickly like a CT turbine does or like a  
4 hydroelectric unit does.

5 MR. JIM CREIGHTON: Steven, did you  
6 have a question?

7 DR. STEPHEN SMITH: Yeah. I was  
8 going to -- there's a real interest in economic  
9 development, I think, within the distributor  
10 community generally, and one of the arguments that  
11 is put forth is that there's evidence that shows  
12 that there would be positive economic development  
13 benefits from the -- from delaying the drawdown.

14 Is it -- I mean, has TVPPA -- I mean,  
15 it seemed that there would be a group of  
16 distributors that would be interested in fully  
17 appreciating that and seeing -- I mean, I'm just  
18 wondering how much thought y'all have given to the  
19 economic benefit side of it and --

20 MR. MIKE MCDOWELL: I think where we  
21 are is we would need a much more specific  
22 delineation of what the benefits are than what we  
23 have seen. I mean, I have read the transcripts of  
24 your previous meetings, and to be quite honest with  
25 you, given what we believe the costs of those

1 changes would be, that would be like asking us to  
2 take a \$10 benefit and pay \$25 for it. We're not  
3 convinced that the costs don't substantially  
4 outweigh the benefits of those changes.

5                   Somebody is going to have to convince  
6 us on some kind of positive cost benefit ratio, and  
7 somebody is also going to have to convince us that  
8 the flood damage risk at the flood pinch points is  
9 something that people want to accept if they begin  
10 holding back water.

11                   DR. STEPHEN SMITH: To Al's point, I  
12 would be happy to provide him some information on  
13 the life cycle costs and the environmental costs of  
14 nuclear power that shows that there are true  
15 environmental impacts, particularly with air, too.

16                   MR. AL MANN: Strictly of air  
17 pollution?

18                   DR. STEPHEN SMITH: No, I think even  
19 in air pollution when you look at the whole thing,  
20 the whole picture.

21                   MR. AL MANN: Just on air pollution  
22 alone, is that correct?

23                   DR. STEPHEN SMITH: No, it's not  
24 correct. That's what I am saying, if you look at  
25 the whole life cycle cost of it, you would have air

1 pollution impacts, too.

2 MR. MIKE MCDOWELL: I am not going to  
3 get into that debate. We will let that one go its  
4 own way.

5 MR. JIM CREIGHTON: It seems to have.  
6 Okay. Any other questions?

7 MAYOR EDDIE SMITH: Paul.

8 MR. JIM CREIGHTON: Oh, Paul. I'm  
9 sorry.

10 DR. PAUL TEAGUE: Do you accept  
11 Phil's figures of the impact from June 1 drawdown to  
12 August 1 drawdown, that it was minimal, at least?

13 MR. MIKE MCDOWELL: I think we would  
14 have to go back and do our own analysis of that  
15 before I could give you an answer. One person's  
16 definition to minimal cost is another person's heavy  
17 expense.

18 DR. PAUL TEAGUE: It's my  
19 understanding that his definition came from TVA's  
20 study itself.

21 MR. MIKE MCDOWELL: Yeah, I just -- I  
22 can't comment on that. The only connection that I  
23 have directly with the 1990 study is talking at  
24 length with one of the people who helped put it  
25 together and who's no longer employed with TVA.

1 DR. PAUL TEAGUE: And if Phil is  
2 correct, how can you predict doom for an additional  
3 30-day drawdown?

4 MR. MIKE MCDOWELL: I don't think  
5 we're predicting doom. We just want to have the  
6 question answered as to what exact prospects and  
7 risks and costs are before a decision is made to do  
8 that.

9 You have a completely different set  
10 of drawdown possibilities that's being discussed  
11 here as opposed to what was being discussed in 1990.  
12 You have different months. You have different usage  
13 patterns. The Valley itself -- another argument for  
14 redoing the ten-year study, the Valley's own  
15 electric use patterns, I would suggest to you, has  
16 probably changed since then.

17 We're probably -- Kate, I'm new  
18 enough that I am probably speculating on this, but  
19 I'm guessing the Valley is still a dual peak system,  
20 that we run a peak in January or February and then  
21 another one in July and August most years. We only  
22 looked at the summer peak when we were looking at --

23 MS. KATE JACKSON: Our highest peak  
24 is in the summer, but there is a slightly lower peak  
25 in the winter.

1                   MR. MIKE MCDOWELL: Intuitively I  
2 thought that there was probably a lot of electric  
3 heating in the Valley.

4                   MS. KATE JACKSON: There is.

5                   MR. JIM CREIGHTON: Okay. Phil, did  
6 you have a question?

7                   MR. PHIL COMER: I just want to make  
8 a comment that your number of \$5,000,000,000 that  
9 has been saved in flood control for Chattanooga --

10                  MR. MIKE MCDOWELL: No, not  
11 Chattanooga, for the entire system.

12                  MR. PHIL COMER: But Chattanooga is  
13 85 or 90 percent of that total amount, according to  
14 TVA, and their number is \$3,000,000,000 that has  
15 been saved, and we have an expert here from  
16 Chattanooga today who might update us on that.

17                  Frank?

18                  MR. FRANK SAGONA: I can't tell you  
19 how much.

20                  MR. PHIL COMER: But it's a lot,  
21 isn't it? You're grateful.

22                  MR. FRANK SAGONA: We want to keep  
23 the savings, too.

24                  MR. MIKE MCDOWELL: Actually, we  
25 pulled figures -- we pulled the flood damage

1 mitigated figure out of TVA documents also. So if  
2 there's a discrepancy between the two, it's  
3 something that they need to resolve, not us.

4 MR. PHIL COMER: We agree we need a  
5 new study.

6 MR. JIM CREIGHTON: Are there any  
7 other questions?

8 Having pressured everybody on time  
9 earlier, we're finally in the luxury of -- I think  
10 we may have a number of public comments, Eddie. So  
11 we might want to maybe come back at a quarter of to  
12 allow extra time for public comments.

13 MAYOR EDDIE SMITH: Okay. We are  
14 finished with our presentation. We thank you, Mike,  
15 for that. We will take a break, and immediately  
16 after that we will have a public comment period.  
17 We're asking that those who want to make public  
18 comments to see the desk clerk out there to fill out  
19 a card and be able to get that to us when we come  
20 back.

21 Also, we want to make sure that --  
22 depending on how many persons are here, we may have  
23 to limit the time to four to five minutes, so we  
24 keep that in mind. So with that we will take a  
25 break and be back here in 15 minutes, which would be

1 about a quarter of.

2 (Brief recess.)

3 MAYOR EDDIE SMITH: We don't have all  
4 our Council members back yet, but I think we could  
5 go ahead and get this session started. Before we  
6 start this session, I would like to make a comment  
7 about the photographer that you saw taking pictures.  
8 It's a TVA photographer, and basically they are just  
9 taking pictures for posterity and maybe publication  
10 in the future. If anyone has a problem with having  
11 their pictures published, you can let us know.  
12 Otherwise, you may be seen somewhere you don't know  
13 you have been seen.

14 MR. JIM CREIGHTON: You may be on the  
15 worldwide web.

16 MS. JULIE HARDIN: Thank you so much  
17 for telling us.

18 MAYOR EDDIE SMITH: Okay. With that  
19 we're going to go ahead and get our public hearing  
20 session going, and we will turn that over to Jim for  
21 this session.

22 MR. JIM CREIGHTON: Okay. Of the --  
23 I have received ten cards, and if anybody else  
24 wishes to speak, then you do need to fill out a  
25 card. Given the time we have, we probably can allow

1 five minutes. What I will do is when there's one  
2 minute to go I will hold up this one-minute sign,  
3 but I will not interrupt you. Then when your five  
4 minutes is up, I will hold this up but not interrupt  
5 you, unless it goes much longer.

6 So that's -- now, basically we call  
7 on the speakers in the order the cards are handed to  
8 me, except this morning we do have two exceptions I  
9 would ask your indulgence on. We have a  
10 representative from Congressman Taylor's who has to  
11 be at a hearing shortly and needs to leave, and then  
12 we have a representative from Congressman Hilleary's  
13 who needs to be last because she's not here yet.

14 MR. PHIL COMER: He's in Morristown  
15 explaining Candidate Bush's proposal for tax reform,  
16 so he might be a little late.

17 MR. JIM CREIGHTON: I'm not going to  
18 touch that one either. Okay. The Council, you're  
19 all right with my allowing them some leeway in terms  
20 of time and so on?

21 Bill just raised an issue, which is  
22 that we have got the microphone in the back where  
23 Council members have to turn, would -- is that a  
24 problem or should we put them up here?

25 MS. JULIE HARDIN: Put them up front.

1 MR. PHIL COMER: Put them up front,  
2 please.

3 MR. JIM CREIGHTON: Can we quick like  
4 a bunny --

5 DR. KATE JACKSON: They can go all  
6 the way up to the stage.

7 MS. JULIE HARDIN: That's awfully far  
8 away.

9 MR. JIM CREIGHTON: Even if you could  
10 use the portable mic. That is the portable mic.  
11 Okay. Okay. The first speaker is Martha Peterson.  
12 She's a District Representative for Congressman  
13 Taylor.

14 Ms. Peterson?

15 MS. MARTHA PETERSON: Thank you. I  
16 spoke to Congressman Hilleary's staff person  
17 yesterday and we decided that I would be passing him  
18 on my way out and on his way in. So he told me he  
19 that would be running just a few minutes late.

20 The information that we received here  
21 this morning has been very beneficial. Let me tell  
22 you just a moment about why. Congressman Taylor is  
23 looking at trying to update the study that was made  
24 in 1990 by the University of Georgia and the Forest  
25 Service on the impacts of his -- on the three lakes

1 in -- that lies in western North Carolina within his  
2 district.

3                   Now, in the last few months when we  
4 realize that we can't operate off of the 1990 study,  
5 we started tossing around, what factors do we need  
6 to look at when this study comes up, who needs to do  
7 it, what needs to be looked at, and the overview  
8 that was given here this morning gives me some  
9 valuable information to take back to the Congressman  
10 on not only the benefits to those individuals  
11 surrounding the lakes but we need to -- we need to  
12 look at the cost. We need to look at our neighbors  
13 downstream. We, of course, want to be good  
14 neighbors. We don't want to be greedy but really  
15 believe that the impact of leaving those lake levels  
16 up longer can have a significant economic boost for  
17 that district.

18                   The area that you're talking -- that  
19 we're talking about in western North Carolina is  
20 85 percent in the federally owned lands, and with  
21 that federally owned lands comes high levels of  
22 poverty. It's really difficult to bring in jobs.  
23 It's difficult to bring in industry. So we are very  
24 dependent, more and more, on the tourism industry,  
25 and the level of those lakes can mean a lot to the

1 people that live around them that have to depend on  
2 that for their living, but at the same time we know  
3 that there's a lot of other factors. We are going  
4 to try and update that study in the next few months,  
5 and hopefully, we can bring back to the Resource  
6 Council some more additional information from  
7 western North Carolina.

8                   Now, we have been very fortunate that  
9 we have had on assignment to the Congressman a  
10 scientist from the Southeastern Research Station,  
11 and one of the things he's been talking about is the  
12 environmental impacts as well. So he has had to go  
13 back to the station until after the first of the  
14 year, and hopefully, at that point in time he will  
15 come back to us for three months and help us get  
16 this study off the ground.

17                   Air quality has been a big issue in  
18 the district, and I'm glad to hear some discussion  
19 this morning. GAO is actually leaving here to  
20 travel to Asheville to talk with the person that has  
21 been on assignment about the air quality issue,  
22 about what would be the impact of asking you-all to  
23 leave your hydropower -- to lower their generation  
24 of hydropower during certain periods of the year.

25                   So we are sensitive to that and we

1 are going to be exploring those issues in the coming  
2 months and just wanted to give a word from the  
3 Congressman. As everybody knows, they're hung up in  
4 session and may be through election day he tells me  
5 now. So I do have to leave and be in the  
6 Congressman's other end of the district by 2:00,  
7 which is a full three-hour drive, I can assure.

8                   The information was great this  
9 morning. We appreciate all the hard work the  
10 Resource Council is doing. I think that by working  
11 together we can look at issues like lake levels and  
12 look at the importance of putting those drawdowns  
13 off for just a little while and what it can mean to  
14 some of these communities, but at the same time we  
15 want to take into consideration other impacts if  
16 those impacts are actually valid, and that's where  
17 we're at at this point in time.

18                   So thank you-all so much. Thank you  
19 for letting me speak first on my way out the door  
20 and let you know that I would stay with you the rest  
21 of the day, but it's sort of a hectic time of year  
22 right now.

23                   Okay. Thank you.

24                   MR. JIM CREIGHTON: Our next speaker  
25 is George, I believe it's Loures, from Dandridge,

1 Tennessee.

2 MR. GEORGE LOURES: I'm here.

3 MR. JIM CREIGHTON: Got you. Go.

4 MR. GEORGE LOURES: Please forgive  
5 me. I'm a little bit nervous. This is a very  
6 touchy subject to me. I have sat here this morning  
7 and I have listened to different tactics, and I want  
8 you to know that I have been coming to eastern  
9 Tennessee and owned property on these lakes for the  
10 past 25 years.

11 I used to own property on Cherokee.  
12 I own 15 acres on Norris right now, waterfront  
13 property, and I make my home in Dandridge,  
14 Tennessee. I'm many things, but to you-all the main  
15 things you-all would probably want to hear about is  
16 I am a member of L.O.U.D., Landowners and Users of  
17 Douglas, but I am not hear speaking on their behalf.  
18 I am a member of the Dandridge Yacht Club, and I am  
19 not hear speaking on their behalf. I am a retiree,  
20 so I guess I'm just speaking for myself and my  
21 family.

22 I've heard terms used here like  
23 recreational people, terms like tourism. Let me  
24 tell you people, let me tell you something, somebody  
25 comes into eastern Tennessee with all their

1 retirement money that they didn't earn one penny in  
2 Tennessee. They buy \$100,000 lot, put a \$200,000  
3 house on it. They go downtown and buy a SeaRay boat  
4 and a pickup truck and campers, and so on and so  
5 forth, drop a half million dollars inside of three  
6 years, that is not recreational. This is my home.

7                   When my income tax -- not income tax,  
8 when my tax goes up on my property \$500 almost every  
9 year since I have been here, I am dumping money in  
10 here, and I don't want to hear no scare tactics and  
11 I don't want to hear that my electricity might go up  
12 two pennies an hour or something or another, I need  
13 relief on the land that I love, Douglas Lake. And I  
14 have brought enough money with me that retirement  
15 people do two things, folks, they make their  
16 opinions known and they vote. And if you think  
17 L.O.U.D. or the Dandridge Yacht Club is going to go  
18 away or get quiet, you've got another thing coming.  
19 This is from the heart.

20                   Thank you.

21                   MR. JIM CREIGHTON: Thank you very  
22 much. Our next speaker is Bridget Baird, who is a  
23 field representative for Congressman Bill Jenkins.

24                   MS. BRIDGET BAIRD: Good morning,  
25 Mayor Smith, Dr. Jackson, good to see you, and all

1 members of the Stewardship Council. I'm Bridget  
2 Baird, field representative from Congressman Bill  
3 Jenkins.

4                   Unfortunately, I have not been able  
5 to attend one of your meetings before because of  
6 either distance or personal, I don't want to say  
7 tragedy, but a personal emergency experience that  
8 happened in my immediate family, but I'm glad to be  
9 here today.

10                   As Martha said, both of our bosses  
11 are tied up in Washington. They may be there  
12 through election day. So I am here representing  
13 Congressman Jenkins, and I have a letter that I  
14 would like to read to the Council that has been  
15 mailed and fax'd to Chairman Crowell, to Director  
16 Harris, and to Director McCullough, and I'm getting  
17 old, so I have to wear my bifocals.

18                   The letter is dated October 30th,  
19 2000. Dear Mr. Chairman, Ms. Harris, and  
20 Mr. McCullough, I am writing you again at the  
21 request of many groups and individual citizens  
22 concerned with the Tennessee Valley Authority's lake  
23 drawdown policy for the lakes in the First  
24 Congressional District of Tennessee. I have  
25 advocated higher pool levels for many years,

1 including the years I served as a member of the TVA  
2 Board of Directors.

3 I renew my request that lake levels  
4 be held as high as possible for as long as possible.  
5 I fully understand and do appreciate that this  
6 subject has been studied extensively within and  
7 without TVA. Sufficient study has brought us to a  
8 time to draw some conclusions and take additional  
9 action.

10 A new request has been made of TVA to  
11 extend the date of unrestricted drawdown from  
12 August 1 to October 1. I believe that it is in the  
13 best interest of everyone concerned to extend this  
14 date beyond August 1. I realize that this  
15 recommendation comes with financial consequences,  
16 but the day has arrived when recreational purposes  
17 should be given additional consideration. We can  
18 extend recreational opportunities without imposing  
19 unreasonable burdens on taxpayers.

20 All who request this, including  
21 members of Congress, should be willing to share the  
22 responsibility that falls to TVA in carrying out the  
23 TVA Act and meeting the responsibility to its  
24 ratepayers.

25 At this critical time when energy

1 policies are taking center stage on the national  
2 scene, we must be careful not to trigger a  
3 congressional oversight that would act to the  
4 detriment of all the citizens and the ratepayers of  
5 the First Congressional District of Tennessee and  
6 the entire TVA area.

7 I will appreciate your consideration  
8 and response. Sincerely yours, William L. "Bill"  
9 Jenkins, Member of Congress.

10 Thank you very much.

11 MR. JIM CREIGHTON: Thank you very  
12 much. Our next speaker is Wayne Basak, Norris  
13 Shores Property Homeowners' Association.

14 MR. WAYNE BASAK: I have got to use  
15 my glasses, too. I'm probably older than she is,  
16 too. As the previous male mentioned, I'm a retiree  
17 also. I spoke to you in the Huntsville meeting  
18 before, and I was surprised to hear from one of the  
19 Council that I could be considered as an outsider.

20 How many of you are locally born  
21 here, I mean, of the Council?

22 Forget the rest of you. Phil, you're  
23 the only one? Well, then I'm not the only one  
24 that's an outsider. Well, that's good to hear.

25 I was not initially involved in

1 this -- can we hold back that five minutes for a few  
2 minutes?

3 I was not involved in this until the  
4 president of our organization gave me a chance to  
5 talk in Huntsville. The more I looked into the data  
6 the more I became upset, I guess, would be a simple  
7 way of putting it. The more data I read about, the  
8 more I'm concerned about the attitude of TVA towards  
9 the extension of the drawdown.

10 Let me read you a few things, and I  
11 am going to try to act like a lawyer speaking to the  
12 judge and those that are interested, and I am trying  
13 to present a case to you.

14 First of all, the purpose of the  
15 Council is to provide advice, and I'm reading from  
16 your guideline, to advise TVA. Now, TVA retains the  
17 right to say we may or may not agree with you or we  
18 may or may not implement this, that's what it says.  
19 TVA wants to work with the Council to develop  
20 productive dialogue, that's what they say in here.

21 In a L.O.U.D. presentation there are  
22 six major areas of concern that you, the Council,  
23 have to consider; one, flood control; two,  
24 navigation; three, electric, and that seems to be  
25 the primary one, electric power. No. 6 is the

1 economic and social well-being of the people in the  
2 river basin. This never seems to be introduced into  
3 the discussion. However, it is in there.

4                   When you voted or when you cast your  
5 ballots, you, the Council, said, what is the most  
6 important to you. I have a number here of 233  
7 points for lake levels, that's a considerable amount  
8 over the next one, which is 153, which means this  
9 seems to be of great importance to you as well as  
10 us, the residents and the business people in the  
11 area.

12                   TVA attempts to define things in  
13 their own terms, and let me explain what I mean by  
14 that. There's a document I have here that was  
15 really kind of interesting to read, I didn't realize  
16 this, TVA says summer is June and July, that's their  
17 definition of summer. I always thought it was June,  
18 July, and August. Everywhere else I have been it's  
19 June, July, and August. However, TVA says June and  
20 July is summer so that after July we can start  
21 dropping down the water because there's no longer a  
22 summer application.

23                   If you talk about rainfall, TVA has  
24 their own rain measuring devices. I know because I  
25 talked to TVA and asked them to get the information

1 on rainfall, and they said, this is what it is, and  
2 they gave me one month. I said, I need to go back  
3 further than that. I'm sorry, we don't have that  
4 information.

5 I tried to get other information from  
6 them about hydropower, and I was unable to get hold  
7 of an engineer, because I needed to know a little  
8 bit more about how hydropower is developed.

9 Here's something that's interesting,  
10 and I will read to you what my wife gave me off the  
11 computer. I don't run the computer. She does. It  
12 says that -- and give me a few minutes while I find  
13 the documentation here. Most power generators are  
14 mounted directly above turbines on vertical shafts.  
15 Now, this is from Water Power Microsoft Corporation.  
16 The design of turbines depends upon the available  
17 head of the water, in other words, the pressure from  
18 the top with so-called Francis (sic) type turbines  
19 used for high heads in Kaplan (sic) or propeller  
20 turbines used for low heads. This is the type of  
21 turbine that TVA uses.

22 In other words, the higher the water  
23 level, the more the pressure, the better  
24 hydroelectric power you're going to get or the more  
25 hydroelectric power. Now, that seems to be in

1 direct contrast to what TVA is trying to tell us;  
2 and that is, we must continually drop the water to  
3 get the pressure. I don't understand this kind of  
4 understanding that TVA has given us.

5                   Let me use something else. The most  
6 important issue of TVA responsibility, TVA has  
7 consistently displayed an attitude of complete  
8 disinterest in any input from the lake level  
9 community or lake level community. This is an  
10 e-mail I received. I have got other e-mails. TVA  
11 has 67 years of empirical data operating the  
12 Tennessee Valley Authority and 100 years of  
13 participation with the National Weather Service.

14                   Let me give you some facts that I  
15 think are interesting. I think I tried to provide  
16 these in Huntsville, but I was not able to get them  
17 all across. April and July are your two heaviest  
18 rainfall times of the year. April helps fill the  
19 lakes up. July helps maintain it. After July the  
20 heat goes down. Your temperatures go down. I'm  
21 hearing we have got August, we have got to take care  
22 of August heat. I will give you some ideas of what  
23 the situation is.

24                   My local electric company told me for  
25 two years running now that approximately a five

1 percent reduction in electricity, sole sourced on  
2 TVA, in August as compared to July, five percent  
3 reduction now, in other words, they use -- you're  
4 using less electricity in August than you did in  
5 July.

6                   Let me read you one thing that came  
7 from TVA. If we held reservoir levels up until  
8 Labor Day and then got hit by a period of wet  
9 weather, for example, we would be faced with higher  
10 spill rates.

11                   How many years has that occurred?  
12 That's great.

13                   Let me read you something else.  
14 Delaying the drawdown would also curtail the use of  
15 hydropower during the hottest part of the year.  
16 That's not true. The hottest part of the year is  
17 July, not August and thereafter. The temperature  
18 goes down thereafter. Water usage goes down  
19 thereafter.

20                   All right. Let me say one more  
21 thing. I need to read one thing here, and it may be  
22 controversial, it may not, but I think it sums up  
23 something that I'm hearing from more than one  
24 person. It's another e-mail that I got.

25                   I am often reminded -- oh, did

1 anybody -- just the last sentence here. Did anybody  
2 read the book 1984, George Orwell, and Animal Farm?  
3 One again. Okay.

4                   To give you an idea, George Orwell  
5 tried to say that what the government tells you, you  
6 must believe. There was supposedly a war on in  
7 1984, but there may or may not have been. You were  
8 told that two plus two equals five because the  
9 government says it does equal five.

10                   Let me read what the e-mail said. I  
11 am often reminded of George Orwell in 1984 in Animal  
12 Farm and the double speak he writes about, how a  
13 government bureaucracy can become so imbued with  
14 their own self-righteous conviction that they are so  
15 right that they will go to any lengths to perpetuate  
16 their stand on an issue. They are so convinced that  
17 they are running -- they are -- I skipped a page.

18                   They are so convinced that they are  
19 running the Tennessee River system in a perfect  
20 integrated, balanced, and efficient manner they want  
21 to say no to any possible interference in how they  
22 are doing it now. They want to maintain the status  
23 quo, no matter how contemptible their methods to  
24 achieve this may be. That to me says a lot.

25                   MR. JIM CREIGHTON: Thank you. Our

1 next speaker is Julia Moon, also from L.O.U.D.

2                   Could somebody check on the  
3 temperature? I notice people are getting very cold.

4                   MS. JULIA MOON: My name is Judy  
5 Moon. I'm a resident of the Shady Grove Community  
6 that was established in 1783. I wasn't an original  
7 settler, but I am an original East Tennessean.

8                   I would like to acknowledge the  
9 persons who were displaced by the damming of the  
10 French Broad River to form Douglas Dam, Douglas  
11 Lake. These citizens were made to leave their  
12 homes, their farms, and their churches for the  
13 benefit of the Manhattan project in the 1940's.

14                   The project was a success and World  
15 War II was won, and here we are almost 60 years  
16 later and for some eight months each year we must  
17 endure the lake shores and the lake beds stripped  
18 nude with jagged stump skeletons thrust through the  
19 blood red mud, that's a painful torture of a beloved  
20 homeland.

21                   We don't ask that the purpose of  
22 flood control be discontinued, but we don't get  
23 flooding in October, our driest month. I have lived  
24 here all my life. The rains come in January and  
25 February. Lake levels don't need to be lowered to

1 hold possible flood waters as early as they are.

2 Also, the high water levels aide in  
3 erosion control and the elimination of water and  
4 wind destruction of those denuded banks in the  
5 mudflats. We also don't ask that power generation  
6 be discontinued. We just would like it to be done  
7 in December and January and February instead of  
8 July, August, and September.

9 There's just nowhere more beautiful  
10 than our area when the lakes are up, and the quality  
11 of the life is a valid consideration. The benefits  
12 for our own enjoyment as well as for tourism can't  
13 be ignored. In time and place of all reason and in  
14 remembrance for all the sacrifices that have been  
15 endured over the years please, please maintain the  
16 lake levels of our beautiful Douglas Lake.

17 Thank you.

18 MR. JIM CREIGHTON: Thank you very  
19 much. Our next speaker is Paul Boorman, President  
20 of the Cherokee Lake Users Association.

21 MR. PAUL BOORMAN: I would like to  
22 have three of our members rise briefly. You can  
23 withhold your applause. There's Pat Patton, Kirk  
24 Crawford, and Tony Elm. We have over 600 members in  
25 the Cherokee Lake Users' Association. However, I

1 like to think that we actually represent tens of  
2 thousands of people who use our lake for recreation  
3 each year, whether it be boating, fishing or  
4 swimming.

5                   The lake couldn't be more delightful  
6 during June and July, and I was impressed by the  
7 GAO's photos of the before and after. You will have  
8 to agree that they were striking, and those of you  
9 on the subcommittee that haven't seen the lakes  
10 after a couple of months of drawdown certainly saw a  
11 representative sample in the GAO's photos.

12                   Unfortunately, TVA begins its  
13 drawdown on August 1st, not only for Cherokee but  
14 for all tributary lakes. And as one of the other  
15 speakers said, it's my understanding that TVA has  
16 redefined when summer ends. I thought it was  
17 August 15th, but maybe it's August 1st.

18                   In point of fact, we all know that  
19 summer like weather in East Tennessee and Western  
20 North Carolina and Northern Georgia continues well  
21 beyond August and through September, and possibly  
22 even longer. Therefore, our members believe that  
23 the unrestricted drawdown should not begin August 1.  
24 It should be delayed for two months until October 1  
25 for all tributary lakes in East Tennessee, Western

1 North Carolina, and Northern Georgia.

2                   In 1998 the TVA Lake Level Policy  
3 Task Force said there is a need for re-evaluation  
4 with appropriate input from the public.  
5 Unfortunately, no formal evaluation has taken place  
6 to date, and with all due respect, I don't think  
7 budgeting a small amount of money each year is  
8 action.

9                   An Environmental Impact Study is  
10 required, and this should be started as soon as  
11 possible. Of course, the re-evaluation will  
12 properly discuss the economic costs of maintaining  
13 higher water levels. Prior 1990 TVA began the  
14 drawdowns as early as June 1. Then in 1991 the  
15 policy was changed and drawdowns begin now on April  
16 1st.

17                   As has been discussed this morning,  
18 TVA estimated an economic cost in the 1990 study,  
19 primarily due to lower power generation, at about  
20 \$2,000,000, and it's reasonable to assume that this  
21 cost may be somewhat higher today. But as the GAO  
22 report recommends, TVA should and must also consider  
23 economic benefits.

24                   You're aware of studies over the past  
25 ten years which shows substantial economic benefits

1 to businesses in the 40 something counties  
2 surrounding these lakes. The Cherokee Lake Users'  
3 Association requests that TVA regard power  
4 generation, flood control, and recreation as three  
5 legs on a stool, so to speak. They each should be  
6 given equal weight. I believe there may be federal  
7 legislation next year requiring TVA to consider all  
8 three equally.

9 But why wait?

10 TVA has been a leader in many areas  
11 and you should want to take the leadership role here  
12 as well.

13 Thank you for your kind attention.

14 MR. JIM CREIGHTON: Thank you very  
15 much. Our next speaker is David L. Brown. He's  
16 Executive Director of America Outdoors.

17 MR. DAVID BROWN: Thank you for this  
18 opportunity to make some comments on your efforts  
19 here. America Outdoors is a national association of  
20 river recreation businesses that operate throughout  
21 the nation. Many of our members operate in the  
22 Tennessee Valley.

23 I would like to offer you a  
24 perspective. I think there is a fundamental  
25 oversight in the work of the Council to date that I

1 ask you to consider and take action upon. River  
2 recreation, rafting, canoeing, kayaking, and fishing  
3 downstream of these reservoirs does not appear to be  
4 factored into your decision-making or agenda.

5           The Council must consider the  
6 significant recreation resources in the Tennessee  
7 Valley or its work will be incomplete and subject to  
8 challenge. I suggest that you establish an official  
9 committee to inventory and consider these uses in  
10 your report.

11           Now, I would like to read a comment  
12 from the County Executive of Polk County, Tennessee.  
13 I realize that TVA has to provide cheap power, but  
14 by the same token, they have a mission for economic  
15 development, and around here economic development  
16 means whitewater.

17           The Ocoee River in Southeast  
18 Tennessee is the nation's most popular whitewater  
19 river with nearly 350,000 visits annually. The  
20 Hiwassee River sees 120,000 visits annually. That's  
21 also a very fine trout fishing stream. The Watauga  
22 River below Wilbur Dam is also a significant  
23 resource that deserves a viable plan for downstream  
24 recreation.

25           Many of you may be aware that

1 investor owned utilities are required to provide  
2 equal consideration for recreation and hydropower  
3 production when their projects are relicensed by the  
4 Federal Energy Regulatory Commission. I believe TVA  
5 should also be required to recognize these other  
6 benefits.

7                   Lake users should not see  
8 recreation -- river recreation as a threat to their  
9 efforts to improve the recreation benefits of  
10 tributary reservoirs. Some water will have to leave  
11 these reservoirs in the summer or the economy of the  
12 Tennessee Valley will simply dry up. We can work  
13 together to meet the recreation needs of all users  
14 of the Tennessee River system while providing ample  
15 power for the region.

16                   I ask that my written remarks be  
17 submitted for the official record. Thank you.

18                   MR. JIM CREIGHTON: Thank you very  
19 much. Our next speaker is Ruth Ann Parker from  
20 L.O.U.D, Dandridge, Tennessee.

21                   MS. RUTH PARKER: Hi. I'm Ruth Ann  
22 Parker from Dandridge, Tennessee. I'm a member of  
23 L.O.U.D. and a retired teacher. And I would like to  
24 consider this my classroom and just talk back and  
25 forth, but I'm afraid I would get too windy, so I am

1 going to read prepared remarks, which I will give  
2 you a copy of later.

3                   Three years ago, after a particularly  
4 aggressive August drawdown, many of us began  
5 suffering low lake level blues. Eighteen landowners  
6 and lake users met in our living room to discuss our  
7 concerns. We followed the pattern of good citizens,  
8 we elected officers, appointed committees, did  
9 thousands and thousands of hours of research, wrote  
10 a proposal to maintain the summer pool to October  
11 1st, met with appropriate TVA staff, boosted our  
12 membership to 608 individuals and 12 corporate  
13 sponsors, 13, I think, after this morning, were  
14 instrumental in the formation of a coalition of the  
15 six counties surrounding Douglas and Cherokee Lakes,  
16 found money for an Economic Impact Study completed  
17 by UT, published newsletters, and always, always  
18 followed the methodical course set by our president,  
19 Frank Dominick. We have been waiting for an answer  
20 to our request for almost three years.

21                   The TVA Act of 1933 states that the  
22 mission of TVA is to promote the physical, social,  
23 and economic development of the Tennessee Valley.  
24 We believe that our request for a later drawdown  
25 fits well within the parameters of that law.

1                   However, today's TVA is not the  
2 agency of our grandfather's. The Agency has  
3 devolved into a federal, monopolistic, electric  
4 company that is answerable to no one and that spends  
5 only one cent of every dollar on all non-power  
6 projects, those very projects that were the main  
7 thrust of the original 1933 legislation, one cent.

8                   When it is helpful to TVA, two  
9 mandates of original law are always given to the  
10 media by the TVA staff as reasons for an early  
11 drawdown, flood control and navigation. Our  
12 research of TVA documents proves that neither one is  
13 a legitimate concern until early October. This is  
14 an instance when the original intent seems very,  
15 very important to the Agency, even to the point of  
16 misrepresenting the facts.

17                   Being the largest power producer in  
18 the country was not in the 1933 mandate. This is an  
19 instance when the mandate has been twisted and  
20 skewed to meet TVA's current role.

21                   Well, which is the real TVA?

22                   For three years now L.O.U.D. has  
23 worked within the system patiently waiting for a  
24 response. Further stalling techniques are now being  
25 discussed that would put off a decision for five to

1 ten years while even more costly and time-consuming  
2 studies are done.

3                   Three previous studies, even one  
4 funded by TVA, have shown a cost benefits ratio of a  
5 gain of 14 to \$20 to the lake communities versus a  
6 loss of \$1 to TVA if the lake levels are maintained  
7 for at least another month. This is not fuzzy math.  
8 Remember that the main thrust of the TVA Act was the  
9 economic development of the area, not the economic  
10 development of the Agency.

11                   Deregulation seems to be of  
12 certainty. According to the employees of Duke  
13 Power, their workshops always dwell on this concept.  
14 The power company that wins the satisfaction of its  
15 customers is the power company that will survive.

16                   Remember that every landowner and the  
17 vast majority of TVA lake users are customers.  
18 Satisfied customers are the basis of successful  
19 companies. Dissatisfied customers make alternative  
20 choices.

21                   Many L.O.U.D. members in attendance  
22 today are wearing blue to remind everyone of the  
23 40 feet of water we do not have in our lake. We  
24 truly have the low lake level blues. We are here  
25 for two other reasons, to show complete support for

1 later drawdowns of the lakes and to gauge the  
2 support of this Council and TVA for a longer lake  
3 season.

4                   Possibly it is time to reassess our  
5 methodical strategies. Three years is a long time  
6 for good citizens, stakeholders, customers to work  
7 in good faith with a bureaucracy that doesn't seem  
8 to be very responsive to the needs of the people of  
9 the Tennessee Valley.

10                   There are L.O.U.D. members present  
11 today. Would you please stand? Thank you. We're  
12 L.O.U.D. and we're proud.

13                   A member of this Council, Phil Comer,  
14 represents 14 groups and agencies, one of which is  
15 L.O.U.D. We want you to know that Mr. Comer has our  
16 complete support. Evidently he has had to fight to  
17 make certain that your, this Council's, No. 1  
18 concern, lake levels, is fairly pursued.

19                   Therefore, we would like to dedicate  
20 this quote from Mohatmus (phonetic) Ghandi to Phil,  
21 first they ignore you, then they laugh at you, then  
22 they fight you, then you win. We are trusting that  
23 this Council and TVA are presently on that third  
24 step and that we are very close to the fourth.

25                   Thank you.

1                   MR. JIM CREIGHTON: Our next speaker  
2 the Lloyd Bible, who is also from L.O.U.D.

3                   MR. LLOYD BIBLE: What I had to say  
4 has been adequately addressed.

5                   MR. JIM CREIGHTON: Okay. Our next  
6 speaker then is James Jardine from Norris Lake.

7                   MR. JAMES JARDINE: I have been here  
8 before, folks, and I appreciate another opportunity,  
9 and I appreciate the fact that water levels seem to  
10 get on the agenda really strongly today.

11                   I am a lake front person. I'm very  
12 concerned about that for my purposes and for my  
13 selfish use of the lake, and I support these folks  
14 in L.O.U.D. I would like to -- if I lived there, I  
15 would be a part of it.

16                   In any case, I wanted to bring up  
17 another point; and that is, that person that lives  
18 in Knoxville or in other -- in any other city or  
19 close by one of your tributary lakes who likes to go  
20 out and fish every day, and there's a lot of folks,  
21 I don't fish, I don't care about it myself, but --  
22 and enjoy the lake and they have got their boat at  
23 the marina, they would like to come out and use it  
24 and they can't, you know, we don't have water  
25 anymore. It's going down quickly and their season

1 is pretty well designated by that water level  
2 practice.

3 My point in bringing them up is that  
4 they don't have a voice. These folks -- and we have  
5 an organization because we have a concentration of a  
6 bunch of folks that share a common problem. They  
7 share a common problem, but one of them lives on  
8 that side of town and one over here and one four  
9 blocks over and one six miles over there, so they  
10 cannot unify and you don't hear their voice, I  
11 just -- I'm not one of them, I don't understand all  
12 of their problems, but I would like to bring their  
13 problem to your attention as well.

14 Thank you very much.

15 MR. JIM CREIGHTON: Thank you. Is  
16 Paul Chapman from Congressman Hilleary's office here  
17 yet? He estimated 11:30. We're a little ahead.

18 MR. PHIL COMER: He's still  
19 explaining George Bush's tax program up in  
20 Morristown.

21 MR. JIM CREIGHTON: Would the Council  
22 just hang loose for a few minutes?

23 We did announce that the comment  
24 period was between 11:00 and 12:00, and I would like  
25 to accommodate everybody.

1                   Is there anybody else who wishes to  
2 address the Council?

3                   Okay. Can you just hang tight? Any  
4 questions? Comments? I won't ask for political  
5 speeches.

6                   (Brief recess.)

7                   MR. JIM CREIGHTON: Okay. We have a  
8 verdict here, just your attention for a second. The  
9 Congressman's representative is still not here. We  
10 have reached him on the phone. We're going to put  
11 him on at 1:00 for five minutes, and so the  
12 Council's adjourned. Lunch is in room 407.  
13 Remember, there is -- there are some activities  
14 during the lunch for Council people, so go ahead and  
15 get on in there.

16                   (Lunch recess.)

17                   MR. JIM CREIGHTON: I believe our  
18 public hearing is still open. Is Paul Chapman here?

19                   MR. PAUL CHAPMAN: I'm here, yes.

20                   MR. JIM CREIGHTON: You are our only  
21 remaining speaker. So Paul Chapman is here. He's  
22 the area representative for Congressman Van  
23 Hilleary.

24                   MR. PAUL CHAPMAN: Okay. Let me  
25 apologize for being late and thank you all very much

1 for giving me an opportunity to speak. I was at  
2 Walter State Community College this morning and the  
3 meeting ran a little longer than I expected.

4 Now, I hear there's some information  
5 going around here that I was trying to explain  
6 George W. Bush's economic plan, and that's not  
7 correct. I guess that just went into the record  
8 too, so that's okay.

9 MR. JIM CREIGHTON: It was argued  
10 that that was why you were late.

11 MR. PAUL CHAPMAN: Okay. On behalf  
12 of Congressman Hilleary, I want to say thank you to  
13 the members of the Regional Resource Stewardship  
14 Council for your willingness to serve, for giving  
15 your time and resources, and for participating in  
16 this very important process.

17 Also, we would like to thank Chairman  
18 Craven Crowell, Director Skila Harris, and Glenn  
19 McCullough, and the entire TVA staff for their  
20 willingness to work with and listen to the input of  
21 this Council.

22 As many of you are aware, one of the  
23 most important issues that face many of Congressman  
24 Hillary's constituents is the management of  
25 tributary lake levels, particularly on Cherokee,

1 Norris, and Douglas lakes. In July of 1998 TVA's  
2 internal lake level policy task force recommended a  
3 comprehensive re-evaluation of the TVA lake level  
4 policy. Based on these facts, we would ask that  
5 this Council look into this issue very closely and  
6 urge the TVA board to begin this re-evaluation  
7 process immediately. Congressman Hilleary and his  
8 staff stand ready and willing to work with the  
9 Council and TVA staff in any way possible to assist  
10 in this process.

11 Thank you-all very much for hearing  
12 me.

13 MR. JIM CREIGHTON: Thank you. I  
14 understand there's -- that Janet has an announcement  
15 she wants to make.

16 MS. JANET HERRIN: You-all have  
17 heard -- Council and subcommittee members, you-all  
18 have heard about the drawdown that we're doing at  
19 Fontana. Every five years we do a very deep  
20 drawdown at Fontana so that we can do a thorough dam  
21 safety inspection.

22 We'll be at our lowest level for two  
23 weeks beginning on November 20th, which happens to  
24 be the week of Thanksgiving. So what I would like  
25 to do is invite the Council and subcommittee members

1 to come and see Fontana at the lowest level.

2                   We're looking at the week of  
3 November 27th. And Sandy will get an e-mail out to  
4 folks and we'll find a day during that week that  
5 accommodates as many schedules, but the reservoir  
6 will actually be down about 120 feet from summer  
7 pool level, so you have a real good opportunity to  
8 see the face -- the face of the dam that's below the  
9 water level most of the time, as well as some of the  
10 layout of the land and some of the things  
11 archaeologically that are uncovered during a  
12 drawdown. It's very interesting. I would encourage  
13 you, if your schedule permits, to join us.

14                   MAYOR EDDIE SMITH: Okay. We're  
15 ready for the water quality subcommittee. Initially  
16 we had asked that Jimmy Barnett introduce the  
17 committee and make comments, he's not here today.

18                   Is there anyone here who would like  
19 to substitute for Jimmy and do that for the water  
20 quality subcommittee?

21                   Al?

22                   MR. AL MANN: I think you have the  
23 impact instream flow.

24                   MAYOR EDDIE SMITH: Did I get out of  
25 order here? Oh, okay, I jumped a page, sorry about

1 that. Let's see. What I did I do?

2 All right. So we have the impact  
3 instream flow navigation, Tom Vorholt, I think I am  
4 getting that right, vice president of dry cargo  
5 sales and customer service, Ingram Barge Company,  
6 and an integrated river management subcommittee  
7 member.

8 Are you here, Tom?

9 MR. TOM VORHOLT: I think most of the  
10 Council members do know me since I serve on the  
11 subcommittee for integrated river management, but  
12 for those of you who don't, by way of introduction,  
13 my name is Tom Vorholt. I'm vice president of sales  
14 and customer service for Ingram Barge Company in  
15 what we call the short haul segment of our business,  
16 which encompasses the Tennessee and Cumberland  
17 Rivers.

18 From a sales responsibility, I am  
19 responsible for sales in the regions of Kentucky,  
20 Tennessee, and Northern Alabama. My main  
21 responsibility is for boat and barge logistics on  
22 those two rivers where we deliver approximately  
23 20,000,000 tons between the Cumberland and  
24 Tennessee.

25 We're operating five line-haul boats

1 and one 1800 on the Cumberland River, and we're  
2 operating six line-haul boats between Paducah and  
3 Chattanooga. We also operate one 1800 horsepower  
4 boat that works exclusively between Gunterville and  
5 Chattanooga.

6 My task, as I saw it today, or as I  
7 understood it, was to do a couple of things. Number  
8 one was to present an overview of the U.S. barge  
9 industry, and I will start from a more macro  
10 standpoint, and by the time I get to the last few  
11 slides I will be focusing exclusively on the  
12 Tennessee River and several issues related to  
13 navigation on the Tennessee River.

14 In the first slide I just wanted to  
15 give you an idea of what the transportation industry  
16 means to this country in terms of the GNP. As you  
17 can see, out of about 6.5 trillion dollars the  
18 transportation industry in this country, which  
19 includes all modes, generates or contributes about a  
20 trillion dollars to the economy. And by any measure  
21 or by any judgment, the transportation  
22 infrastructure in this country really is the envy of  
23 the rest of the world. It's far superior to any  
24 other and definitely contributes in a big way to our  
25 global competitiveness.

1                   The waterways are what I call a low  
2 cost producer of transportation. As you can see,  
3 although we represent five percent of the total cost  
4 of the freight bill in this country, we move  
5 15 percent of the ton miles. To put this in a more  
6 relative common denominator of mils per ton mile,  
7 barges deliver commodities for about three to  
8 five -- three to five mils per ton mile. Trucks are  
9 in the range of seven to ten mils per ton mile. And  
10 the railroads are in the range of 12 to 25 mils per  
11 ton mile. So it gives you an idea of the relative  
12 advantage of water transportation compared to the  
13 other modes.

14                   The national impact of barge  
15 transportation: We move about 40 percent of the  
16 petroleum and oil products that move in the country,  
17 a much higher percentage of the grain that moves in  
18 the country. Fifty percent -- 57 percent of the  
19 corn and soybeans and other farm products that move  
20 to the Gulf for export overseas move there by barge,  
21 and 20 percent of the coal traffic.

22                   This slide gives you an idea of just  
23 how extensive the inland waterway network is, about  
24 26,000 miles of navigable waterway. By navigable  
25 we're talking about at least a nine-foot channel to

1 operate in. If you look at the slide you will  
2 notice that a lot of major cities are located on the  
3 inland waterway system, from Chicago to New Orleans  
4 to Pittsburgh, St. Louis, Cincinnati, just to name a  
5 few.

6 Tennessee is especially blessed in  
7 terms of water transportation. Not only do we have  
8 the Tennessee River that flows from Knoxville to  
9 Paducah, to the north we have the Cumberland River  
10 that's navigable for 245 miles from just above  
11 Gallatin, Tennessee down to Paducah. Then on the  
12 western part of the state, obviously we have the  
13 Mississippi River. So Tennessee is really  
14 particularly blessed in terms of the resources  
15 available to the state in terms of water  
16 transportation.

17 As I mentioned, the Tennessee is  
18 navigable between Knoxville and Paducah, about 650  
19 miles of that 26,000 miles. So the Tennessee River  
20 represents about two and a half percent of the  
21 navigable waterways in the country. That's a figure  
22 I am going to come back to a little bit later.

23 The other thing that Tennessee is  
24 definitely blessed with is the fact that the  
25 terminus of the Tennessee River being Paducah, it

1 gives commodities coming inbound or outbound easy  
2 access obviously to the Ohio, but also to the  
3 Illinois, the upper Mississippi River, the lower  
4 Mississippi River, and the Cumberland. So Paducah  
5 is definitely a hub to the industry, and products  
6 can move easily to markets all over the country onto  
7 and off of the Tennessee River.

8                   When we talk about a barge, we're  
9 referring to an unmanned vessel. A barge is just  
10 300 tons of steel that's welded together that  
11 carries the products on the waterways. Two main  
12 types are dry cargo and liquid tank barges. Nominal  
13 capacity of a dry cargo hopper barge is 1,500 tons.  
14 The size is 195 to 200 feet long, 10 feet to 14 feet  
15 deep. A progression that's been made in our  
16 industry is to build barges to the 200-foot length  
17 and to the 14-foot depth.

18                   You know, as I mentioned, we use a  
19 nominal -- what I call a nominal capacity, 1,500  
20 tons of barge, but on some of the larger barges that  
21 we're building now, the 200-foot lengths and 14-foot  
22 depths, we're getting as much as 2,000 tons in a  
23 barge. And that's just another savings that,  
24 because of the competitive nature of our business,  
25 really that gets passed on to the shipper.

1                   As you can see, the cost to build a  
2 barge, although it's only 300 tons of steel welded  
3 together, is pretty substantial. To build an open  
4 hopper barge today, it would cost between 230 and  
5 \$250,000 per barge. To build a cover, the  
6 fiberglass or steel lift covers that go on top of  
7 the barge, that adds some additional costs.

8                   There are about 18 to 20,000 dry  
9 cargo barges. This slide says there's about 17,000  
10 if you add up the opens and covered, but a more  
11 accurate number right now, as I stand here today, is  
12 between 18 and 20,000 dry cargo barges that are  
13 working in the industry with a useful life of --  
14 really today the way -- with the improved  
15 construction methods, we're getting 25 to 27 years  
16 of useful life on a barge. Some of that will be  
17 dependent upon the commodities that it's  
18 transporting.

19                   For instance, a barge that is hauling  
20 salt, which is a big commodity, not only for road  
21 salt but salt that goes into industrial uses, a  
22 barge that's spending its time and its useful life  
23 hauling salt will be probably down in the 20 to 22  
24 useful life range just because steel and salt don't  
25 mix very well together.

1                   This just gives you an idea of what a  
2 barge looks like. These happen to be covered hopper  
3 barges that are loaded with grain. These are box  
4 barges. There are two types of dry cargo barges,  
5 what we call rake barges that are sloped at the bow  
6 and vertical at the stern. These happen to be  
7 vertical at the stern and the bow.

8                   Rakes are used at the front of the  
9 tow and at the stern of the tow to improve the  
10 hydrodynamics of the tow as it moves through the  
11 water. These box barges that you see here are  
12 positioned in the middle of the tow.

13                   Tank barges really come in more of a  
14 variety of shapes and sizes. We operate 162 195 by  
15 35 tank barges, but there are tank barges that we  
16 call oversized tank barges that are 52 feet wide and  
17 over 200 feet long. They run as a unit. We're not  
18 operating any of those today, but they are still out  
19 there.

20                   Tank barges -- another thing about  
21 tank barges that we don't see in the dry cargo  
22 segment is tank barges carry a Certificate of  
23 Inspection, a COI, from the Coast Guard. Because of  
24 the nature of the commodities that a tank barge  
25 hauls in terms of chemicals and petroleum products,

1 they are under strict regulation from the Coast  
2 Guard, as they should be.

3 Tank barges, again, because of the  
4 variation in sizes, may be 1,500 tons to 4,000 tons  
5 per barge, 25 year useful life. It says a mix of  
6 single skin and double skin tank barges are  
7 operating, but all single skin tank barges are being  
8 phased out by Coast Guard regulation, again, as it  
9 should be. I can tell you, Ingram, in our fleet of  
10 162 tank barges, aren't operating any single skin  
11 barges today.

12 And because of the piping and the  
13 motors to pump off the product, they are much more  
14 expensive to build than a dry cargo barge. The  
15 minimum you could get one built today would be about  
16 \$750,000 per barge.

17 And this just gives you an idea of  
18 what a tank barge looks like. This one happens to  
19 be empty, but you can see up at the bow the piping  
20 and the motors that are involved that do the pumping  
21 off of product after it reaches its destination.

22 And I know a question I'm asked a lot  
23 is, how come, I mean, why are barges 195 to 200 feet  
24 long and 35 feet wide, and really it's because the  
25 navigable channels that we operate that are --

1 there's pools that are impounded on the -- by the  
2 locks and dams that maintain that channel that we  
3 operate in, and because of the size of the locks  
4 that we transit, that's why the barges are built to  
5 the size that they are.

6                   As you can see, this gives a  
7 representation of a lock chamber that's 110 feet  
8 wide by 600 feet long. On the Tennessee River, most  
9 of the locks are 110 by 600. The Kentucky lock at  
10 mile 23, Pickwick at mile 207, Wilson at mile 259,  
11 Wheeler at mile 274, Gunter'sville at mile 349, and  
12 Nickajack at mile 431 are all this size.

13                   Once you get above Nickajack, the  
14 other three locks are all smaller chambers.  
15 Chickamauga at mile 471, Watts Bar at mile 430, and  
16 Fort Loudoun at mile 602 are all 360 by 60-foot  
17 chambers. Those we can only lock through a single  
18 barge at a time.

19                   But as you can see here, what we do  
20 is we bring a 15 barge tow up into the lock chamber  
21 and we have to decouple, we have to break the tow  
22 into two pieces. We will lock through nine barges  
23 in the first what we call cut, those barges will be  
24 winched, will be pulled out of the lock. And then  
25 in the second cut we will bring the remaining barges

1 and the boat through the lock, and then barges will  
2 be wired back together on the other side of the lock  
3 to continue as a 15 barge tow. So it takes several  
4 hours to perform this operation at each lock.

5                   The Kentucky Lock, as most of you  
6 probably know, the Corps and TVA are building a new  
7 1,200 foot chamber at the Kentucky lock. That  
8 construction is underway. Completion of that new  
9 1200 foot chamber at Kentucky should be 2008, 2009,  
10 which gives you an idea of the magnitude of the  
11 construction process. Really the construction phase  
12 is just getting underway now, and the completion of  
13 the lock won't be until 2008 or 2009.

14                   This slide gives you an idea of how  
15 tight it is. This happens to be a 1200-foot  
16 chamber, probably out on the Ohio. Three widths of  
17 barges 35 feet wide is 105 feet, and this is a  
18 110-foot chamber, so the clearance on either side is  
19 a total of five feet. It's a tight fit. You can  
20 see from the length of the tow, these pilots and  
21 captains are actually very, very skilled at what  
22 they do to be able to make this approach on to the  
23 lock wall and into the lock when he's looking at a  
24 1000 feet out in front of him at the head of the  
25 tow. This gives you an idea of what it looks like

1 when he's actually -- the whole tow is inside the  
2 lock. And as you can see, it's a very tight fit.

3 As opposed to a barge, the towboat is  
4 the manned vessel. It is the propulsion unit that  
5 faces up to the tow of barges to actually do the  
6 pushing of the barges up and down the river.

7 We break them down into three  
8 different categories, line haul, which I actually  
9 call open river towboats, which are used on the  
10 lower Mississippi and between Cairo and Paducah, if  
11 we have open river. There are no locks and dams to  
12 contend with. So we run much larger horsepower  
13 boats, as high as 10,000 horsepower on the lower  
14 Mississippi. That 10,000 horsepower boat can push  
15 40 barges, which would be 70,000 tons of product in  
16 front of that towboat moving down the river, 70,000  
17 tons, pretty amazing.

18 On the locking rivers, because we're  
19 limited to that 15 barge tow, we actually use  
20 smaller horsepower boats, in the range of four to  
21 6,000 horsepower boats. On the Tennessee we're  
22 running anywhere from 4,000 to 4,200 size horsepower  
23 boats on the Tennessee.

24 There are also smaller boats that  
25 operate on the intercostal waterway from New Orleans

1 over to Brownsville, Texas going west, and from New  
2 Orleans over past Pensacola, Panama City all the way  
3 over to Port Saint Joe, Florida.

4 An open line hauler or an open --  
5 what I call an open river towboat, as you can see,  
6 is pretty expensive to build. Actually nowadays  
7 it's about \$1,000,000 per horsepower, 1,000 per  
8 horsepower. So if you're going to build a 10,000  
9 horsepower towboat right now, it would be in the  
10 neighborhood of \$10,000,000 to get that done.

11 Really, if the truth be known, they  
12 have an almost unlimited useful life. What we do is  
13 we just continue to overhaul, repower, if necessary,  
14 rehab the towboats, and really I -- it's not  
15 indefinite, but towboats stay around a long, long  
16 time.

17 They have a complement of about eight  
18 to ten people in the crew doing the actual work on  
19 the boat, and they will burn about one gallon per  
20 horsepower per day. So that 10,000 horsepower  
21 towboat that I referred to pushing 70,000 tons would  
22 burn about 10,000 gallons of diesel fuel in a  
23 24-hour period.

24 On a locking river, as I said, we use  
25 smaller towboats, just depending on where it's

1 operating. For instance, we're running -- on the  
2 Cumberland we're running four to five boats between  
3 Paducah to Nashville where we can run larger tows.  
4 Then between Nashville and Gallatin up to the  
5 Gallatin Steam Plant for TVA where we're limited to  
6 a six-barge tow, we're running 218 horsepower  
7 towboats in that tray, a complement of seven to ten  
8 people in the crew and about three-quarters of a  
9 gallon per horsepower. So a 4,000 horsepower  
10 towboat will burn about 3,000 gallons of fuel per  
11 day in a 24-hour period. The areas of operation are  
12 the Ohio, the upper Mississippi, the Tennessee, the  
13 Illinois, and the Cumberland.

14                   This gives you -- this is a typical  
15 Tennessee River tow that you're looking at right  
16 here. The Robin B. Ingram that's pictured here is a  
17 5,000 horsepower boat pushing 15 barges, mixed tow.  
18 You see there's some covered barges, probably with  
19 grain, alloy, salt. You can see some open hoppers  
20 that are carrying coal, and actually there's even a  
21 tank barge in the tow.

22                   This must be an old picture, because  
23 if you can notice, the tank barge is in the outside  
24 port string of the tow, and we no longer operate  
25 that way. All of our tank barges are what we call

1 buried in the middle of the tow. So actually that  
2 tank barge would be positioned in the center string,  
3 probably one barge out from the first string. So we  
4 would bury that tank barge in the tow itself just  
5 because if there is a grounding or an accident, that  
6 barge is much safer if it's in the middle of the  
7 tow.

8                   This slide really paints a couple of  
9 different pictures. Number one, it speaks to the  
10 relative economics of barging versus the other  
11 modes. As you can see, that one 15-barge tow that I  
12 referred to that's commonplace on the Tennessee  
13 River, it would take 875 trucks to fill that tow  
14 with product, and that eight -- I mean, one tow is  
15 keeping 875 trucks off the road.

16                   So not only is that important from  
17 the economics of towboating and barging, but from  
18 the environmental standpoint that's a very positive  
19 impact that we bring, that those 875 trucks would --  
20 if you strung them out end to end with 150 between  
21 them would stretch for 34 miles, that's quite a  
22 caravan of trucks that we're keeping off the road.

23                   MR. AUSTIN CARROLL: I passed it last  
24 night, I think.

25                   MS. JULIE HARDIN: Do you have a

1 comparison on railroad cars?

2 MR. TOM VORHOLT: Yeah, it's given  
3 here as well. As you can see, one tow is two and a  
4 half unit trains. A unit train would be about 100  
5 cars per train. So, again, it takes -- if you're  
6 looking at 1,500 tons, it's roughly 100 tons per  
7 railcar. So it takes about 15 railcars to fill one  
8 barge. And one tow would be keeping over two unit  
9 trains off the tracks. And again, that just go back  
10 to the relative economics of moving product by  
11 barge, it's much more economical than the other  
12 modes.

13 MR. AUSTIN CARROLL: Tom, just on a  
14 more serious note, I mean, seriously, the number of  
15 trucks on the road, I mean, you're in  
16 transportation, this is a little bit off the  
17 subject, but, I mean, what are we going to do? I  
18 mean, it's going to get to where we're going to do  
19 well to drive an automobile on I-40.

20 MR. TOM VORHOLT: You're absolutely  
21 right. Over the last ten years the growth --

22 MR. AUSTIN CARROLL: It's  
23 intimidating now. I mean, what's the national plan  
24 on that? Have you got any inkling?

25 MR. TOM VORHOLT: I can't say that I

1 can address that, Austin.

2 MR. PHIL COMER: More barges.

3 MR. TOM VORHOLT: I mean, obviously  
4 we want to keep the waterways open and we want to  
5 move as much product by barge as we can, I mean,  
6 there's no doubt about that. Environmentally  
7 barging is very, very friendly. These towboats,  
8 quote, unquote, do no harm.

9 We have marine sanitation devices.  
10 Each towboat has a self-contained sewage treatment  
11 plant, and all we do is put clean water into the  
12 river. We take some water out of the river for  
13 cooling on the engines. It goes right back into the  
14 river just as it came out, maybe a little warmer,  
15 but these towboats do no harm. Again, they keep a  
16 lot of trucks off the road.

17 MS. JULIE HARDIN: Do you know, Tom,  
18 if anyone is addressing the crisis of trucks on our  
19 interstates?

20 MR. TOM VORHOLT: I would hope so. I  
21 can't say that's my area of expertise, but I think  
22 all of us in the room recognize over the last ten  
23 years the growth has been phenomenal. It is hard to  
24 drive on the interstate anymore, but Phil's got the  
25 right idea, more barges.

1 DR. PAUL TEAGUE: Tom, is it not true  
2 also barges -- a tow of barges will cause less wake  
3 than a yacht, a pleasure yacht?

4 MR. TOM VORHOLT: I think that's a  
5 fair statement.

6 DR. PAUL TEAGUE: A whole tow would  
7 cause less wake, which means less shoreline erosion,  
8 than a yacht will?

9 MR. TOM VORHOLT: That's a good  
10 point, Paul. Actually, in Nashville where we  
11 transit with towboats quite frequently, there was  
12 some concern about erosion of the banks. And what  
13 we found out -- what the studies indicated was it  
14 was actually the water taxis that were running  
15 between downtown Nashville and Opryland, those water  
16 taxis were causing the damage to the shoreline.

17 From the economic -- again, looking  
18 at the economic impact of the industry, there's more  
19 than 33,000 people employed actually on the boats in  
20 the industry, another 30,000 that are employed in  
21 ancillary services, such as shipyards, about half a  
22 million workers that rely on barge transportation  
23 for raw materials. We contribute \$5,000,000,000 to  
24 the nation's economy and pay more than \$700,000,000  
25 in taxes, again, just to give you an idea of the

1 economic importance of our industry.

2                   This slide gives you an idea of  
3 what's actually moved on the waterways. Coal, in  
4 terms of tons, is the largest commodity at  
5 176,000,000 tons. As you can see, oil and oil  
6 products come second.

7                   The other category that represents  
8 124 tons would be aggregates, which includes sand,  
9 crushed limestone, riprap, gravel, commodities such  
10 as that for the basic construction industry, as well  
11 as fertilizer, forest products such as logs, wood  
12 chips, cements, and various ores and alloys, as well  
13 as salts, which I mentioned before.

14                  Coal, again, in terms of tons is the  
15 largest commodity that moves on the river. About 90  
16 percent of that 176,000,000 tons or roughly  
17 160,000,000 tons is delivered to the electric  
18 utility industry in this country. Coal fired plants  
19 provides the country with 56 percents of its  
20 generation.

21                  So, you know, I think the industry,  
22 including TVA, has done a pretty incredible job of  
23 cleaning up their act in terms of emissions. I  
24 think they have got a long way to go, but given the  
25 fact that 56 percent of the electricity in this

1 country is generated from coal, my opinion, I think  
2 it's a top priority in this country to find a way  
3 and to keep to continue to look for ways to burn  
4 coal cleaner and cleaner.

5 I mean, it's -- and we all want clean  
6 air, it's like mom and apple pie. It isn't going to  
7 be the case that solar wind and some of the other  
8 alternatives can replace the baseload that coal  
9 brings to this country.

10 And there's hundreds of years of  
11 deposits in this country, it's plentiful. And if  
12 you look at the spike in prices in oil and natural  
13 gas, that hasn't happened in coal. Coal prices have  
14 remained very stable over the last five years.  
15 Again, it's a very -- number one, it's a very  
16 competitive industry, but the coal industry has  
17 become much more productive over time and they have  
18 been able to pass that on to the consumer, in this  
19 case mostly the electric utility industry.

20 TVA -- looking at TVA, for instance,  
21 nine of their 11 coal fired plants are located on  
22 the river. And in my opinion, in the coming years  
23 of deregulation, that gives TVA a distinct advantage  
24 because of the fact that their cost -- their  
25 delivered cost of fuel will be low compared to some

1 of the other utilities that are rail served or  
2 served by truck. So, again, this just gives you an  
3 idea of how important it is.

4                   And we mentioned the Tennessee River,  
5 of this 622,000,000 tons that's moved by barge, we  
6 used the figure, and I know TVA does too, of roughly  
7 50,000,000 tons that moves on the Tennessee River,  
8 that would be eight percent of the total that moves  
9 on the Tennessee River.

10                   And as I mentioned, looking at the  
11 Tennessee River, it represents two and a half  
12 percent of the total navigable waterways in this  
13 country. So that gives you an idea of the relative  
14 importance of the Tennessee River. Two percent of  
15 navigable waterways yet represents eight percent of  
16 the volume that moves in the country. So the  
17 Tennessee River is very important in terms of the  
18 economics to the region.

19                   This just gives you an idea, as I  
20 mentioned, coal is very important in terms of the  
21 number of tons it moves, but as you can see, grain,  
22 although it only represented 89,000,000 tons of the  
23 total, because of where corn and soybeans are grown  
24 in relation to where they move, Minnesota, Iowa,  
25 Illinois, Indiana, it's relatively long hauls down

1 to the Gulf. There's about 60,000,000 tons -- of  
2 that 89,000,000 tons that I put up there, roughly  
3 60,000,000 tons of that is corn and soybeans that go  
4 directly to New Orleans, transferred on the ocean to  
5 vessels that go all over the world.

6 I promise you this is not the start  
7 of an advertisement for Ingram Barge Company, but I  
8 just did want to give you a relative idea of where  
9 we are in the industry. We have grown very rapidly  
10 since the early 1980's.

11 In 1982 we had a total of 139 dry  
12 cargo barges total. Today we have 1,701 dry cargo  
13 barges. We have grown very rapidly. If you throw  
14 in the 162 tanks, that takes us up to 1,863 barges.  
15 We're the fourth largest carrier. Number three  
16 happens to be a company called Ardco, that's the  
17 in-house carrier for Archer, Daniel, Midland that  
18 just moves grain for themselves. In terms of common  
19 carriers, we would be the third largest.

20 American Commercial Barge Line, and I  
21 think many of you know Bill Kinsler, is the largest,  
22 and a company called Ohio River Company in  
23 Cincinnati would be second, and then Ingram would be  
24 third.

25 As I mentioned, there's the breakdown

1 of our fleet. Actually, we continue to grow, and  
2 the numbers today are 1,142 opens, 559 covers, and  
3 162 tanks, for a total of 1,863 barges. Pushing  
4 those barges is a total of 60 line-haul boats that  
5 we use in the trade.

6                   The markets that we're serving, as  
7 you can see, principally of the 47,000,000 tons that  
8 we move, 47,000,000 go to the utility industry,  
9 14,000,000 tons goes to TVA of coal. We also move  
10 1,000,000 tons of scrubber stone to Cumberland City  
11 for TVA for the scrubber system there. We have an  
12 8,000,000 ton a year contract with Dayton Power &  
13 Light. So we're very closely connected to the  
14 electric utility industry.

15                   The steel industry also represents a  
16 sizable portion of our business in terms of  
17 metallurgical coal that's turned into blast furnace  
18 coal and different iron ores and alloys. As I  
19 mentioned, we are also large in the construction  
20 aggregate business, sand, limestone, riprap, et  
21 cetera.

22                   In looking at the Tennessee River, as  
23 I alluded to, there's a total of roughly  
24 approximately 50,000,000 tons that move on the  
25 Tennessee River. And as you can see, I have some of

1 the various commodities listed that actually move on  
2 the Tennessee. Coal is by far the largest -- well,  
3 coal represents 26 percent of that. TVA has three  
4 power plants that take 10.1 million tons. Then  
5 there's another 3,000,000 tons that transit up the  
6 Tennessee River to Yellow Creek and then go down the  
7 Tennessee, Tombigbee, down to Alabama Power and  
8 Alabama Electric Co-op.

9                   Aggregates is another substantial  
10 market for the Tennessee River. The largest  
11 producer of stone in the country, Vulcan, has a  
12 large operation just above the Kentucky lock at  
13 Grand Rivers, Kentucky, and there's roughly  
14 5,000,000 tons of stone that hit the river out of  
15 that quarry going both directions.

16                   Chemicals, and I'm happy to say that  
17 the chemicals that move on the Tennessee River are  
18 fairly benign compared to some of the stuff that  
19 moves on the rivers. For instance, caustic soda,  
20 potash, styrene, and paraxylene, a lot of it goes  
21 into -- is feed stocks, number one, for other  
22 chemicals, but also Monsanto has a fiber plant and  
23 most of it goes into either that or different  
24 plastic products.

25                   The good news for the Tennessee

1 River, there's very little petroleum or oil that  
2 moves on the river. There are a couple of asphalt  
3 tows that come into Chattanooga and Knoxville but  
4 relatively small compared to the total amount of  
5 chemical products that move on the river.

6 Scrap steel is important. Trico has  
7 a large plant at Decatur, as you know, Roger, and  
8 they represent some sizable shipments. In fact,  
9 Boeing, as we heard, located on the river by design,  
10 the same can be said for Trico Steel, it gives them  
11 easy access to their raw materials at a low cost,  
12 scrap steel, and they have electric guard furnaces  
13 that melt the scrap and produce steel, and a lot of  
14 that moves out by barge.

15 Gypsum is an interesting product  
16 because the gypsum -- most of the gypsum that's  
17 moving on the rivers today, including what's moving  
18 on the Tennessee, is a byproduct of scrubbers.  
19 Cumberland City, for instance, burns -- TVA at  
20 Cumberland City burns 8.3 million tons of coal on an  
21 annual basis. That produces through the scrubbers  
22 about a million tons of synthetic gypsum that comes  
23 out of the scrubbers, scrubber sludge, but actually  
24 what it is is synthetic gypsum. We barge 1,000,000  
25 tons of that up here to -- below here, but it goes

1 to Bridgeport, Alabama, mile 413, U.S. Gypsum has a  
2 plant, and it produces wall board from the scrubber  
3 byproduct.

4                   As you can see, there's some of the  
5 other products. Salt, not only road salt, road salt  
6 is an important commodity for the Tennessee River,  
7 but also for industrial applications. Olen  
8 Chemical, as Elaine knows, takes about 300,000 tons  
9 of salt up to Charleston, which actually does  
10 transit Chickamauga lock.

11                   As I mentioned, TVA is the largest  
12 shipper on the Tennessee River. It represents about  
13 20 percent of that 50,000,000 tons. They have three  
14 major steam plants on the Tennessee River,  
15 Johnsonville at mile 99, Culbert at mile 245, and  
16 Widow's Creek at mile 407. We happen to have the  
17 good fortune of serving two of those three,  
18 Johnsonville and Widow's Creek.

19                   TVA has been a pretty major success  
20 story for Ingram Barge Company. We were doing very  
21 little. We didn't have a lot of dry cargo barges in  
22 the 1980's anyway, but as we grew we grew along with  
23 TVA.

24                   And as you can see, we were up to  
25 about the 2,000,000 ton level in 1990, and now we're

1 up to the 14,000,000 ton level. We'll probably  
2 plateau at about 14,000,000 tons and hopefully  
3 continue at that level. TVA takes a total of  
4 23,000,000 tons of coal by barge. So we have about  
5 61 percent of their total barge delivered coal.

6                   As far as some other issues from the  
7 navigation standpoint that relates to the Tennessee  
8 River, the number one priority is we need water to  
9 operate on, to operate at a nine foot -- to operate  
10 at a nine foot level, we need, as you saw this  
11 morning, about 11 feet of water for a couple of  
12 reasons; towboats actually draw a little bit more  
13 than nine feet, and there has to be some safety  
14 margin. I mean, there has to be some water under  
15 the boat, and the bottom of the river is not  
16 homogenous, it's like the floor here, I mean,  
17 there's peaks and valleys, so you need some cushion  
18 to operate on above the nine foot level.

19                   As far as any future studies that are  
20 done cost benefit wise, that's something that should  
21 be looked at. I don't -- I can't stand here and say  
22 that if the lakes are drawn down on October 1st we  
23 won't have 11 foot to operate on, I can't say that I  
24 know that, but if, for instance, we would lose a  
25 foot of water and we had to load our barges through

1 a foot less of draft, I just did a  
2 back-of-the-envelope calculation, if there's  
3 50,000,000 tons, that would be 4,000,000 tons a  
4 month over, say, July and August that would be  
5 8,000,000 tons, and for those two months we didn't  
6 have 11 feet of water, we had to restrict the drafts  
7 by a foot, that would be about four -- three to  
8 \$4,000,000 in additional costs to the shipper for  
9 losing that water. Again, that's a  
10 back-of-the-envelope calculation I made. If there  
11 is an additional study that's done, that would be  
12 something that needs to be looked at. And I can't  
13 say that I even know for sure that if the drawdown  
14 was later that would even affect our ability to  
15 operate at 11 feet.

16                   Something I can tell you that we are  
17 doing later this month, towboat -- the technology  
18 involving towboating has advanced a great deal over  
19 the last five to ten years. For instance, we're  
20 using GPS positioning systems on all the boats. We  
21 have computers on all the boats. We now have  
22 electric charting on all the boats tied into the  
23 GPS. When the captain on the towboat, he has a  
24 computer screen in front of him, and on that  
25 computer screen is the electronic chart, and tied

1 into the GPS he has a boat icon on that chart and he  
2 can watch his track as the boat moves up and down  
3 the river. He can actually slip in a disk and he  
4 can record his whole voyage, you know, for reply  
5 later. It actually comes in very handy if there's  
6 an accident and there is an investigation that needs  
7 to be done because the GPS is accurate within a few  
8 feet. So we can actually look at his track as he  
9 moves down the river.

10                   And the exciting thing that I think  
11 is pertinent to the discussion here today, later  
12 this month we're going to add a system to that which  
13 will allow us to record and track the depth as the  
14 boat moves, not only is that just another added  
15 feature that we're going to do, we will be able to  
16 actually record and track the depth of each boat as  
17 it transits down the river, the depth of the water.  
18 That's data information that we will be happy to  
19 share with the Coast Guard, Corps, TVA. Anybody  
20 that wants access to that information and data, we  
21 would be happy to provide.

22                   You know, Phil and I have had several  
23 discussions. It will allow us to identify any pinch  
24 points that there are in the system. For instance,  
25 there is what we call a pinch point below Pickwick

1 lock and dam. That's why, you know, we would like  
2 to see another 12 inches in Kentucky Lake at the  
3 winter pool to help us transit that cut into  
4 Pickwick lock.

5                   The thing I think we're going to find  
6 is we're going to identify those pinch points and I  
7 think we're going to find that some of them aren't  
8 just dredgeable. There's probably rock bed that  
9 would need to be removed, and technology certainly  
10 exists to do that. It's a little more expensive if  
11 you have to go in and blast out some rock, but we  
12 will be able to identify those. We'll be able to  
13 identify those pinch points.

14                   The other thing, as I mentioned, and  
15 I think the Council has been briefed, you heard Ted  
16 Nelson, Chickamauga lock is definitely an issue.  
17 The clock is ticking on Chickamauga. As I  
18 mentioned, the construction at Kentucky lock is just  
19 getting underway, and it's going to be 2008, 2009  
20 before that lock is completed.

21                   As you heard Ted Nelson say,  
22 Chickamauga, with \$3,000,000 a year of additional  
23 maintenance capital could remain open through 2010.  
24 However, to replace that lock, if it takes seven or  
25 eight years, that construction really needs to start

1 to take place by 2002 or 2003. I know there's some  
2 studies being done now that should be released next  
3 spring that will give us a better idea where we're  
4 given with that project. I think the critical issue  
5 for the project itself is going to be funding.

6                   You know, there is such a thing  
7 called an Inland Waterways Trust Fund. We, as an  
8 industry, pay a 20 cent per gallon fee. And as you  
9 heard me mention, these towboats burn a lot of fuel.  
10 We burn 3.6 million gallons a month on our 60 boats.  
11 So we pay 20 cents a gallon into this fund, and so  
12 does all the other carriers in the industry. That  
13 fund pays for half of any major project that needs  
14 to be done on the waterways. So we contribute  
15 pretty heavily to these projects.

16                   However, the infrastructure across  
17 the board in the inland waterway system is aging.  
18 All these locks and dams were built in the '30s and  
19 '40s. The lock and dam system, particularly on the  
20 upper Mississippi, you had probably seen some of the  
21 things that's been reported in the Washington Post  
22 about the Corps' studies up there, but they are  
23 aging. And given the fact that 60,000,000 tons of  
24 corn and soybeans goes down in New Orleans off the  
25 upper Mississippi, including the Illinois, there's

1 something that needs to be done there.

2                   And I don't -- given the fact that  
3 there's two and a half million tons that transit  
4 Chickamauga compared to the 60,000,000 tons that  
5 move on the upper Mississippi River, I don't know  
6 that Chickamauga will make it on to the radar screen  
7 on the inland waterways' user trust fund. So  
8 funding is definitely going to be an issue for  
9 Chickamauga, and it's something that's going to have  
10 to be looked at pretty closely.

11                   But if Chickamauga closes, there is  
12 going to be no navigation on that upper Tennessee  
13 River. It will cease, not only for commercial  
14 vessels but also for recreational vessels, it just  
15 won't happen. So it's a pretty important project.

16                   And there are some major companies,  
17 such as Olen, that are located, A. E. Staley,  
18 there's some pretty major companies that are located  
19 above the lock. I know Ted Nelson gave us all a  
20 handout, and I won't belabor the point, you have  
21 seen the number of jobs, and et cetera, et cetera,  
22 that are dependent on that lock being in operation,  
23 but it's just something I wanted to include here  
24 today and it's something that needs to be dealt  
25 with.

1                   SENATOR ROGER BEDFORD: Tom, if I  
2 may?

3                   MR. TOM VORHOLT: I am basically done  
4 anyway, so I'm going to open it up.

5                   SENATOR ROGER BEDFORD: Just on that  
6 point, would it be your professional opinion then  
7 that because of the aging of the other locks in the  
8 midwest and all that if TVA is going to get its name  
9 in the hat for Chickamauga Inland Waterway Fund that  
10 it should be sooner rather than later?

11                  MR. TOM VORHOLT: Oh, absolutely.  
12 Like I said, Roger, if construction doesn't start by  
13 2000, or 2003 at the latest, it's going to be too  
14 late. I mean, from at least what the Corps are ling  
15 us today, 2010 is it, that's the end of the current  
16 lock.

17                  Personally -- I mean, right now it's  
18 a 360 by 60. Every lock below Chickamauga is 600 by  
19 110. It would be nice to see a 600 by 110-foot  
20 chamber being built there, but at least, you know,  
21 replacement in kind with a 360 by 60, I think, is,  
22 in my opinion, justified and warranted.

23                  SENATOR ROGER BEDFORD: Thank you.

24                  MR. JIM CREIGHTON: I saw Phil's  
25 first and then Austin.

1                   MR. PHIL COMER: As Tom mentioned,  
2 off and on at several of our prior meetings he and I  
3 have had a very serious but brief talks about the  
4 long-term advantages to the channel from Knoxville  
5 to Paducah, which is 652, to be made to 13 feet  
6 instead of the present 11 feet, two more feet. He  
7 mentioned one foot on Kentucky Lake, but we were  
8 really talking very seriously about what the impact  
9 of that would be.

10                   This is not -- and this is not just  
11 profit for Ingram Barge Company, this is the kind of  
12 thing that's beneficial to every single citizen who  
13 lives anywhere within the whole seven state region  
14 of TVA because one way or the other we all benefit  
15 from cheaper transportation. It also helps Austin's  
16 problem of getting the truck problem lessened in the  
17 next 10, 20, 30 years. I mean, this is a project  
18 that you have got to really think in terms of a  
19 minimum of 10 to 50 years.

20                   I asked Tom if he had any idea of the  
21 652 miles, how much of that would have to be either  
22 dredged or dynamited or blasted out to achieve the  
23 13-foot depth. And, of course, at that point that's  
24 why he has started measuring this, which they now  
25 can do, so he will have an answer within a very

1 short time.

2                   We were guessing that out of those  
3 652 miles, you don't have to think in terms of 652  
4 miles needs to be dredged an additional two feet.  
5 We were guessing, pure guessing that it would  
6 probably be somewhere between 30 and 50 miles,  
7 because most of the length of the whole thing from  
8 Knoxville to Paducah is already well above 13 feet,  
9 you know, the lakes are 90 feet, 110 feet, but --  
10 and we assume that somebody within TVA probably has  
11 that answer now or the Army Corps of Engineers, but  
12 he will have that answer very precisely within a  
13 month or two months from now.

14                   MR. TOM VORHOLT: We're going to put  
15 that system on later this month, Phil, so give us a  
16 couple of months of operation and we will have a  
17 pretty good idea.

18                   MR. PHIL COMER: But literally, you  
19 know, within a couple of months he will be able to  
20 identify how much of that would -- then, when and if  
21 there is another overall major study of the whole  
22 river system, which I hope will be undertaken  
23 sometime soon after the four-year moratorium is  
24 over, that's one of the things that should be  
25 included in that as a real long-term objective, but

1 it needs to get on the table now, it shouldn't wait  
2 until the next ten-year study is being fought for,  
3 because long-term, our great grandchildren and on  
4 and on and on will say, you know, Austin couldn't  
5 drive on the Interstate 40 anymore, the trucks just  
6 came to a massive parking lot, but this is something  
7 that the infrastructure committee, I hope, will  
8 really, really consider and include in the their  
9 recommendations to TVA as a very long-term thing.  
10 It can be calculated costs versus benefit.

11 MR. JIM CREIGHTON: Austin?

12 MR. AUSTIN CARROLL: Tom, how much of  
13 the traffic on the Tennessee River does Ingram  
14 represent as far as barge traffic? You may have  
15 said.

16 MR. TOM VORHOLT: We're right at  
17 10,000,000 tons of the 50. So we represent  
18 20 percent of the total volume. We are the largest  
19 carrier on the Tennessee River.

20 MR. AUSTIN CARROLL: That's of the  
21 barge traffic, not all traffic?

22 MR. TOM VORHOLT: Yeah, commercial  
23 traffic, barge traffic.

24 MR. AUSTIN CARROLL: Okay. You said  
25 you-all pay, what is it, so much per gallon into a

1 special capital --

2 MR. TOM VORHOLT: 20 cents per  
3 gallon.

4 MR. AUSTIN CARROLL: Do you know  
5 about how much that amounts to for Ingram per year  
6 on the Tennessee?

7 MR. TOM VORHOLT: No. If you do the  
8 math, it's 3.6 million times 12 times .20, it's  
9 substantial.

10 MR. PHIL COMER: Approximately  
11 \$300,000.

12 MR. AUSTIN CARROLL: \$300,000.

13 MR. PHIL COMER: \$600,000.

14 MR. AUSTIN CARROLL: I've got my  
15 shoes off.

16 MR. TOM VORHOLT: It's about right at  
17 \$600,000.

18 MR. AUSTIN CARROLL: I know, you  
19 know, my friends in the trucking business pay, you  
20 know, lots of taxes that go back into refurbishing  
21 roads, interstates, and those kinds of things.

22 Are we getting any of that money on  
23 the Tennessee waterway?

24 MR. TOM VORHOLT: Not at the present  
25 moment because there's been no new capital projects

1 on the Tennessee River.

2 MR. AUSTIN CARROLL: I mean, couldn't  
3 it apply to such things as the lock or increasing  
4 the depth of the channel?

5 MR. TOM VORHOLT: The dredging is --  
6 comes out of the Corps of Engineers' maintenance  
7 budget.

8 MR. AUSTIN CARROLL: On the  
9 Tennessee, it comes out Corps of Engineers on the  
10 Tennessee?

11 MR. TOM VORHOLT: I guess it's fair  
12 to say it here, but I have actually had some  
13 discussions with both Kates, Kate Marx and Kate  
14 Jackson, about it's our company's opinion that TVA  
15 should be represented on that board. There is an  
16 Inland Waterways Users Board that administers the  
17 trust fund, and it's our opinion that TVA would  
18 be -- should consider a position on the board.

19 MR. AUSTIN CARROLL: Do you-all pay  
20 any other taxes, besides income taxes?

21 MR. TOM VORHOLT: Income taxes,  
22 payroll taxes.

23 MR. AUSTIN CARROLL: I was just kind  
24 of trying to figure out how you-all -- how barge  
25 companies compared to other companies as far as

1 paying, you know --

2 MR. TOM VORHOLT: Let me say one  
3 other thing. We still pay the four cent per gallon  
4 transportation tax that was instituted four or five  
5 years ago by President Clinton. It's been removed,  
6 I understand, from the trucking industry, but the  
7 railroad and barge industry still pay that four cent  
8 per gallon surcharge on fuel.

9 MR. AUSTIN CARROLL: Well, does any  
10 of that go back into waterway infrastructure?

11 MR. TOM VORHOLT: No. It goes into  
12 the treasury, as far as I know.

13 SENATOR ROGER BEDFORD: That's part  
14 of Bush's plan.

15 MR. AUSTIN CARROLL: Well, I guess  
16 what I was trying to size up is, are the barge  
17 owners paying their sort of fair share of what it  
18 costs to maintain the waterways and are we getting  
19 that money back into the Tennessee River system?  
20 And if not, maybe that's something we need to be  
21 thinking about.

22 MR. TOM VORHOLT: I think that we do  
23 pay our fair share. As Phil mentioned, one reason  
24 the waterways are funded the way that they are is  
25 they benefit everybody. I mean, there is not a

1 person in this room that doesn't benefit.

2 MR. AUSTIN CARROLL: Right, I  
3 understand. But, of course, the barge companies  
4 benefit directly and that may -- what you're paying  
5 in may be a fair share, you know, I don't know.

6 MR. TOM VORHOLT: Yeah, I guess at  
7 3.6 gallons a month, 43,000,000 gallons per year,  
8 that would be more like \$800,000 is what we would  
9 pay into the trust fund.

10 MR. AUSTIN CARROLL: Then, I guess,  
11 my -- you know, my other concern is, you know, are  
12 we getting that money back here, you know, for our  
13 infrastructure? It seems like we should and that's  
14 something that maybe the Council might want to think  
15 about as some kind of recommendation.

16 I don't know if the TVA board has  
17 anything to do with that. I don't know if there is  
18 anything we can do, but it is a concern of mine  
19 anyway.

20 MR. GARY BROCK: I'm Gary Brock,  
21 manager of navigation and structures engineering. I  
22 work for Janet and Kate. Tom and I are having a  
23 role reversal. I was doing a presentation last week  
24 at Paducah and he was listening. So I think he got  
25 all the questions and answers right.

1                   Prior to the Kentucky project,  
2 Austin, there's no money from the Inland Waterway  
3 Trust Fund that's been spent on the Tennessee River  
4 system. However, the Kentucky lock project is being  
5 joint funded by congressional funds and money out of  
6 the trust fund.

7                   MR. TOM VORHOLT: That's a good  
8 point. Kentucky is being 50 percent funded by that.

9                   MR. PHIL COMER: \$500,000,000, I  
10 believe.

11                  MR. TOM VORHOLT: That sounds  
12 correct.

13                  DR. KATE JACKSON: And let me clarify  
14 one issue on the channel. The Corps of Engineers  
15 maintains the navigation channel, but if there were  
16 large capital improvements to be made to do the --  
17 you know, the fill navigation channel depth increase  
18 or large pinch points that Tom might find that would  
19 take a big project, that would be TVA capital.

20                  MR. PHIL COMER: Or Army Corps of  
21 Engineers' capital, as is the case on the Kentucky  
22 lock that's being funneled through the Army Corps of  
23 Engineers. TVA has one employee assigned.

24                  DR. KATE JACKSON: It would be funded  
25 through TVA capital currently, unless we decided to

1 go into some memorandum of understanding, a contract  
2 specifically with the Corps of Engineers for them to  
3 access appropriated dollars.

4 MR. PHIL COMER: But the \$500,000,000  
5 is TVA money?

6 DR. KATE JACKSON: No. What I said  
7 was for a navigation -- a major navigation capital  
8 project to increase the depth of the channel, unless  
9 we went into some specific contract with the Corps  
10 of Engineers, the Corps of Engineers is not  
11 authorized to work on the navigation channel for  
12 large capital projects.

13 MR. PHIL COMER: No, I was asking  
14 about the new Kentucky lock. According to a news  
15 release, that's \$500,000,000 from the Army Corps of  
16 Engineers.

17 DR. KATE JACKSON: Right.

18 SENATOR ROGER BEDFORD: Janet was  
19 talking about the proposition of deepening the  
20 channel and finding choke points in other areas  
21 would come out of TVA's capital unless they  
22 contracted with the Corps of Engineers, which is a  
23 different subject matter than talking about the  
24 Kentucky dam, which they are accessing.

25 MR. PHIL COMER: I was not at all

1 confused about that.

2 MR. TOM VORHOLT: The trust fund is  
3 funding 50 percent at Kentucky lock, and then  
4 Congress, through an appropriation bill, is funding  
5 that project.

6 MR. JIM CREIGHTON: Roger, did you  
7 have a question?

8 SENATOR ROGER BEDFORD: I do have a  
9 question both on this, and I would like to follow up  
10 on what Austin said on building some consensus about  
11 trying to have TVA represented on that inland water  
12 board. I think that is something we can come to a  
13 consensus on. I think that is important, also about  
14 this lock.

15 I meant to say this at the first  
16 panel, and I forget it, and since we are building a  
17 record for this, and I don't know, looking ahead,  
18 Tom, I'm not picking on you, but I don't see another  
19 place just to put this in where it would fit any  
20 better than now, I would like to see for the record  
21 some discussion about -- and I don't want Phil to  
22 have a heart attack, but I want to see if we do  
23 recommend a ten-year study, I want an evaluation of  
24 whether holding up these pools longer over the last  
25 ten years has met the benefit goal and been

1 associated with the costs that was projected back  
2 then.

3                   Some of us are pushing to have a new  
4 study done, assuming that the benefits will meet the  
5 costs. I think a good yardstick might be as part of  
6 this a look back and say, ten years ago they made  
7 assumptions of cost and benefit of keeping the pool  
8 levels up higher for X number of days, well, it  
9 ought to be able to quantify just how close they  
10 were to the mark of what the projections were, what  
11 the estimates were as far as benefit and cost.

12                   So as we enter into this discussion  
13 about this, I would like all of us to be  
14 collectively thinking, not to be decided today, of  
15 course, but that's a pretty good yardstick. That  
16 ought to be something that ought to be quantified  
17 without much cost because the documents exist that  
18 did it before and you would have to have where they  
19 end as the starting point for your new study. So I  
20 think it would be helpful to look back and see if  
21 the methodologies employed actually produced the  
22 results that people anticipated.

23                   MR. JIM CREIGHTON: Can we focus in  
24 on Tom since he's up here?

25                   MR. PHIL COMER: I would just like to

1 say, unfortunately the study ten years ago did not  
2 include a projection of benefits.

3 SENATOR ROGER BEDFORD: Well, it  
4 ought to be able to analyze it because they would  
5 have projected benefits --

6 MR. PHIL COMER: No, they didn't.

7 SENATOR ROGER BEDFORD: -- of all the  
8 advocacy groups just like they're projecting  
9 benefits now for higher lake levels.

10 MR. JIM CREIGHTON: We have on the  
11 record Roger's suggestion that when they look to the  
12 future they also assessed how close on target their  
13 past projections were.

14 Paul, do you have a question?

15 DR. PAUL TEAGUE: On some of these  
16 pinch points, if they are not limestone, would it be  
17 beneficial for people in your business and our  
18 business to allow dredging in those areas that would  
19 help them out?

20 I know it is very, very difficult to  
21 get permits to dredge for sand and gravel. If some  
22 of those places had sand and gravel, that would be a  
23 cheap way to get it dredged out.

24 MR. TOM VORHOLT: It's a good point.  
25 It just would depend on where they are, what the

1 bottom is, if there's mussels there that would need  
2 to be moved. I mean, it just would depend on a  
3 number of different factors, but it's a thought  
4 worth keeping in mind because sand and gravel can be  
5 sold.

6 DR. PAUL TEAGUE: You bet you.

7 MR. JIM CREIGHTON: Phil, did you  
8 have another question or is your --

9 MR. PHIL COMER: No. I'm sorry.

10 MR. JIM CREIGHTON: Any other  
11 questions for Tom?

12 MR. TOM VORHOLT: Thank you for your  
13 time and attention. If anybody wants a hard copy, I  
14 didn't bring any, but I'd be happy to provide  
15 anybody with one that would like one.

16 MAYOR EDDIE SMITH: Okay. Thank you  
17 very much. I believe we call for a break. Do we  
18 want to take a 30 minute break or a 20 minute break  
19 or 15 minute break? Fifteen, okay. So we will be  
20 back here about 20 after.

21 (Brief recess.)

22 MAYOR EDDIE SMITH: I guess we need  
23 to get going again here. We may vary our schedule  
24 just a little bit. I understand some of us have to  
25 leave a little early, and there's been quite a bit

1 of comments about the November 29th meeting and I  
2 think we ought to take that up at this time before  
3 we go into the next session, next presentation.

4 MR. JIM CREIGHTON: Let's get  
5 everybody back.

6 MAYOR EDDIE SMITH: So would  
7 everybody come on in and let's deal with that a  
8 little bit?

9 MR. JIM CREIGHTON: Could somebody  
10 play St. Bernard and see if there are any Council  
11 members out there?

12 MAYOR EDDIE SMITH: Okay. I guess  
13 that's most of us who are supposed to be here. I  
14 have had several people approach me about the  
15 November 29th meeting, and the question that has  
16 been raised is should we have a meeting on  
17 November 29th, that's -- and that's what's before us  
18 at this moment for discussion.

19 MR. JIM CREIGHTON: Let me tell you  
20 what I know as far as items that people have raised  
21 for that agenda. The three items are that the water  
22 quality committee wanted to spend an hour or so or  
23 more on issues of water quality below reservoirs,  
24 our tributary reservoirs.

25 Then there were to be presentations

1 from America Outdoors about rafting, and there was  
2 to be a presentation about instream flows that were  
3 being released by one utility to shape its releases  
4 to make it more attractive for recreation, and so  
5 on. So those are the three things that I knew of.

6 Do you have more, Kate?

7 MS. KATE MARX: Swain County.

8 MR. JIM CREIGHTON: Oh, that did get  
9 moved to the 29th. Is that -- Swain County Economic  
10 Development, is that related to the lake level  
11 issue?

12 MS. KATE MARX: I don't know.

13 MR. PHIL COMER: Not really.

14 MAYOR EDDIE SMITH: Well, you know,  
15 it took --

16 MR. PHIL COMER: It's an in lieu of  
17 taxes question that they were asked at one of the  
18 earlier meetings. It has nothing to do with lake  
19 levels nor channel depth.

20 MAYOR EDDIE SMITH: One of the things  
21 that I'm hoping is that we can get through with  
22 these major presentations so we can get into our  
23 plans for trying to come up with some solutions and  
24 recommendations, and I had hoped that we would have  
25 gotten that done, for the most part, before the end

1 of the year. And if we skip the meeting in November  
2 with the things that Jim has just listed, we would  
3 not accomplish that. So that's my comment on that.

4                   MAYOR THOMAS GRIFFITH: What's the  
5 meeting date for November?

6                   MAYOR EDDIE SMITH: The 29th.

7                   DR. PAUL TEAGUE: We have got two  
8 holidays coming up. We have been meeting, meeting,  
9 meeting, and I personally would prefer to wait until  
10 January, and if necessary, have a two-day meeting in  
11 January rather than the November meeting because  
12 it's conflicting with a lot of things for a lot of  
13 people, that's personal.

14                   MR. JIM CREIGHTON: How do others  
15 feel?

16                   MR. BRUCE SHUPP: I agree with Paul,  
17 I think that we have been meeting -- what's this,  
18 our sixth meeting?

19                   MR. PHIL COMER: Fifth.

20                   MR. BRUCE SHUPP: We have had  
21 subcommittee meetings in the interim. It seems to  
22 me like we're ready for a break, and I think the  
23 Thanksgiving break would be a welcome one. If we  
24 have the 29th meeting I will be there, but I would  
25 rather not do that.

1                   There's nothing on the agenda for the  
2 29th that won't wait until January, and I think then  
3 we should begin getting ready, as you said,  
4 Mr. Chairman, to begin making some recommendations  
5 and working toward recommendations, and I'm not so  
6 sure that we need too many more presentations to do  
7 that. Maybe some of those presentations would be  
8 better made to subcommittees.

9                   MR. PHIL COMER: Does this in any way  
10 affect the subcommittees? Does this mean they don't  
11 meet until January?

12                   MAYOR EDDIE SMITH: No, I think we're  
13 just talking about the Council at this point. If  
14 the subcommittees wants to meet and they can get all  
15 their members, that can still be done.

16                   MR. JIM CREIGHTON: Roger?

17                   SENATOR ROGER BEDFORD: Jim, I will  
18 be glad to meet whenever anybody wants to meet, but,  
19 you know, we were up here last week on a meeting on  
20 the subcommittee, and it is the holiday time coming  
21 up, and unless there's just something that's time  
22 sensitive, you know, I'm sensitive to family time at  
23 Thanksgiving and Christmas. If there is something  
24 that can't wait, then that's a different order, as  
25 Bruce said, but if not, I don't mind having a

1 two-day in January. Maybe we can come in the first  
2 week of January or something.

3 DR. STEPHEN SMITH: I agree. I don't  
4 know that there's anything enormously pressing. I  
5 think the question we might be asking is, is there a  
6 subcommittee that is looking -- I mean, when are we  
7 going to see the first sort of reports as far as  
8 recommendations, and is there a target that any of  
9 the subcommittees are working on as far as, you  
10 know, they anticipate having something to bring  
11 before the full panel by, you know, January,  
12 February or something like that.

13 It might be that January would be  
14 reasonable to have this -- I mean, I think these  
15 points that we had scheduled for the 29th are  
16 important and we don't want to lose them, I just  
17 don't know that there's any sort of time critical.  
18 If there's the opportunity to have that meeting in  
19 January and then maybe have targets for some  
20 subcommittees. It seems to me like the public lands  
21 subcommittee had had a target of --

22 MS. JULIE HARDIN: February.

23 DR. PAUL TEAGUE: February or March.

24 MR. JIM CREIGHTON: I remember Ann  
25 talking about having a target. The other -- I also

1 have the sense that the Council is rapidly moving  
2 towards a consensus on a recommendation on a report  
3 or a study to be done on the lake levels issues, and  
4 so on. I'm hearing everybody kind of converging  
5 that the study has to be done, that nobody is really  
6 going to be able to make a recommendation, and it  
7 could be that we could deliberate on some kind of  
8 draft language sometime in January as well.

9 I don't know if I am getting ahead of  
10 me, but I have been kind of hearing everybody in  
11 chitchat and everything kind of converging on that  
12 particular subject.

13 MAYOR EDDIE SMITH: What I would hope  
14 is that the subcommittees would be prepared to start  
15 making reports no later than February, and then  
16 subsequent to that we can move along with those  
17 reports and begin deliberations and discussions  
18 only, that's what I would shoot for.

19 MR. BRUCE SHUPP: Jim, tomorrow the  
20 water quality subcommittee is going to be discussing  
21 a recommendation. And if it's approved in the  
22 subcommittee, it will be ready for presentation to  
23 the full council in January, I would think. So that  
24 would be one ready to go, we hope, by January.

25 MR. JIM CREIGHTON: Okay. So what

1 I'm hearing is kind of counter proposals. One is we  
2 go ahead on the 29th, the other is we meet in  
3 January and make it possibly a two-day meeting.  
4 Maybe the easiest thing, since I don't know whether  
5 we just have individual voices or there's an  
6 agreement, maybe do kind of straw vote.

7                   TVA, do you have any input in this?

8                   MS. KATE JACKSON: No.

9                   MR. JIM CREIGHTON: Option A would be  
10 go ahead and have the November 29th meeting, option  
11 B that we have a January meeting but that it would  
12 probably be a two-day meeting.

13                  MR. PHIL COMER: In early January or  
14 we lose another month.

15                  DR. STEPHEN SMITH: How early is  
16 early? I mean, some of us may be --

17                  DR. PAUL TEAGUE: Roger and I  
18 probably won't be going to any Bowl games, but we  
19 want to watch them anyhow.

20                  SENATOR ROGER BEDORD: Well said.  
21 How about toward the end of the first week or second  
22 week?

23                  MAYOR EDDIE SMITH: How about the  
24 18th or 19th?

25                  DR. PAUL TEAGUE: That sounds great.

1                   MR. JIM CREIGHTON: Can we focus in  
2 on whether we want to do it first and then -- those  
3 of you who would prefer to go ahead with the  
4 November meeting? Well, I don't think we need to  
5 take the second half on that. Then we do have an  
6 issue of when in January?

7                   DR. STEPHEN SMITH: I like the  
8 Chairman's dates.

9                   MR. JIM CREIGHTON: Eddie, you were  
10 proposing the 18th and 19th?

11                  MAYOR EDDIE SMITH: Yes.

12                  MR. JIM CREIGHTON: Kate you can make  
13 the 18th and 19th.

14                  MR. BRUCE SHUPP: Can we eliminate  
15 Friday?

16                  MR. JIM CREIGHTON: 18th and 19th are  
17 Tuesday and Wednesday.

18                  MS. KATE JACKSON: No, they are  
19 Thursday and Friday.

20                  MR. JIM CREIGHTON: Sorry. I'm  
21 looking at this year.

22                  MR. BRUCE SHUPP: 17th and 18th?

23                  MR. JIM CREIGHTON: 17th and 18th?

24                  MAYOR THOMAS GRIFFITH: I can't come  
25 the 17th myself, but everybody may not be able to

1 come anyway.

2 MR. BRUCE SHUPP: I'm just trying to  
3 eliminate Friday, that's all.

4 MAYOR THOMAS GRIFFITH: Maybe we can  
5 do it in one day.

6 MR. JIM CREIGHTON: Pardon?

7 MAYOR THOMAS GRIFFITH: Let's do it  
8 the 18th, maybe we can do it all in one day.

9 MR. JIM CREIGHTON: Well, what I am  
10 hearing is if we really start dealing with  
11 deliberations like committees are ready to make  
12 recommendations, how about we tie up the 18th and  
13 19th, and once we set the agenda it doesn't look  
14 like we're going to need both days we give back the  
15 19th?

16 MR. PHIL COMER: The 18th and 19th?

17 MR. JIM CREIGHTON: The 18th and  
18 19th, with the understanding that if we really don't  
19 have enough to justify a second day, we will give up  
20 the 19th. That's a Thursday and Friday.

21 MAYOR THOMAS GRIFFITH: I would  
22 rather put in one long day than two days myself.

23 MR. AUSTIN CARROLL: You would want  
24 to -- are you saying that -- aren't you saying  
25 though that the subcommittees would want to meet the

1 first day in order to report to the Council the  
2 second day or are you saying the subcommittees would  
3 meet after the Council and report the next month?

4 MR. JIM CREIGHTON: Well, if Bruce's  
5 committee is going to be on water quality --

6 MR. BRUCE SHUPP: We're working  
7 tomorrow.

8 MR. JIM CREIGHTON: In the hope of  
9 having something to present for the Council to  
10 deliberate in January. I'm not clear whether --  
11 public lands, whether you're saying February for  
12 public lands, but between the two or three hours of  
13 presentations I described and your agenda item, that  
14 could conceivably be a day.

15 DR. PAUL TEAGUE: We could make that  
16 a general Council meeting on the 18th, and if we  
17 want to have our subcommittees that want to meet,  
18 say, the day before, our subcommittee discussed that  
19 we would probably meet the day before the general  
20 Council meeting, then that would solve that problem  
21 from our standpoint.

22 SENATOR ROGER BEDFORD: The  
23 integrated river management, just listening to part  
24 of the crew over here, we're probably going to be  
25 looking towards March before we are ready to come to

1 the full Council. So that would fall in line with  
2 these other subcommittees.

3 MR. JIM CREIGHTON: Can we hold the  
4 18th for the full Council meeting with the 19th then  
5 reserved, and we will get back to you on more  
6 details.

7 MAYOR THOMAS GRIFFITH: Where will  
8 this meeting probably be?

9 MR. JIM CREIGHTON: Have we got  
10 agreement on the dates, 18th for sure, 19th is still  
11 possible?

12 MS. JULIE HARDIN: Yes.

13 MR. JIM CREIGHTON: Location, is  
14 there any -- are there any drivers for why we need  
15 to be any particular place at that particular time  
16 of the year?

17 MAYOR EDDIE SMITH: We suggested  
18 Nashville for the 29th, is there a reason why we  
19 should change Nashville?

20 DR. PAUL TEAGUE: Nashville will be  
21 great because that's more in the middle than any  
22 other place.

23 MR. PHIL COMER: I like Knoxville  
24 myself.

25 SENATOR ROGER BEDFORD: Nashville

1 will be good.

2 MR. PHIL COMER: Knoxville is awfully  
3 convenient.

4 MR. AUSTIN CARROLL: I think it's  
5 Phil's time to fight the trucks.

6 MR. JIM CREIGHTON: Is there kind of  
7 an agreement on Nashville? Okay. So January is in  
8 Nashville. Okay.

9 Can we talk a little bit about  
10 February and March?

11 MR. BRUCE SHUPP: February and/or or?

12 MR. JIM CREIGHTON: I said and  
13 because I am hearing that by February public lands  
14 may be ready and by March integrated river  
15 management may be ready, and so forth and so on.  
16 I'm looking at a calendar here of Kate Jackson's  
17 dates. Do you want to shoot for that kind of middle  
18 week there, like the 13th, 14th, 15th, somewhere in  
19 there?

20 MAYOR EDDIE SMITH: Of February?

21 MR. BRUCE SHUPP: I have a conference  
22 in Houston at that time.

23 MR. JIM CREIGHTON: Kate's schedule  
24 is such that that week is fairly clear, and then you  
25 would have to jump after that to the last week of

1 February.

2 MR. AL MANN: What day is the 13th  
3 on?

4 MS. KATE JACKSON: Tuesday. That  
5 means you're away for Valentine's Day, guys.

6 SENATOR ROGER BEDFORD: Could we look  
7 at the 12th maybe? In February and March we start  
8 session, and Tuesday, Wednesday, Thursday we're tied  
9 up, so Mondays or Fridays work best for me, if that  
10 doesn't inconvenience anybody else.

11 MR. PHIL COMER: Mondays work best  
12 for me.

13 MR. JIM CREIGHTON: The 12th of  
14 February is not available for Kate.

15 MAYOR EDDIE SMITH: What about the  
16 16th?

17 MR. JIM CREIGHTON: The 16th is.  
18 That's a Friday.

19 MS. KATE JACKSON: That's Friday.  
20 Fridays are bad.

21 MR. BRUCE SHUPP: If we do it Monday,  
22 some of us have to travel Sunday.

23 SENATOR ROGER BEDFORD: You can come  
24 in Sunday night.

25 MR. PHIL COMER: You're not available

1 that Monday.

2 SENATOR ROGER BEDFORD: What's the  
3 next Monday?

4 MS. KATE JACKSON: President's Day.

5 DR. PAUL TEAGUE: You won't work?

6 MS. KATE JACKSON: I will, and so  
7 will everyone else here.

8 SENATOR ROGER BEDFORD: I don't know.

9 MR. JIM CREIGHTON: Roger, when you  
10 said it was more convenient, did that mean you can't  
11 make it if it was not Monday or Friday or it's just  
12 a problem?

13 SENATOR ROGER BEDFORD: You know, I  
14 don't want to inconvenience the whole Council, but  
15 we go generally midday on Tuesday and finish  
16 Thursday night.

17 MS. KATE JACKSON: Do you guys want a  
18 February meeting?

19 MR. BRUCE SHUPP: No.

20 MS. KATE JACKSON: Then let's move to  
21 March.

22 MR. PHIL COMER: I have offered to  
23 write our proposal, and Roger is thinking that over  
24 right now.

25 SENATOR ROGER BEDFORD: Not very

1 long.

2 DR. KATE JACKSON: Just because there  
3 is not a full Council meeting does not suggest that  
4 the subcommittees cannot meet. And, in fact, you  
5 may be providing an opportunity for the  
6 subcommittees to meet productively in between times  
7 if you spread the Council meetings out.

8 MR. AL MANN: Let's not have one in  
9 February and have one in March.

10 DR. PAUL TEAGUE: Then everybody can  
11 present.

12 MR. JIM CREIGHTON: Do you want to  
13 have -- the subcommittees then would figure out for  
14 themselves what was the best time.

15 MR. BRUCE SHUPP: I think that's  
16 best.

17 MR. JIM CREIGHTON: Okay. In March,  
18 the first week in March.

19 DR. KATE JACKSON: Well, if we're  
20 going to do Mondays and Fridays, the 5th, I know  
21 that's not on my list, but the 5th is available.

22 MAYOR THOMAS GRIFFITH: Is the 5th a  
23 Friday?

24 MS. KATE JACKSON: Monday.

25 SENATOR ROGER BEDFORD: March 5th.

1                   MR. JIM CREIGHTON: It says here the  
2 9th is available also.

3                   MS. KATE JACKSON: It is, but people  
4 don't like Fridays.

5                   MR. JIM CREIGHTON: Either way  
6 Sundays people -- if you do it on Monday, then  
7 people are going to have to travel on Sunday.

8                   MS. KATE JACKSON: That seems to be  
9 more appealing to people, for whatever reason.

10                  MR. BRUCE SHUPP: I would rather  
11 drive home Friday night.

12                  DR. KATE JACKSON: You like Fridays  
13 better than Mondays?

14                  MR. BRUCE SHUPP: Yes.

15                  DR. KATE JACKSON: Okay. The 9th is  
16 fine with me.

17                  MAYOR THOMAS GRIFFITH: What's the  
18 following Friday?

19                  MR. JIM CREIGHTON: Are we on the  
20 9th? I thought we were talking about the -- which  
21 Friday?

22                  MS. KATE JACKSON: The 9th I am  
23 talking about.

24                  MR. JIM CREIGHTON: March 9th.

25                  MR. PHIL COMER: What day of the

1 week?

2 DR. KATE JACKSON: Friday.

3 MR. JIM CREIGHTON: So January hold  
4 the 18th and the 19th, we may be give you back the  
5 19th. Then in March, the 9th. In February, that's  
6 going to be subcommittees hit it hard to try and be  
7 able to start coming back to us and deliberate.

8 MS. JULIE HARDIN: May I ask a  
9 question? Does anybody know the status of that  
10 interstate repair that we drove through from  
11 Nashville to Knoxville coming east? I think I was  
12 on the road five hours because I went 60 miles  
13 going --

14 DR. KATE JACKSON: It's still there.  
15 It's a mess.

16 MS. JULIE HARDIN: Still there.

17 SENATOR ROGER BEDFORD: Now, they  
18 won't be pouring asphalt. The road may still be  
19 torn up, but it would be too late in the year to be  
20 pouring asphalt.

21 MS. JULIE HARDIN: Coming from  
22 Nashville back to Knoxville, it's horrible. It adds  
23 another hour to your travel.

24 DR. KATE JACKSON: Mississippi for  
25 March.

1                   MR. JIM CREIGHTON: The proposal is  
2 Mississippi for March. It's better than August.

3                   MS. JULIE HARDIN: Why not  
4 Mississippi in January?

5                   SENATOR ROGER BEDFORD: It's cold in  
6 January. March will be pretty for spring down  
7 there.

8                   MR. AL MANN: Where in Mississippi?

9                   MR. JIM CREIGHTON: I know before we  
10 were heading for Tupelo.

11                  DR. KATE JACKSON: We'll have to  
12 check facility space.

13                  MR. AL MANN: Where?

14                  SENATOR ROGER BEDFORD: In  
15 Mississippi.

16                  DR. PAUL TEAGUE: We can go to Amory.

17                  MR. JIM CREIGHTON: We will work on  
18 that. We will aim for Mississippi, but we'll get  
19 back to you on where.

20                  MAYOR THOMAS GRIFFITH: If you come  
21 to Amory, you won't have the truck problem and the  
22 interstate highway problem. Probably facility wise,  
23 Kate, it's probably low.

24                  MR. JIM CREIGHTON: But will we have  
25 to start traveling three days before? March is

1 Mississippi someplace.

2 MR. AL MANN: January is Nashville,  
3 correct?

4 MR. JIM CREIGHTON: Let's then -- I  
5 understood the reason we inserted that here was so  
6 that we could get people -- a few people have to  
7 catch an early plane.

8 Phil, you had a burning need to get  
9 something off your chest. Can you do it quickly and  
10 precisely?

11 SENATOR ROGER BEDFORD: Again?

12 MR. AUSTIN CARROLL: You ain't got it  
13 all off yet?

14 MAYOR EDDIE SMITH: He's getting  
15 there.

16 MR. PHIL COMER: I asked Jim for five  
17 minutes, and I will make it very, very quick. Now,  
18 that's five minutes for me to make my statement. If  
19 I get jumped on, it may take more.

20 SENATOR ROGER BEDFORD: Five minutes  
21 by your watch.

22 MR. PHIL COMER: Seriously -- I'm  
23 very serious about this, and I will try to keep it  
24 less than five.

25 After lunch today two or three of our

1 esteemed colleagues expressed a good deal of chagrin  
2 and resentment about the fact that they are getting  
3 so fed up with hearing people come and talk about  
4 lake levels, lake levels, lake levels.

5                   I responded to them two ways, and I  
6 want to do this to the whole group. Number one,  
7 believe it or not, I have no control over this. I  
8 mean, these are citizens who live in and around  
9 these lakes, and I do not control them. I tried to  
10 earlier this year, and it didn't work. I tried to  
11 get them to lessen it, not increase it. Number one,  
12 I have no control over it, and I don't intend to try  
13 to have any control over it.

14                   Number two, whether we like it or  
15 not, the fact that we're being besieged with all of  
16 these lake level people really should tell us  
17 something, and that's why we're supposedly on this  
18 Council is to listen to what the primary concerns of  
19 the people are. It isn't non-source point  
20 pollution, it isn't particularly anything else, this  
21 is what people keep coming with over and over and  
22 over again.

23                   If we're doing what we're  
24 constitutionally supposed to do, we better start  
25 listening to these people whether we like it or not

1 and not develop a negative attitude toward them  
2 simply because they are here because they are  
3 frustrated with years of this problem.

4 Thank you.

5 MR. JIM CREIGHTON: Roger?

6 SENATOR ROGER BEDFORD: Jim, I was  
7 not going to get into this, but, Phil, I agree lake  
8 levels is an important issue, but I suspect the  
9 reason we're hearing from them is because the people  
10 down river aren't aware their power rates may go up.

11 Now, if we put down river that your  
12 rates are going to go up as a possibility of holding  
13 these levels up, we're going to need a bigger city  
14 to meet in because that will be the number one issue  
15 coming before this board. So that's not to diminish  
16 the lake level importance, but the fact that the  
17 silent majority hasn't risen up is because they  
18 don't feel threatened at this point in time.

19 Now, you start telling people down  
20 river, you're going to have rolling brownouts, your  
21 rates are going to go up so people can ski longer  
22 and ride their pontoon boats longer, you will have  
23 an outcry.

24 The second point I want to make about  
25 it is this: The way I was raised, if we're going to

1 have discussions, we do it man to man, woman to  
2 woman, man to woman openly like we're doing right  
3 now.

4 I'm very concerned when I get e-mails  
5 saying -- at home blistering me over something that  
6 we don't talk about when we're together, but we want  
7 to preach to a constituency back home a different  
8 message, I see that in politics all the time.

9 And it concerns me when a William  
10 Snyder writes to Director Skila Harris in part a  
11 letter that says, the general consensus, and she's  
12 writing from L.O.U.D., that the general consensus is  
13 that the Resource Council is a publicity sham and  
14 that TVA management will do as it pleases,  
15 regardless of the Council's recommendations, just  
16 talk to Phil. If TVA wanted to leave the lakes up  
17 longer it could do so with no new studies or other  
18 just delaying tactics. So I'm not saying you're  
19 orchestrating it, but I don't know that your message  
20 back home is being constructively received.

21 So I would just say as one Council  
22 member, I think we should all be sensitive to what  
23 we say here and the information we portray back home  
24 as well, because I think all of us are taking this  
25 serious or we wouldn't be away from our jobs to be

1 up here. And to say this is a sham and nothing is  
2 going on and having it attributed to you may be  
3 unfair to you, but that is what's being sent to  
4 TVA's Director via you.

5 MR. PHIL COMER: I think you're  
6 misconstruing that letter, you know, I take  
7 exception to that, but as far as whether or not --

8 SENATOR ROGER BEDFORD: I have got it  
9 right here in writing.

10 MR. PHIL COMER: I have a copy of it.

11 SENATOR ROGER BEDFORD: Did I read it  
12 right?

13 MR. PHIL COMER: Yes, but that's  
14 really not what it says. Roger, to respond to your  
15 comment about lake levels, therefore, automatically  
16 rates are going to go up down the river, et cetera,  
17 see, that's an assumption that this Council, in my  
18 opinion, has no basis to make. That's why we want  
19 TVA to make a new study.

20 SENATOR ROGER BEDFORD: Which I am in  
21 agreement to, but to say that just because people  
22 come here and talk about lake levels, which is a  
23 legitimate concern, certainly it is, but that that's  
24 the number one concern for the whole Valley, I  
25 think, puts a disproportionate weight on it, because

1 my theory is the people downstream get concerned  
2 that their rates are going to go up or they are  
3 going to have less dependable power by keeping these  
4 lakes up, we're going to need a much bigger meeting  
5 room.

6 MR. PHIL COMER: No. We need a study  
7 for that to be included in the study. Then if the  
8 answer comes back that it's going to cost something  
9 more, that would be the time for down lake people to  
10 become upset before any decision for change is made.

11 Now, I know that the people from the  
12 lake groups are asking for specific dates, et  
13 cetera, et cetera, et cetera of delay, but that's  
14 really not what my proposal of May 25th asked for,  
15 other than a ten-day token delay. What I really  
16 asked for in my May 25th proposal was a new study,  
17 which is the same as GAO recommended, which is the  
18 same as Mr. Maxwell (sic) this morning recommended,  
19 Mr. Mike McDowell of the TVPPA recommended, and, you  
20 know, that's what I think will calm these people  
21 down.

22 MR. JIM CREIGHTON: It was really not  
23 my intent to debate the issue.

24 MR. PHIL COMER: Mine either.

25 MR. JIM CREIGHTON: I responded only

1 because, Phil, I thought you had a need to say, hey,  
2 I didn't orchestrate this group and they have a  
3 perfect right to be here.

4 MS. JULIE HARDIN: I would like to  
5 say one thing to Phil, which is really going to piss  
6 you off.

7 MR. PHIL COMER: Go ahead, Julie.

8 MS. JULIE HARDIN: But I do want to  
9 say, Phil, I think that you and I were the only ones  
10 of our Council that went over and approached the  
11 people in blue and talked to the people who gave us  
12 their public comments. I did do that on purpose.

13 I thanked them for coming. I  
14 congratulated them on being the most organized group  
15 we have ever heard, but then I told them, I don't  
16 think lake levels is a natural regional resource  
17 that I am on this Council to be steward over. I  
18 think air quality is, I think water quality is, but  
19 somebody else's lake level, I don't see lake levels  
20 as a regional resource. I see it as a hot issue  
21 between TVA and property owners. So I am ready to  
22 bow out or to wade in, I don't know, whatever this  
23 group decides, but that's my own feeling and I  
24 wanted to tell it to you personally. I think I have  
25 before, Phil.

1                   MR. PHIL COMER: No, you haven't, but  
2 I appreciate your candidness.

3                   MR. AL MANN: Julie, how did they  
4 respond?

5                   MS. JULIE HARDIN: They were  
6 wonderful actually. They said, we can understand  
7 that, you don't live on the lake, you're not --  
8 actually I live on the Tennessee River, but that's  
9 all right. They accepted that very well, they  
10 listened to me, and I congratulated them on that. I  
11 liked them.

12                   MR. PHIL COMER: They didn't really  
13 accept it. They were being very hypocritical,  
14 believe me.

15                   MS. JULIE HARDIN: Just a minute. I  
16 am a social worker. I think they accepted it.

17                   MR. PHIL COMER: Well, they told me  
18 otherwise afterwards.

19                   SENATOR ROGER BEDFORD: Maybe they  
20 didn't really mean it. I'm sorry.

21                   MR. BILL FORSYTH: These people that  
22 were here today are property owners?

23                   MS. JULIE HARDIN: Yes.

24                   MR. BILL FORSYTH: In Western North  
25 Carolina most of the people that you will hear on

1 this issue are not lake property owners, they are  
2 just lake users. It's just a thing that people talk  
3 about constantly.

4                   You-all are tired of hearing it, but  
5 most of you-all can go home and not hear it. I go  
6 home I am going to hear more of it. And my lake,  
7 less than ten percent of it is developed, very few  
8 property owners as compared to users. So it's just  
9 a general society thing in North Carolina.

10                   MS. JULIE HARDIN: Thank you for  
11 educating me.

12                   MR. JIM CREIGHTON: Again, the only  
13 purpose was kind of a pointed privilege for Phil to  
14 say he didn't orchestrate that. Let's -- I think we  
15 are just about on schedule for Mr. Welborn.

16                   MAYOR EDDIE SMITH: Okay. Impact of  
17 land management practice and water quality is our  
18 next presentation, and Mr. Welborn, who is chief of  
19 wetland coastal water quality branch of the EPA, is  
20 he here?

21                   DR. STEPHEN SMITH: I just wanted to  
22 maybe lead off this session. The water quality  
23 subcommittee has been looking at a number of  
24 different issues, and one of the issues that has  
25 come up in a very dramatic way that we feel impacts

1 water quality and is particularly relevant for this  
2 full Council to be educated on is the impact of  
3 non-point source pollution, the riparian zones,  
4 buffer zones, along the interface between water and  
5 land, and that's one of the most critical issues.

6                   So what we wanted to do this  
7 afternoon was have two experts that have looked at  
8 this issue come today and present and share with you  
9 some insights that I think will hopefully help in  
10 the ongoing deliberations of all the different  
11 subcommittees and that this full Council needs to be  
12 aware of.

13                   Tom Welborn is with EPA Region Four.  
14 He's a member of our subcommittee. I hope folks  
15 will listen closely to what he has to say. Then we  
16 have Gerry Talbert, who is going to be presenting  
17 this afternoon on some key issues also. So with  
18 that, Tom.

19                   MR. TOM WELBORN: Thank you. You-all  
20 have put me in a situation that's a hard act to  
21 follow.

22                   MR. JIM CREIGHTON: You didn't  
23 organize them either.

24                   MR. TOM WELBORN: Actually a  
25 non-point source may be an issue that some of lake

1 property owners at some of these lakes would  
2 actually call you on. I actually get quite a few  
3 calls of people that live on lakes. I live on a  
4 lake too, which is down now several feet as a result  
5 of drinking water issues, but, you know, I  
6 understand the issue.

7                   What we want to do today is talk  
8 about non-point source. And first of all, to tell  
9 you a little bit about what non-point source is,  
10 it's actually those discharges or those pollutants  
11 that aren't directly permitted under the Clean Water  
12 Act. It's runoff from ag. fields, from urban  
13 disturbed areas, from disturbed soil, from forestry  
14 activities, from parking lots, those activities are  
15 pollutants that go into the water and air deposition  
16 that go into the water that aren't directly  
17 permitted by EPA or the state.

18                   We wanted to bring that to your  
19 attention today because we were talking about  
20 riparian areas the last time and we felt like that  
21 was a critical discussion that needed to be brought  
22 to the Council, and I appreciate the opportunity  
23 today.

24                   First of all, the reason that we  
25 think it's important, it's certainly important to

1 these landowners that live on a lake for a variety  
2 of reasons, if they drink water, if they navigate on  
3 the lake, non-point source degrades their ability to  
4 use the lake and to drink the water. And it  
5 certainly impacts a lot of you that treat water as  
6 municipalities. It increases your costs for waste  
7 water treatment and for drinking water treatment,  
8 and I will give you a few examples of that.

9                   It also impacts navigation, as I  
10 heard earlier. The fact that we spend a lot of  
11 money each year, which I will point out to dredge  
12 these lakes and channels to provide navigation  
13 passage in this system is very important, and  
14 non-point source actually degrades this as part of a  
15 problem that we see. Of course, aesthetics is also  
16 important.

17                   Some of the statistics I am going to  
18 give you is from a report that EPA gets from the  
19 states each year or every other year. It's actually  
20 the even years that we receive this report. It's  
21 called the 305(b) report, and it summarizes to the  
22 Congress what the status of our lakes, streams,  
23 rivers are nationally.

24                   And this is part of the report that I  
25 pulled for the southeastern region. We have got

1 about 460,000 miles of streams and rivers in the  
2 southeast. By the way, we cover Kentucky,  
3 Tennessee, North Carolina, South Carolina, Alabama,  
4 Mississippi, and Florida in my region, so that's  
5 what I'll be talking about.

6 As you can see, when we look at the  
7 impacts associated with non-point source or  
8 pollution in our streams and rivers, siltation or  
9 sediment is the leading cause. In fact, it causes  
10 impacts to 50,000 miles of streams in the southeast  
11 alone.

12 The next important pollution is  
13 nutrients, which is associated often with non-point  
14 source, and then the last is organic enrichment or  
15 degrees DO. And the leading sources of these are,  
16 of course, agriculture, urban runoff, storm water,  
17 and then hydrologic modifications, such as removal  
18 of vegetation along streams as well as  
19 channelization.

20 MR. AUSTIN CARROLL: Are these just  
21 region four figures?

22 MR. TOM WELBORN: Right. This is  
23 just region four, though it wouldn't change much  
24 from a national standpoint for this particular item,  
25 it would be about the same.

1                   One thing I should point out, this is  
2 not an assessment of all waters. We, here in the  
3 southeast, actually assess about 30 to 40 percent of  
4 our streams, and out of that 30 to 40 percent, about  
5 40 percent of that assessment actually have impaired  
6 waters.

7                   A good example, I'm not picking on  
8 Paul, but this is some of the costs for sediment  
9 runoff. This particular site that was just recently  
10 in the paper, you can see some of the costs that  
11 sediment runoff has to utilities.

12                   This utility had to increase their  
13 cost of treating drinking water by \$25,000 just  
14 because of the sediment getting into their source  
15 water from sediment running off a construction site.  
16 Each time they have to clean up their filters costs  
17 them three to \$4,000 each time they have to clean  
18 the sediment out.

19                   For our lakes it's about the same  
20 thing. You can see we have got about 5,000,000  
21 acres of lakes in the southeast, most of those  
22 actually are in Florida, but for the rest of the  
23 states we do have a pretty good size, about half a  
24 million per state.

25                   Again, the leading pollutants that we

1 see are nutrients, algae growth, which is associated  
2 with nutrients going into the lakes, and metals.  
3 And again, the leading sources of the pollutants are  
4 agriculture, urban runoff again, storm water, and  
5 then lastly, industrial point sources. The reason  
6 that we see a change here is that the lakes tend to  
7 be sinks for the nutrients and metals.

8                   An example here where we're seeing --  
9 and I see this every day where people are taking  
10 more notice of what the potential impacts of  
11 development are. This is a recent article  
12 concerning Florida where developments going into  
13 Lake Hapopka (phonetic), they were proposing 112  
14 units on about 75 acres adjacent to Lake Hapopka  
15 (phonetic). They are spending about 140,000,000 to  
16 clean up the lake. So the county and city are  
17 basically looking at this development. They may  
18 actually stop the development if it can't go on  
19 centralized sewer because of the potential for these  
20 septic tanks to provide additional nutrients in the  
21 lake.

22                   Here's another example. In South  
23 Carolina at Lake Murray, because of the development  
24 around Columbia, we're seeing a lot of sediments  
25 going into Lake Murray, and the result of that is

1 increased weed occurrence within the lake. And on  
2 an annual basis they're having to reduce the aquatic  
3 weeds by 700 acres being sprayed by herbicides.  
4 Again, this raises the concern of your property  
5 owners adjacent to the lake, and this is all  
6 associated with non-point source pollution within  
7 the lake nutrients going into the lake.

8                   What I wanted to run to real quickly  
9 was to show you some examples of impaired waters and  
10 kind of give you an association. If you look at  
11 these maps as I run through them, these are the  
12 reports we get from the state. Pay particular  
13 attention to the bars that show the type of  
14 pollution. The dark blue is the sediment, the green  
15 is nutrients, and the pink is the pathogens, but you  
16 can see here in Alabama that there's a leading cause  
17 of impairment within the streams and rivers. And  
18 also you might -- I might point out that most of  
19 these are located in the Tennessee Valley.

20                   DR. STEPHEN SMITH: Now, Tom, are you  
21 saying -- when you say pathogens, you're talking  
22 about fecal coliform?

23                   MR. TOM WELBORN: Primarily. Fecal  
24 coliform is kind of used as a tracer for the  
25 problem, but that's -- it's all pathogens, but it's

1 primarily fecal coliform.

2                   Florida, again, as you can see,  
3 nutrients, sediment, and pathogens are primarily  
4 high, and in the lakes the nutrients.

5                   Georgia is kind of an anomaly. The  
6 reason that Georgia is an anomaly in terms of not  
7 seeing nutrients and sediments is they don't look  
8 for sediments and nutrients in Georgia as a problem.  
9 They focus on those activities around Atlanta, the  
10 pathogens being fairly high in toxins, but they  
11 focus on those areas that they are going to be  
12 working on in terms of cleanup, but I think if they  
13 actually looked at sediments and nutrients they  
14 would also see a very similar pattern in and around  
15 Atlanta and the state as a whole as being a primary  
16 problem.

17                   Again, for Kentucky we see sediments  
18 and nutrients being high, pathogens also being high.  
19 Again, I think -- and there's a lot of straight  
20 pipes, I will admit, in Kentucky, and I think that's  
21 one of the problems we see, but nutrients again are  
22 very high and sediments.

23                   DR. STEPHEN SMITH: Tom, can you go  
24 back to the Kentucky one?

25                   MR. TOM WELBORN: Sure.

1 DR. STEPHEN SMITH: Is that section  
2 of the Ohio River where the Tennessee River joins,  
3 is that contaminated with pathogens from that point  
4 down?

5 MR. TOM WELBORN: Right, that is  
6 pathogens.

7 DR. STEPHEN SMITH: It's not -- in  
8 the waterways coming into that it's not an issue?

9 MR. TOM WELBORN: No. I will admit,  
10 these things are done -- the states, in terms of  
11 their monitoring, is not a complete each two years.  
12 If they actually monitored downstream they might  
13 find some pathogens downstream.

14 DR. STEPHEN SMITH: So would it be  
15 safe to assume that if you've all of a sudden got a  
16 flume, in essence, appearing on the Ohio River, that  
17 if you were to back it up into the Kentucky Lake and  
18 Lake Barkley that you would be seeing the same sort  
19 of trend?

20 MR. TOM WELBORN: More than likely  
21 you would see some problems there, yes. Any other  
22 questions on this? On any of these maps, if you  
23 have a question, I will try to address it. It could  
24 also be a point source discharge, I should point  
25 that out, too.

1                   Kentucky is probably our poster child  
2 in terms of this report. They actually review all  
3 of their waters and listed a majority of their  
4 waters, but I think as far as their assessment it's  
5 fairly complete. They are going back and it's  
6 causing problems now, but you can see that sediment  
7 and nutrients are a problem for the Mississippi.  
8 The only place that the Tennessee Valley would be an  
9 issue is the upper right-hand corner, but you can  
10 also see it's a combination of all of these things  
11 in Mississippi, they have got problems throughout.

12                   North Carolina, again, sediments are  
13 a big issue for them. Pathogens are for the streams  
14 and rivers, and then for the lakes it's primarily  
15 the nutrients, as I stated earlier. No particular  
16 thing that I want to point out for North Carolina.  
17 Of course, the areas of concern for your group are  
18 in the western part of the state. And I believe  
19 over there sediments are the primary issue, although  
20 pathogens are listed for some of those streams.

21                   By the way, if anybody wants a copy  
22 of the colored maps, I will be glad to get it to the  
23 committee if they would like to see the colored  
24 versions of these.

25                   South Carolina is kind of an enigma

1 for us. They actually look for mercury. You see  
2 they found a lot of mercury in their coastal plain  
3 areas, which are probably an issue throughout the  
4 southeast. They didn't really look for sediments as  
5 an issue. Although, I think if they actually  
6 monitored for sediments they would see the same  
7 occurrence.

8 Tennessee, I think, does a much  
9 better job across the board in terms of monitoring.  
10 You can see the nutrients. I mean, the sediments  
11 and nutrients are high, and again, pathogens. Then,  
12 of course, for the lakes, which is not a common  
13 thing, we do see sediments is fairly high for  
14 Tennessee.

15 Some examples, you've heard a lot of  
16 cost figures before. This is a national estimate.  
17 I'm sorry. You can probably divide by ten and get a  
18 pretty good idea of what it cost us in the  
19 southeast. I don't know what factor you could get  
20 down to what it cost within the Tennessee Valley,  
21 but we spend a lot of money on correcting water  
22 quality problems here nationally and in the  
23 southeast.

24 It's estimated that approximately  
25 500,000,000 are used for dredging, and that's

1 primarily the Corps of Engineers. Approximately  
2 3,000,000,000 are spent annually by seven federal  
3 agencies to control non-point source pollution. In  
4 fact, EPA alone, and we don't have a large budget,  
5 spend close to 200,000,000 each year on non-point  
6 source control.

7                   It's estimated to control non-point  
8 source on the ag and silviculture sites it costs  
9 \$9,400,000,000 to control runoff from agriculture  
10 primarily and silviculture. \$23,000,000,000 is  
11 spent annually on treatment of water, whether it's  
12 waste water or drinking water or storm water.

13                   And then 63,000,000,000 to  
14 65,000,000,000 are spent annually to improve and  
15 protect water quality, and this is primarily private  
16 expenditures. Like I said, you could probably  
17 divide this by ten and get about what the estimate  
18 for what the southeast would be.

19                   What I did want to point out is we  
20 were talking last time about buffer strips and how  
21 effective they are. The reason they're effective is  
22 there's also cost -- they are not as costly. These  
23 are some commonly used types of removal of sediments  
24 in the southeast.

25                   You can see that vegetated filter

1 strips, which are buffer strips are about 65 percent  
2 sufficient. They are not as sufficient as the  
3 engineered type of controls, but they are less  
4 costly, and that's what makes them most attractive  
5 to us at the EPA and to you, as managers, of costs  
6 from a municipality standpoint.

7                   And to point this out -- well, I have  
8 got some examples where we're talking about buffers  
9 in the southeast. Generally the solution to  
10 non-point source is to go to prevention first, and  
11 that's what buffer strips are primarily aimed at is  
12 preventing or keeping the soil in place. They are  
13 more effective than prevention or more effective  
14 than recycling, which is more effective than  
15 treatment, which is more effective than disposal.  
16 You also get increased costs as you go down.

17                   As I said, some examples of some  
18 activities in the southeast where people are  
19 realizing the benefit of buffer strips and how cost  
20 effective it is, here in North Carolina on Jordan  
21 Lake, which is a water supply lake, the local  
22 municipalities are requiring 100 foot buffer within  
23 their planning areas to prevent non-point source  
24 from getting into the drinking water supply, which  
25 they have to treat. They're upgrading their

1 treatment system, which is costing them 70,000,000,  
2 and they feel like that should be protected and  
3 that's why they're putting these buffers in.

4                   Some effective non-structural urban  
5 runoff BMP's, of course, zoning is one way to do it.  
6 As we tried to point out, the environmental  
7 reserves, such as wetland buffers or stream side  
8 buffers, should be used whenever possible.

9                   You should also minimize time of  
10 areas of soil disturbance. And then lastly, once  
11 you have had the development in place, BMP's should  
12 be applied; that is, keep the fertilizer out of the  
13 waters as well as septic tank maintenance.

14                   Lastly, one other example, this is  
15 again in North Carolina and South Carolina where  
16 they had some waters that weren't being used, as  
17 much as 85 percent of their waters were not being  
18 used, and they're adopting stream side buffers to  
19 control. It's quite effective.

20                   They actually applied it to a dairy  
21 farm to reduce the amount of pollutants going into  
22 the stream by as much as 70 percent, and that  
23 particular water will probably be taken off the  
24 impaired list this next go around. That's my last  
25 slide.

1                   I just wanted to give you a brief  
2 overview of non-point source. If there are any  
3 questions, I will certainly be glad to respond to  
4 them.

5                   MR. JIM CREIGHTON: Questions?  
6 Bruce?

7                   MR. BRUCE SHUPP: Tom, I notice that  
8 you had the agricultural still shown as the No. 1  
9 source for sediment for non -- I thought development  
10 and dirt roads were now thought of as the leading  
11 source for sedimentation in some regions.

12                  MR. TOM WELBORN: They are. For a  
13 per acre basis, certainly urban development, unpaved  
14 roads, would be a predominant producer of non-point  
15 source, but because of the agricultural and the  
16 size, the acreage is the reason it's still listed as  
17 the predominant contributor.

18                  MR. BRUCE SHUPP: And it still ranks  
19 as the No. 1 depositor of sediments, even above  
20 exposed development sites?

21                  MR. TOM WELBORN: Right. That's just  
22 because of the acreage, the acreage size. A  
23 development site by itself could certainly produce  
24 more runoff.

25                  MR. JIM CREIGHTON: Austin?

1                   MR. AUSTIN CARROLL: What are the  
2 trends? I mean, are we getting better or are we  
3 getting worse? I mean, are we seeing more pollution  
4 or are these control strategies and awareness and  
5 those kind of things actually taking us into the  
6 other direction?

7                   MR. TOM WELBORN: That's a good  
8 question. I think overall -- at least I think at  
9 the EPA and the states feel like we're getting  
10 better. There are certain areas we need to focus  
11 on. We're certainly spending a lot of money. We're  
12 looking at how we're spending that money. We're  
13 focusing the money within watersheds that need to be  
14 worked on. The 200,000,000 that EPA spends is  
15 targeted towards the areas where we have total  
16 maximum daily loads being developed to protect those  
17 watersheds, but I think overall we're probably  
18 headed towards improvement.

19                  MR. AUSTIN CARROLL: The second part  
20 of that, how do you work with TVA or do you or  
21 have --

22                  MR. TOM WELBORN: Well, TVA actually  
23 helps us spend the money within the states. We  
24 heard one of the presentations from their watershed  
25 groups, they take our money, 319 money, which we

1 give to the states, and use that money within their  
2 watersheds to direct non-point source problems.

3 MR. AUSTIN CARROLL: TVA has staff  
4 people that actually work within the watershed.

5 MR. AL MANN: Tom, give us your  
6 definition of non-point source pollution again.

7 MR. TOM WELBORN: It's basically any  
8 pollutant that's not permitted. It's like runoff  
9 from an ag. field or from a silviculture operation.

10 MR. AL MANN: It could be any  
11 agricultural operation?

12 MR. TOM WELBORN: Yes, sir. Now,  
13 there are some animal feeding operations that are  
14 actually permitted, but as a whole it's any  
15 agriculture operation that has a runoff that's not  
16 permitted.

17 MR. AL MANN: That's not permitted?

18 MR. TOM WELBORN: Right.

19 MR. AL MANN: What do you have to be  
20 to be permitted?

21 MR. TOM WELBORN: Well, the only  
22 permits that we require from agriculture right now  
23 are concentrated animal feeding operations, that's  
24 where they have a lot of cattle or a lot of  
25 livestock within a concentrated area.

1                   MR. JIM CREIGHTON: Once you get a  
2 permit you don't cease to be a source, you become a  
3 point source?

4                   MR. TOM WELBORN: Right. Then you're  
5 permitted for your load basically.

6                   MR. JIM CREIGHTON: So it's kind of  
7 all the undefined stuff that isn't big enough to  
8 require a permit but still screws up the river?

9                   MR. AL MANN: Chicken farmers?

10                  MR. TOM WELBORN: It varies a lot  
11 state by state. Some are permitted and some aren't.

12                  MR. AL MANN: So every state is  
13 different?

14                  MR. TOM WELBORN: We're moving  
15 towards a unified approach on chicken farms.

16                  MR. JIM CREIGHTON: But they are a  
17 source, regardless of whether they are points?

18                  MR. TOM WELBORN: They are definitely  
19 a source, there's no doubt about it.

20                  MR. JIM CREIGHTON: Any other  
21 questions?

22                  MS. ELAINE PATTERSON: I just want to  
23 sort of make a comment on the non-point source.  
24 Another way -- and Tom, tell me if this definition  
25 is right, point source, you know, you can go to a

1 smokestack or the end of a pipe at an industrial  
2 facility, a sewer facility, and it's easy to  
3 regulate. The non-point sources may not be, they  
4 are too small to regulate, which is very difficult.  
5 You know, how do you regulate a farm or a  
6 construction site?

7 MR. TOM WELBORN: Right.

8 MS. ELAINE PATTERSON: So I think  
9 there's significant contributors, it's just hard to  
10 regulate them in an easy way.

11 MR. TOM WELBORN: Right. And they  
12 are our last remaining big sources of pollution  
13 coming into our waterways, but you're right, it's  
14 not defined -- in the pipe discharge, it's dispersed  
15 across the landscape.

16 MR. AL MANN: A whole lot of  
17 little --

18 MR. JIM CREIGHTON: Right.

19 DR. STEPHEN SMITH: Although some of  
20 the exemptions for ag. and silviculture can be  
21 fairly substantial. Don't some states give some  
22 pretty significant deference to those?

23 MR. TOM WELBORN: All of our states  
24 provide exemptions for agricultural and  
25 silviculture, and that's what we're getting into.

1 Like the combined animal feeding operations or the  
2 animal feeding operations, the permitting there is  
3 the first step in permitting.

4                   You will see a lot more discussion in  
5 the future because of the TMDL's, which I don't know  
6 if you're -- surely you have at least heard about it  
7 where you're going to be looking at a watershed, and  
8 the point sources that are regulated within a  
9 watershed, we have permits to control their  
10 discharge.

11                   The other land uses, like agriculture  
12 and silviculture, are going to have to work within  
13 this total maximum daily load to actually bring  
14 their input into the system down. And I'm not  
15 saying permits are the way we're going to head, but  
16 you're going to see more talk about that and how to  
17 control those.

18                   MR. AUSTIN CARROLL: Mechanically I  
19 am trying to envision how this works. Does TVA  
20 require buffer zones along all agricultural areas or  
21 is TVA the regulator there or the states or EPA or  
22 how does that -- I mean, mechanically, like if I  
23 have got a big farm out here along the river, I'm  
24 not paying any attention to what goes on, does  
25 somebody come around and tell me that you have got

1 to do this?

2 MR. TOM WELBORN: I don't think  
3 anybody actually directly regulates. There's a lot  
4 of programs, which I think the next speaker will  
5 talk some about how to get the riparian areas  
6 reestablished, but right now there's not any.

7 MS. KATE JACKSON: The regulatory  
8 authority is the states. So that would be the spot  
9 at which if a -- if a cow farm, for example, a  
10 milking operation were concentrated enough that it  
11 could be considered a point source, it would be the  
12 state that would do that.

13 MR. AUSTIN CARROLL: What about these  
14 that are spread out that are not point sources?  
15 Let's say it's a -- you know, where you're raising  
16 grain or something and you don't want the nutrients  
17 getting into the waterways, I mean, who goes by and  
18 tells the farmer, you don't do that and here's what  
19 you need to do?

20 MR. TOM WELBORN: It's a volunteer  
21 program where we -- like the \$2,000,000 I said EPA  
22 provides, that's to get BMP's established, the  
23 NRCS's. Department of Ag provides monies to  
24 establish buffer areas and to put best management  
25 practices on the ground to prevent that from going

1 into the water.

2 MS. KATE JACKSON: And as a result of  
3 our early work in fertilizer, we have done a lot of  
4 work with demonstration farms, for example, on how  
5 to apply fertilizers in ways where they are less  
6 likely to run off or they are less likely to  
7 volatilize into the air.

8 So we have done demonstration farms,  
9 but again, it's often working collaboratively with  
10 the states, the soil conservation service, farmers,  
11 groups of people, local communities, and much like  
12 the lake owner groups come together as a coalition,  
13 there are coalitions that we are helping to form or  
14 EPA is helping to form or the states are where we  
15 provide technical assistance, in some cases data,  
16 communication kinds of capabilities to get those  
17 coalitions to recognize that upstream is the issue  
18 and that everybody's responsibility is, in fact,  
19 water quality, and the things you do on the land  
20 affect the water quality and the local streams, but  
21 also the repositories, which end up being the lakes.

22 So it's, get the coalition built,  
23 invest some money, either 319 money or other monies  
24 from the states or some monies that we put in for  
25 seed money to get those coalitions started, and then

1 theoretically they will take on this issue because  
2 they have a flaming passion for it, and we can take  
3 and put that money someplace else. So what we do is  
4 we analyze on a tiny-watershed-by-tiny-watershed  
5 basis what the trends are in the water quality, and  
6 then we can help prioritize where those monies can  
7 flow.

8 MR. AUSTIN CARROLL: It's strictly on  
9 a volunteer basis?

10 DR. KATE JACKSON: Yeah.

11 MR. JIM CREIGHTON: I saw Paul, then  
12 Roger, then Al, and then Bruce.

13 Paul?

14 DR. PAUL TEAGUE: Is it not true that  
15 farmers have been some of the best environmentalist  
16 of society and the lengths they have gone to to  
17 prevent erosion and so forth?

18 MR. TOM WELBORN: It's a tough  
19 question. I think farmers as a whole do a good job.  
20 I think they also look at economics. Sometimes it's  
21 cheaper not to do certain things or they believe  
22 it's cheaper.

23 I think because of the size of the  
24 farming operations across the landscape, they have  
25 input, and it's basically BMP's where we can show

1 they're economically better for the farmer and they  
2 adopt them. So, you know, it's a tough question.  
3 They certainly prevent themselves as good stewards  
4 of the land, and we try to work with them on that to  
5 make sure they are good stewards of the land.

6 DR. PAUL TEAGUE: Are you implying  
7 that you're going to recommend that a farmer has to  
8 have a permit to plant 100 acres of beans?

9 MR. TOM WELBORN: No. I think I  
10 tried to make it clear that we're not looking at  
11 permitting for farmers. I think that it's probably  
12 just as we stated, it's going to have to be a  
13 cooperated effort. They do have the biggest input  
14 into a lot of situations to the watershed and what's  
15 causing degradation of the water. So they have got  
16 a big part to play in terms of reducing that loading  
17 to the system, but I am not -- we're not  
18 recommending that permitting be a part of it. Right  
19 now we're recommending voluntary compliance with  
20 BMP's, those kind of things.

21 MR. JIM CREIGHTON: Kate said she  
22 needed to clarify something.

23 DR. KATE JACKSON: Yeah. There's one  
24 other issue that Austin raised, do we go out and  
25 make people have buffers on their -- we have some

1 property that is sort of a shoreline strip that TVA  
2 owns, and we do try to manage that as a buffer and  
3 have requirements on that.

4                   And through our 26(a) regulation  
5 process and that permitting process, we try hard to  
6 encourage standards for a buffer. We have lots of  
7 information that we provide to people about the  
8 kinds of natural vegetation that there can be that  
9 will do a good job of that, but that's the only --  
10 our only responsibility there.

11                   MR. JIM CREIGHTON: Roger, are you up  
12 or down?

13                   SENATOR ROGER BEDFORD: Kate answered  
14 part of it. I was going to come back to Austin, on  
15 the BCDA property, for instance, this past year TVA  
16 stopped property owners from mowing down to the  
17 waterline and are requiring them to not mow to allow  
18 a wild buffer to go up on the land that TVA actually  
19 controls from some point up to the waterline back  
20 down to the waterline. So there is some enforcement  
21 part of it, in that on the property they control, in  
22 BCDA, that's been the land management practice.

23                   MS. KATE JACKSON: That's Bear Creek  
24 Development Agency, and we encourage that. These  
25 people who have permits are grandfathered to be able

1 to continue to mow if they have mowed currently, but  
2 we can provide them incentives for those buffers,  
3 which really does have a significant impact on the  
4 amount of non-point source that hits those  
5 reservoirs.

6 MR. JIM CREIGHTON: Al?

7 MR. AL MANN: Kate, what does TVA  
8 spend a year for water quality? I mean, is it a big  
9 item just as far as your budget goes?

10 MS. KATE JACKSON: It's not a big  
11 item. I could offer you a number, but I could be  
12 wrong. The experts may be in the room. It's on the  
13 order of ree or \$4,000,000. Is that right? Frank?  
14 And Frank Sagona is going to talk a little bit  
15 later, and he can respond to specific questions.

16 MR. JIM CREIGHTON: Bruce?

17 MR. BRUCE SHUPP: I just want to add  
18 to what Kate said about the voluntary watershed  
19 teams and the community teams, watershed councils we  
20 like to call them, and some of the biggest gains in  
21 non-point source pollution control across America  
22 have been made by very aggressive local watershed  
23 councils.

24 Our end has had about, I think, 80 to  
25 100 councils develop in the State of Oregon, and

1 then they partnered with government agencies and  
2 made some extremely significant changes in non-point  
3 source runoff and point source. They had some  
4 industries with point source issues working with  
5 them. This was industry, agricultural, citizens,  
6 agencies all working together.

7                   A bill to make this a formal  
8 government funded process was introduced in Congress  
9 in April sponsored by Senator Bond from Missouri and  
10 Representative Tanner from right here in Tennessee,  
11 John Tanner, and they are the champion of this bill.  
12 It's called the Fishable Waters Act, HR 4278, and  
13 what this would do would be take those voluntary  
14 efforts and have them get official help from federal  
15 agencies and federal money.

16                   So some of the watershed councils  
17 which have problems now, they become nothing more  
18 than advocate groups, would actually get  
19 professional help from agencies, as mandated in the  
20 bill, and get funding to actually do on-the-ground  
21 improvements of that watershed to stop non-point  
22 source pollution and any other type of pollution.  
23 It's aimed mostly at non-point source. So we're  
24 really excited about that. I think you're going to  
25 hear a lot more about it in the 107th Congress after

1 January.

2 MR. JIM CREIGHTON: Any last  
3 questions for Mr. Welborn?

4 DR. STEPHEN SMITH: I have one more,  
5 and then I am eager to get to Gerry also, but, Tom,  
6 when you talked about 23,000,000,000 spent annually  
7 by municipals and waste water treatment drinking  
8 water and storm water control, I understand that's a  
9 national figure, but that's significant money that's  
10 being spent and tax dollars are being spent to clean  
11 up the water so we have safe drinking water  
12 basically?

13 MR. TOM WELBORN: Right.

14 DR. STEPHEN SMITH: I guess the  
15 question is, is there a sense of how effective  
16 either voluntary or mandatory riparian zones could  
17 help curb some of those costs, because my  
18 understanding of what you're saying is that if  
19 people were more thoughtful about how they managed  
20 that water/land interface with buffers and riparian  
21 zones and, you know, were more aggressive about  
22 doing that or more responsive to doing that, it  
23 would basically help the overall water quality  
24 generally, but it would specifically help  
25 municipalities that are actually cleaning that water

1 up so we could drink, is there some sense of the  
2 savings there?

3 MR. TOM WELBORN: Oh, yeah. There's  
4 an example in and around Atlanta, which I didn't  
5 bring the statistics on them, but it cost them in  
6 excess of \$200,000 to take out sediment from their  
7 drinking water, so that's a savings they could see  
8 if buffers were in place and BMP's were practiced.

9 It's significant for some  
10 municipalities, and they are seeing it going up as  
11 developments increase and riparian areas are taken  
12 out. Riparian areas are very beneficial, very  
13 effective in taking sediments and nutrients and  
14 pathogens before it actually gets to the water, very  
15 cost effective.

16 MR. JIM CREIGHTON: Steven, did you  
17 want to introduce our next -- thank you very much,  
18 Mr. Welborn.

19 DR. STEPHEN SMITH: The next one we  
20 wanted to do is there's a very effective program,  
21 the Southeast Conservation Buffer Campaign, and  
22 Gerry Talbert is going to share with us about that,  
23 and then after Gerry we're going to hear from Frank  
24 Sagona to talk a little bit about TVA's experience  
25 with the water quality buffer program. So this will

1 add to our discussion.

2 Can we kill the lights so we can see  
3 the slides a little better? Is that possible?

4 MR. GERRY TALBERT: Well, it's a  
5 pleasure to be here today. I came down from  
6 Baltimore to be able to talk about conservation  
7 buffers.

8 I'm here representing the Southeast  
9 Conservation Buffer Campaign. Our two partners are  
10 B.A.S.S. and TVA, and the representatives of those  
11 organizations that I work with are Bruce Shupp and  
12 Frank Sagona. And I can tell you that according to  
13 our logistics and scheduling, it's very rare that  
14 the three of us are in the same room at the same  
15 time. So it's a real privilege for me today.

16 The campaign with funding by these  
17 two organizations and an EPA grant has for the last  
18 three years been working with a mission to help the  
19 Natural Resources Conservation Service, that agency  
20 of USDA, promote its conservation buffer initiative.  
21 We're focused on nine states in the southeast from  
22 Virginia down to Florida over to Mississippi,  
23 including Kentucky and Tennessee.

24 The campaign has completed a number  
25 of projects. We have tried to be diverse in our

1 approach. Our target audience is always farmers.  
2 And we're working with USDA conservation programs to  
3 work on the basis that it is a voluntary approach,  
4 that we're using financial incentives and education  
5 to try to encourage farmers to put buffers in, for  
6 the most part.

7                   We have had a number of different  
8 publications that we have been able to either  
9 co-fund or in some cases create and print. The  
10 latest one is a publication called, Managing  
11 Grasslands for Profit.

12                   Of that group of farmers, we looked  
13 at the sector of livestock operators and tried to  
14 focus on how conservation buffers could help them.  
15 So we're distributing that through the network  
16 that's established by a combination of the natural  
17 resources conservation services, local soil and  
18 water conservation districts.

19                   And in the state level, there's a  
20 state conservation agency. You have got federal,  
21 state, and local people working directly with  
22 private landowners, we call that the conservation  
23 delivery system. A lot of the publications that we  
24 have created in the campaign have been distributed  
25 through that network so that they can get in the

1 hands of private landowners as much as possible.

2 I have some of these handouts in the  
3 back that you can get back there where the  
4 refreshments are. It's a one-page facts sheet on  
5 some of the projects that the campaign has done.

6 One brochure that we did last year  
7 trying to look at sort of a value added component  
8 for farmers; and that is, to enhance buffers with  
9 wildlife habitat. We call this Buffers for Bob  
10 White. It has two key messages, one that  
11 conservation buffers are good for the environment,  
12 good for the farming operation, and the general  
13 public, and also, that if those buffers are planted  
14 in warm season grasses that they're a good habitat  
15 for quail.

16 We, in most of these situations, have  
17 not had enough funding to complete the projects, but  
18 we seek other funding partners on a project specific  
19 basis, and between the combination of us we have  
20 been able to accomplish quite a bit. In other  
21 words, our few dollars have been leveraged  
22 considerably by finding these partners on individual  
23 projects.

24 Our partner with the Buffers for bob  
25 White was a group called Southeast Quail Study

1 Group, which is a confederation of state wildlife  
2 biologists and university people who are trying to  
3 bring back more habitat for quail, because in the  
4 last few decades farming practices and other things  
5 have greatly diminished the amount of habitat in the  
6 southeast quail.

7 I also have in the back the latest  
8 brochure that the National Resources Conservation  
9 Services put out on buffers. This is the second one  
10 that they have done. The campaign didn't have  
11 anything to do with that, other than the fact that  
12 we will help distribute it. So other than that ad,  
13 I am ready to move on.

14 The conservation buffers are  
15 beautiful because they are so simple. They are  
16 simple and they are very cost effective. They are  
17 simply strips of permanent vegetation that are  
18 strategically placed so that they can intercept  
19 runoff and infiltrate runoff and any pollutants that  
20 may be attached to it before it gets to a stream.

21 They will, by slowing down and  
22 soaking up the runoff, are also taking care of those  
23 things that are conveyed by runoff either in  
24 suspension or solution. So we're talking about  
25 sediment, chemicals, nutrients, even pathogens and

1 heavy metals.

2                   If they're properly installed and  
3 maintained, buffers can have the capacity to remove  
4 up to 50 percent for nutrients and pesticides, 60  
5 percent for certain pathogens, and up to 75 percent  
6 for sediments.

7                   And we -- I have already talked  
8 somewhat about the wildlife benefits. Warm season  
9 grasses grow in bunches. They are bunching grasses.  
10 So at the ground level there is room for little  
11 critters to get around and find suitable cover, as  
12 opposed to a vegetation like fescue which grows  
13 uniformly very thickly and it's more difficult for  
14 animals like quail to get around. So conservation  
15 buffers can be very effective as a source of food,  
16 as a source of cover, shelter, and that these  
17 buffers or greenways or wildlife corridors can be  
18 connected.

19                   EPA in the southeast region has a  
20 project called, The Ecological Framework, and on a  
21 region wide basis they are trying to connect as much  
22 as they can of wildlife corridors so that -- you  
23 know, you can have situations where wildlife can  
24 coexist with areas that may be undergoing  
25 development pressure to some extent.

1                   Within the family of buffer practices  
2 we have wind breaks, field borders, which would just  
3 be filter strips that are at the edge of fields to  
4 be at the first opportunity to catch runoff that  
5 might be leaving an active crop field. Filter  
6 strips would be strategically placed wherever it  
7 makes sense to try and intercept the runoff before  
8 it gets to a stream.

9                   Grass waterways are buffers that  
10 are -- can go right through the middle of crop  
11 fields because they protect the natural drainage  
12 areas. You could see the natural drainage areas in  
13 the field if it were conventionally plowed and there  
14 was no protection in the natural drainage area  
15 because the topography is going to allow runoff to  
16 concentrate, and if there's any slope that you're  
17 talking about, that runoff begins to gather an  
18 erosive velocity. If there wasn't anything done,  
19 you would see the natural drainage area etched out  
20 in gulleys all across that field.

21                   Part of the education process that  
22 the conservation delivery system has been saying to  
23 farmers for the last 60 years really is that it  
24 makes no sense to try to plant crops in a natural  
25 drainage area, that the best thing to do is to

1 reserve that and make sure that it's well stabilized  
2 with vegetation so that it can convey runoff without  
3 erosion and that a part of what that vegetation does  
4 is keep the runoff slowed down to a non-erosive  
5 velocity, allowing maximum opportunity for it to be  
6 absorbed.

7                   And last, but not least, the riparian  
8 forest buffers, which would be lining both sides of  
9 the stream. Riparian buffers provide added  
10 protection for streams because, first of all, they  
11 are going to help destabilize the banks.

12                   You often have a situation in streams  
13 where in a storm event the water level's going up,  
14 it is more turbulent. It has a tendency to carve  
15 away the stream banks. The tops begin to cave in.  
16 You end up with a vertical face. And thousands of  
17 tons of sediment can be introduced directly into the  
18 stream from eroding stream banks themselves.

19                   The other source of sediment is going  
20 to be from runoff that's being conveyed, you know,  
21 from nearby fields and so forth, but if those banks  
22 can be -- generally if you're going to rehabilitate  
23 them, to try to cut them back at about a 45-degree  
24 angle, plant them with trees, shrubs, grasses, those  
25 sort of things, that you are reducing significantly

1 the sediment load that that stream would be normally  
2 getting.

3                   At the same time, if you have got  
4 canopy that shades the water, then you're cooling  
5 the temperature of that water, and that may be  
6 critical for habitat for certain creatures like  
7 trout, for example.

8                   Also, if you have reduced the  
9 sediment load, then you are reducing the possibility  
10 that sediment could then cover over eggs, and that  
11 sort of thing, and affect the breeding ability of  
12 fish and other creatures as well in the stream and  
13 that those buffers also provide a setback so that  
14 there will be no agricultural chemical use in that  
15 immediate vicinity.

16                   The National Academy of Science says  
17 that load reductions of more than 70 percent can be  
18 achieved with certain type of buffer strip surface  
19 cover combinations. Conservation buffers can be  
20 effective, but they can be most effective when they  
21 are part of an overall conservation system. So we  
22 think of those conservation systems as lines of  
23 defense.

24                   And the first line of defense is  
25 going to occur right in an active crop field or in a

1 feed lot where basically you're trying to get the  
2 rain drop that strikes the earth to soak in where it  
3 hit, that you are trying to maximize infiltration  
4 and minimize the opportunity for runoff.

5                   Now, you can't guarantee that. There  
6 are going to be storm events out there that are  
7 simply going to create runoff, but you can minimize  
8 those events by doing things in the crop field like  
9 no till planting and crop residue management.

10                   When you have taken a portion of the  
11 residue from the previous harvest, you spread it out  
12 over that field, basically that there's no bare soil  
13 in that field ever, and that the cover then is the  
14 substance that rain drops strike, it allows it to  
15 slowly ooze into the soil and to be accepted by the  
16 soil and that you're planting right through that  
17 cover with no till in the spring.

18                   For animal situations, there are a  
19 number of ag. waste management practices that  
20 basically try to keep manure from being conveyed by  
21 runoff, certainly to keep it from getting into the  
22 stream.

23                   The conservation buffers become the  
24 second line of defense, that in that event where  
25 runoff has escaped the crop field or the feed lot,

1 that buffers will intercept it, will slow it down,  
2 and will soak it up. Sometimes even you will find  
3 that the plant material in the buffer may take up  
4 some of those pollutants like heavy metals to some  
5 extent.

6                   In fact, there have been some people  
7 that have talked about a way to try to heal brown  
8 fields that have been contaminated with certain  
9 kinds of pollutants, like heavy metals, that one  
10 method that's being experimented with is to plant it  
11 with a certain kind of vegetation that would take  
12 those heavy metals up into themselves. Of course,  
13 you have to be careful when you harvest those that  
14 you're not just taking them somewhere else, but if  
15 you can dispose of them that may be one way to try  
16 in a way to soak those pollutants out of the soil.

17                   When you get to a riparian forest  
18 buffer, that is really the last line of defense as  
19 far as runoff goes, that you have got one more  
20 chance to try to intercept and soak those pollutants  
21 before they get into the stream. Once that gets  
22 into the stream, then it becomes more of a public  
23 problem, a more expensive problem, and that's why in  
24 USDA the approach is to put financial incentives for  
25 private landowners to voluntarily put these

1 practices in because you can sell the concept to  
2 them that in most cases these practices are  
3 benefiting their operation and that there is a  
4 public benefit that is most cost effective the  
5 closest you get to the source and certainly before  
6 those pollutants are allowed to get into a stream.

7                   The National Conservation Buffer  
8 Initiative is just basically trying to educate  
9 farmers and encourage them to install practices, and  
10 the financial incentives that they offer are through  
11 what they call their toolbox of conservation  
12 programs, most of which have been either created or  
13 renewed in the 1996 Farm Bill.

14                   The one that is most popular is the  
15 Conservation Reserve Program. It's funded at about  
16 \$2,000,000,000 a year. It was created in the 1985  
17 Farm Bill, and it has provided a whole host of  
18 environmental benefits.

19                   The Regular Conservation Reserve  
20 Program tries to retire entire fields. I think the  
21 minimum acreage is 100 acres. Landowners apply for  
22 that program, and there's an environmental benefits  
23 index that they have to meet to see if their field  
24 is eligible. It should be a highly erodible field,  
25 and there are a number of wildlife considerations

1 and other water quality considerations before that  
2 landowner would be accepted.

3                   If accepted, in effect, the  
4 government rents the land from the farmer for ten  
5 years once they put it in a protective cover; that  
6 is, vegetated in some way, then they're paying rent,  
7 and that rental rate is the average rental rate for  
8 agricultural land in that county.

9                   But in 1996, recognizing -- although  
10 the CRP was originally created to be a supply and  
11 demand kind of a program, that they were trying to  
12 retire excess farm land because prices of  
13 commodities had being driven down so low, too much  
14 supply. By 1996 they realized the environmental  
15 benefits more, that the environmental benefits index  
16 had been modified to consider the wildlife benefits.  
17 For example, some of the strongest proponents of  
18 keeping the conservation reserve program.

19                   And at the time this was being  
20 debated, we didn't have a budget surplus, we had a  
21 deficit, and there were budget hawks out looking for  
22 all kind of big ticket government programs to cut,  
23 and the \$2,000,000,000 price tag on CRP really  
24 attracted a lot of attention, but Ducks, Unlimited  
25 and Pheasants Forever and a number of other

1 organizations banded together and showed that -- you  
2 know, environmental groups often don't band with  
3 farmers, you know, so this was kind of a rare  
4 occasion where they all agreed that this was a good  
5 program and very cost effective for the investment.

6                   But there was an official recognition  
7 of the water quality benefits of that program, and  
8 they created this continuous CRP. It's called  
9 continuous to show the distinction from the regular  
10 CRP, which usually has an annual sign-up period.  
11 And if you happen to miss that sign-up period, you  
12 have to wait for, in most cases, another year before  
13 you can sign up again.

14                   The continuous CRP is focused just on  
15 water quality measures. There is no acreage  
16 minimum. It is intended to try to include buffers  
17 in the program and you can sign up at any time. In  
18 addition to that regular county rental rate, which  
19 on such small acreage often does not provide the  
20 kind of incentive that's necessary to get a farmer  
21 to volunteer to say, yes, there is an automatic  
22 20 percent bonus tacked onto it. So, you know,  
23 that's one thing that operates separate from the  
24 regular CRP.

25                   In addition to that, there's a

1 Conservation Reserve Enhancement Program or CREP,  
2 which is something that can be introduced in a state  
3 if the state requests it, that above and beyond all  
4 of this that's being offered, a combination of more  
5 funding from USDA and the state can offer more  
6 incentives, higher rates. This last year they  
7 announced a \$100 an acre sign-up bonus, one time  
8 only, not for the ten years this would be under the  
9 CRP requirements, but there have been a number of  
10 efforts to try to use CRP as a tool to get farmers  
11 to agree.

12                   Now, one thing to consider is that in  
13 many cases you're asking farmers to give up land  
14 that they have used for production, that there's  
15 land under active production in cases that they have  
16 to give up. So you have got to come up with some  
17 kind of incentive to get them to agree to do that.

18                   In addition to that, the Farm Bill  
19 also created the Environmental Quality Incentives  
20 Program, or EQIP, which provides cost sharing on an  
21 array of what they call best management practices or  
22 those conservation practices that would help to  
23 either control erosion or water quality.

24                   We're also finding now that most of  
25 these practices are also providing significant air

1 quality benefits by sequestering carbon. And if the  
2 agenda about global warming or any of those things  
3 move forward at some point, then carbon  
4 sequestration becomes an even more important aspect  
5 to consider.

6                   The Wetlands Reserve Program allows  
7 buffers around wetlands. The other thing is that  
8 these programs can be piggybacked by just about any  
9 other entity to add to the incentives that are  
10 already being offered.

11                   I will give you an example. Since I  
12 am from Maryland, I'm familiar with a lot of the  
13 programs in Maryland. Maryland happened to be the  
14 first state in the country to have a CREP program.  
15 They targeted areas around the Chesapeake Bay and  
16 its tributaries to try to put conservation buffers  
17 in.

18                   The regular arrangement with the CREP  
19 or with CRP is that -- and especially if we take a  
20 situation where there is a buffer to be considered  
21 to be placed along a stream that goes through the  
22 middle of a pasture, that that landowner would have  
23 to fence the buffer off, and if he's -- by fencing  
24 the buffer off, he has prevented his animals from  
25 getting to what their regular water source was, that

1 there would need to be practices where there's  
2 alternative water sources available.

3                   You could either have a protected  
4 access to the stream or you can have something  
5 that's in the field where they basically tap the  
6 spring, it's called a spring development, it's like  
7 a little well, that would provide alternative water  
8 for the animals. All of that is fairly pricey.

9                   The regular program offers 50 percent  
10 of the costs of it. In this program in Maryland,  
11 and since then Pennsylvania has also had a CREP  
12 program, and the Chesapeake Bay watershed goes well  
13 through Pennsylvania and up through upstate New  
14 York, two groups, the Chesapeake Bay Foundation and  
15 Ducks, Unlimited, went together and offered to pay  
16 the other 50 percent. So on top of everything else  
17 that Maryland farmers are offered there, they are  
18 also getting 100 percent of the costs of installing  
19 these practices, and as far as I can tell, the  
20 highest incentive payments anybody has ever been  
21 offered in the history of conservation programs in  
22 America.

23                   The Secretary of Agriculture made a  
24 commitment and set a goal of 2,000,000 miles of  
25 conservation buffers by the year 2002, 2002 because

1 that's when the next Farm Bill is expected to be  
2 renewed. So far as of the end of September,  
3 892,000, almost 900,000 miles have been installed.  
4 They are monitoring the Conservation Reserve  
5 Program, continuous CRP, the Wetlands Reserve  
6 Program, regular technical assistance that  
7 conservation districts or NRCS would be giving  
8 landowners and would, therefore, be documented or  
9 other cost sharing programs like state cost sharing  
10 programs that have -- that can document how much  
11 they have put in.

12                   Now, I am going to offer here for the  
13 next couple of slides an example of a situation that  
14 took place in Maryland in 1984 that may be similar  
15 to the situation that you may be contemplating here;  
16 and that is, using conservation buffers in a big,  
17 wide area. In this case it's the Chesapeake Bay.

18                   The Chesapeake Bay watershed is huge.  
19 It's 64,000 square miles. It goes up through  
20 Pennsylvania, upstate New York. There's a  
21 population of 13,000,000 people throughout that  
22 watershed. It has experienced intense development  
23 pretty much since the end of World War II, and it  
24 has caused a dramatic reduction in health of the  
25 Bay.

1                   One thing that really seemed to kick  
2 off attention to that finally was after Hurricane  
3 Agnes there was a tremendous amount of sediment that  
4 came into the Bay from that. The Chesapeake Bay, as  
5 a water body, does not flush very well, it does not  
6 circulate very well, and a great portion of the  
7 submerged aquatic vegetation was disappearing, and  
8 people began to notice that and other things as far  
9 as clarity of the water and pollution problems.

10                   EPA has been studying the problems in  
11 the Bay since 1975. There have been hundreds of  
12 millions of dollars spent studying the problems.  
13 Two factors that are definitely at play here are  
14 land use changes and population growth. I mean, in  
15 very close proximity to the Chesapeake Bay is the  
16 Baltimore Washington Corridor and the state capital  
17 going up through Philadelphia and, you know, up that  
18 way.

19                   There was a study done about ten  
20 years ago called the 2020 study. They tried to  
21 estimate what these -- how these factors would play  
22 out by the year 2020. They figured the population  
23 would be at least 16,000,000 by that time. And in  
24 light of the problems that were known at the time  
25 and the anticipation of what it would become in the

1 future, in 1984 the Maryland General Assembly  
2 enacted the Chesapeake Bay Critical Area Protection  
3 Program.

4 Now, that program essentially set a  
5 1,000 foot area from the edge of the Bay landward  
6 and there were special conditions imposed in that  
7 1,000 feet. The state looked at the existing use of  
8 the land, and they imposed three general categories  
9 of zoning.

10 In areas that were already rural and  
11 agricultural, the zoning was one lot per 20 acres.  
12 In areas where there was already some development,  
13 it ranged from one lot per five acres to five lots  
14 per acre.

15 And then there was another category  
16 where you had the City of Baltimore and the City of  
17 Annapolis that were already there on the Chesapeake  
18 Bay that were pretty much so intensely developed  
19 there wasn't much else you could do.

20 They also created a group called the  
21 Critical Area Commission, and that commission has  
22 been working for the last 16 years with the counties  
23 to control development growth and try to preserve  
24 the natural resources, but the keystone of the whole  
25 program is a 100-foot riparian buffer that basically

1 goes all the way around the Chesapeake Bay and up  
2 the tributaries.

3                   Other things this program would  
4 attempt to focus on and has focused on would be  
5 non-title wetlands, threatened and endangered  
6 species, significant plant and wildlife habitat,  
7 anadromous fish and spawning areas, and native trees  
8 and shrubs.

9                   It was an interesting political  
10 exercise back in 1984 when it was debated because at  
11 stake you had the issue of private property rights  
12 versus zoning, that you had the state imposing land  
13 use restrictions, which in Maryland at least, have  
14 traditionally been very jealously held by the county  
15 governments, so there was a big issue about that.

16                   You have the western shore of  
17 Maryland debating the eastern shore of Maryland. In  
18 effect, the legislators on the eastern shore was  
19 saying, you guys have had the last 100 years to  
20 basically develop and expand your tax base and we  
21 haven't had that chance to basically use up our  
22 natural resources.

23                   So in spite of all of that, the  
24 situation was serious enough that those legislators  
25 realized and the majority realized that for the

1 public benefit that there had to be something  
2 extraordinary done there. So that's basically what  
3 got that started, and they have been working to try  
4 and maintain and improve that ever since.

5 That's basically all I have in my  
6 presentation.

7 MR. JIM CREIGHTON: Any questions?

8 The other part of the presentation is  
9 still to come is how TVA is --

10 DR. STEPHEN SMITH: Do you want to go  
11 ahead and get Frank up and maybe ask questions  
12 afterwards?

13 MR. JIM CREIGHTON: That may be the  
14 natural thing is to get both.

15 DR. STEPHEN SMITH: Next up is Frank  
16 Sagona, who is going to talk about some of TVA's  
17 experiences and success stories with incentives and  
18 other things with the buffer program.

19 MR. PHIL COMER: Last name?

20 DR. STEPHEN SMITH: Sagona,  
21 S-A-G-O-N-A.

22 MR. FRANK SAGONA: We heard from Tom  
23 about the southeastern non-point source and water  
24 quality condition, and then Gerry was talking about  
25 the national campaigns and the Southeast Buffer

1 Campaign, and I was asked to bring it home to the  
2 Valley and to try to describe TVA's activities  
3 related to water quality, and in particular, to the  
4 riparian buffer areas. Hopefully, I can answer some  
5 of the questions that you're raising after Tom's  
6 discussion about what TVA is doing inside the  
7 Valley.

8                   Briefly what I will do is give a  
9 quick overview of riparian zones, and we have heard  
10 that and maybe I won't have to spend much time on  
11 that, but then what I would like to do is also give  
12 you a view of the Valley, what's the condition  
13 inside the Tennessee Valley, and then really move  
14 into the activities that TVA are involved in.

15                   And they can be characterized as  
16 three basic components, there's the policy  
17 component, Kate referred a little bit toward that  
18 earlier. There's the outreach and education  
19 components. Then there's the targeted project  
20 components that we do, and that's where we start  
21 getting into the projects on the ground and some of  
22 the seed money.

23                   The simple definition that we use for  
24 riparian zones is it's that land that's adjacent to  
25 water bodies, the water's edge. This is a stylized

1 representation of the riparian zone. It looks at  
2 the area near the water's edge. There it is. Along  
3 the bank there, there's the grasses and the low  
4 growing shrubs. Then on top of the bank we get more  
5 of the heavy wooded vegetation and shrubs and trees.  
6 Then the back lying lands are behind the top of the  
7 stream bank.

8                   We heard that the function of these  
9 riparian zones really are the filter. They can  
10 filter the sediments, the nutrients, the pathogens.  
11 They slow the water down, which is important also  
12 for the runoff. It has a bearing on the flood  
13 flows. It can retain and store the flood. It gives  
14 the streams an area to expand after runoff events,  
15 and that's a significant function of the riparian  
16 zones.

17                   As small watersheds undergo rapid  
18 urbanization and development we begin to have the --  
19 you have heard that the floodplain -- the 100 year  
20 floodplain changes, this is the result of that. As  
21 the riparian zones are lost, you are still getting  
22 the same amount of rainfall events, but the flood  
23 profile begins to change.

24                   This is why we're interested in it.  
25 The quality of the reservoirs is really a reflection

1 of the quality of the watersheds. The quality of  
2 the watersheds is a reflection of the quality of the  
3 riparian zone inside the watersheds.

4                   What we're doing is we're trying to  
5 focus on the quality of those riparian zones in the  
6 watersheds in an attempt to keep the -- I think Tom  
7 alluded to prevention, is to keep the stuff out of  
8 the reservoirs before it hits the reservoirs,  
9 because by the time it gets to the reservoirs, the  
10 reservoirs are having to simulate this waste and  
11 treat it, and that's a little bit late. You're  
12 behind the ball if it gets to that point.

13                   This is a muddy stream coming in from  
14 one of the watersheds. It's a headwater stream.  
15 It's in the South Holston. This is Southwest  
16 Virginia. So this is the head of the Tennessee  
17 River system. This is the South Fork Holston. This  
18 was not after a rainfall event. This just reflects  
19 the difference between these two watersheds and the  
20 development of these two watersheds.

21                   This is a much more intensive  
22 developed watershed. This is along I-81. It's very  
23 agricultural, a lot of development in it. This is  
24 more of a forested watershed. This is what we're  
25 talking about, the quality of the water coming out

1 of these watersheds is a direct relation of the land  
2 activities in those watersheds. It's important to  
3 us, and as we heard earlier, water supply, that  
4 there is a water supply that Bristol, Virginia, and  
5 Tennessee pulls out of the South Holston Lake. So  
6 it's a case of looking at the water supply related  
7 to the issues in the reservoir.

8                   Now, I'll move into -- just to kind  
9 of give you an overview of the Valley itself, this  
10 is a satellite image of the Tennessee Valley. The  
11 dark green areas are the forested areas in the  
12 Valley, that represents about 60 percent of the land  
13 covering the Valley.

14                   The yellowish color is where we have  
15 the agricultural areas in the Valley, that's  
16 pastures, crop land, and so forth.

17                   The red areas are the urban or barren  
18 lands, and things of that nature. The tri-cities up  
19 here. I have got to get my pointer right.  
20 Knoxville, Chattanooga, Huntsville, and water, water  
21 represents about four percent of the land area or --  
22 land area, water represents four percent of the  
23 coverage of the Tennessee Valley system.

24                   I mentioned that landscape is  
25 important to water quality. So what we did was we

1 overlaid the stream network. And I realize that  
2 this is a very faint image, but this is the veins of  
3 the Tennessee system. These are all the streams  
4 inside the Valley. That's 66,000 miles of squiggly  
5 lines in there.

6                   We overlaid the stream network on top  
7 of the satellite imagery to get an idea of how many  
8 miles of streams are passing through the forested  
9 landscapes and agricultural landscapes, and so  
10 forth. The breakdown is about 32,000 miles of that  
11 66,000 is really passing through forested  
12 watersheds. This is the forested buffers that Gerry  
13 referred to earlier. There is about 21,000 miles  
14 that's passing through agricultural lands and about  
15 1,000 miles that really goes through urbanized  
16 areas. Again, that's just to give you a quick  
17 overview of the status of it.

18                   Some of these activities that we're  
19 dealing with, you know, I mentioned that there was  
20 policy outreach and targeted projects, the shoreline  
21 management initiative or policy that TVA has is  
22 related to the residential developments along the  
23 shorelines, the reservoirs, that's where we want to  
24 maintain a 50-foot buffer. We allow the 20-foot  
25 access -- corridor access through that to the

1 water's edge. We will continue to permit docks and  
2 any existing facilities are going to stay permitted.

3                   The emphasis in this is voluntary  
4 conservation and incentives. We try to encourage  
5 those buffers and those vegetative management  
6 practices that would protect the wildlife, protect  
7 the scenic valleys and protect the water quality. I  
8 think the Council had a presentation on shoreline  
9 management previously, so I don't want to spend too  
10 much time on it.

11                   Some of the outreach efforts or  
12 activities that we have is a guide designed  
13 especially for the Tennessee Valley region. This is  
14 a CD. It's an interactive CD. Our staff, as well  
15 as the people that we give this CD out to, plug in  
16 what's the site conditions. Is it a shady site that  
17 you have? Is it a sunny site? Does it stay flooded  
18 long? Is it intermediate flooding? You punch in  
19 whatever the conditions are. You're cued to punch  
20 in your conditions for your site.

21                   The CD then will spit out the list of  
22 species appropriate for that site. These are all  
23 going to be native species to the Tennessee Valley.  
24 The concern here is that we don't want to introduce  
25 any exotics into the Valley in these riparian zones.

1 We want to try to use the things that are naturally  
2 occurring here.

3                   In addition to this technical guide,  
4 we have an outreach that is -- we give trees and  
5 shrubs away, native trees and shrubs away. This  
6 past year we gave away about 125,000 species of  
7 native plants and shrub. Eighty percent of those  
8 species are riparian species. And we use local  
9 groups to distribute these materials out to either  
10 the Boy Scouts or church groups, civic groups that  
11 are in local water districts Gerry referred to  
12 earlier, and that's all part of outreach materials.  
13 I think there was also a brochure that was given to  
14 you in your packet, that's another one of those  
15 outreach materials just trying to promote the use  
16 and benefits of riparian plants.

17                   I want to really get into some of the  
18 targeted projects that we use. I showed you the  
19 satellite imagery earlier, and Tom talked about some  
20 of the targeted water quality, impaired streams in  
21 the Tennessee Valley region. One of the tools we  
22 use to get at those non-point sources is low  
23 altitude infrared photography. So we're taking it  
24 from space and we're getting much closer to the  
25 earth so that we can begin to see things, where are

1 all these pollutants and sediments coming from in  
2 the watershed.

3                   You get used to looking at color  
4 infrared photography. This is not picking up  
5 thermal, by the way, this is just a trick on the  
6 eyes because you can pick up some of the signatures  
7 from the earth a lot easier with this photography.

8                   This was a pasture -- I mean, a  
9 hayfield. This was a road crop area. This was a  
10 subdivision, and there are failing septic tanks in  
11 there. A light industrial park. Transportation  
12 corridor. Transmission corridor. The shoreline,  
13 the public land, that's tied up in the trees.

14                   We use this photography really to  
15 capture the micro drainages and the riparian zones  
16 inside these watersheds, because these are the  
17 conduits to the reservoirs, these little small  
18 streams. We trace this up, and along here, that's  
19 the drain that's going up to that field. Well,  
20 that's covered with trees. So this stream has some  
21 pretty good riparian cover on it. In contrast to  
22 this drainage, there's no cover along that. That's  
23 poor vegetative cover. So anything that's running  
24 off that site is going to go straight into the  
25 stream.

1                   We use this photography to quantify  
2 the miles of stream bank that needs some kind of  
3 riparian help, and then we target where we put our  
4 money on the ground or where we try to get others to  
5 put their money on the ground. TVA doesn't put very  
6 much on there dollar-wise, but we do dovetail some  
7 of the programs Gerry talked about from USDA or that  
8 Tom referred to with EPA 319.

9                   These monies -- the USDA dollars and  
10 the EPA dollars do not come to TVA. Okay. These  
11 are dollars that go to the local coalitions that  
12 we're working with out there to put these things on  
13 the ground. A lot of time what we will do is TVA  
14 will step in with some seed money to enhance the  
15 delivery of those programs.

16                   And this was case in point. This was  
17 a watershed project in North Alabama. It's Big  
18 Nance. This is what the stream looked like prior to  
19 restoration. This is the stream bank after  
20 restoration. TVA's contributed about 80,000 in that  
21 watershed, but there's \$1,000,000 going in by other  
22 agencies. What was missing was this riparian zone  
23 piece. We couldn't get enough sign-up or the locals  
24 couldn't get enough sign-up. So we just simply  
25 stepped in and upped the conservation costs and

1 increased the participation in those watersheds.

2                   Eight and a half miles may not sound  
3 like much, but eight and a half miles of riparian  
4 restoration in a small watershed is a significant  
5 number, particularly when we're used to getting  
6 riparian zones getting measured by just hundreds or  
7 thousands of feet. So this is not a small  
8 achievement on the watershed. To date -- well, say  
9 since 1995, there have been 225 miles of stream  
10 banks and riparian restored in the Valley,  
11 throughout the Valley.

12                   The other emerging sector or area is  
13 this urban setting. Typically, unlike the  
14 agricultural setting where we have to try to take  
15 the lands out of private production or work with it  
16 to take it out of private production, it's more  
17 community based and community oriented. They're  
18 interested in recreational opportunities. It's  
19 greenways that are appealing to the community. It's  
20 educational outreach with the school system, and we  
21 found out that that's a very good partner with us on  
22 promoting riparian areas in watersheds.

23                   In some instances we were able to get  
24 by with bioengineering, and in some cases we have  
25 got to get up on the bank and really stabilize the

1 bank before we can put the vegetation in there and  
2 establish this corridor as Gerry was talking about  
3 earlier. Since '99 we have -- well, last year we  
4 had 20 of those community greenway assisted projects  
5 throughout the Valley.

6                   Where are we going? Well, one way to  
7 look at it is where have we been. This is what the  
8 Valley used to look like six decades ago. By then  
9 we were looking at eroded hillsides, poor, tired,  
10 agricultural lands. We forget what the Valley used  
11 to look like.

12                   I think the question was, are we  
13 making any progress? I think we can categorically  
14 say yes. This Valley doesn't look like this  
15 anymore. We can see it from space, 60 percent of  
16 the Valley is covered in trees, that's a good  
17 number. That's a good basis for us to work with as  
18 we go into the future.

19                   What's critical now is that zone.  
20 We're into trying to maintain that land water  
21 interface, that riparian area, because that is our  
22 first line of defense from a water quality  
23 perspective, is that we want to get there and  
24 protect that riparian zone.

25                   And we are -- again, to reinforce, we

1 are making some headway in that the emphasis has  
2 moved from the hills down to the water's edge, and  
3 that's a good place to be.

4 I think with that, I will open it up.

5 MR. JIM CREIGHTON: Any questions?  
6 Any questions for either of the last two presenters?  
7 I'm off for some reason. Any questions for the last  
8 two presenters? Whoever had the questions here  
9 about what TVA was doing, did that satisfy it?

10 MR. AL MANN: I asked that question,  
11 and I was satisfied.

12 MR. JIM CREIGHTON: Okay. Any  
13 others?

14 DR. STEPHEN SMITH: Frank, do you  
15 have an idea of how much more --

16 MR. FRANK SAGONA: My screen saver.  
17 I'm sorry.

18 DR. STEPHEN SMITH: How many more --  
19 I mean, you had talked about how many miles, 225 or  
20 something, that had been -- what's your projection  
21 on what is needed as far as a reasonable target for  
22 riparian restoration in the Tennessee Valley that  
23 should be a goal, something that we could grapple  
24 with as far as a recommendation or ideas as far as  
25 needed?

1                   MR. FRANK SAGONA: I don't know  
2 offhand. If we use the satellite imagery, it looks  
3 like maybe about a third of the streams. Well, let  
4 me back up.

5                   In the agricultural segment, which is  
6 21,000 miles of stream, typically what we're seeing  
7 in some of these aerial inventories is that maybe  
8 20 percent or 30 percent of those streams are,  
9 quote, really critical. So out of that 21,000 miles  
10 it would be perhaps 10, 12, something like that,  
11 then, of course, all the urban streams.

12                   The difference between the urban  
13 streams and the agricultural, in the agricultural  
14 setting we can make some difference. We can  
15 actually reclaim those zones and bring the function  
16 back. In the urban setting, it's as if once it's  
17 lost, it's lost, and there's only a certain amount  
18 of recovery that can be done to benefit the water.

19                   So while there's a big difference  
20 between the agricultural and the 21,000 miles versus  
21 the 1,000 miles, that 1,000 miles represents streams  
22 that perhaps once they are gone, they are gone, at  
23 least with current technologies.

24                   So there's an emphasis that we're  
25 trying to move into, how do we hold the line, you

1 know, and maybe protect those urban streams while  
2 making headway in the -- in a few years, you know,  
3 with the programs that USDA and EPA have, if we were  
4 to wait 10 or 15 years, most of the agricultural  
5 streams would be in good shape.

6 DR. STEPHEN SMITH: So you think  
7 there is programs under way that are safe that will  
8 continue to go?

9 MR. FRANK SAGONA: Yes.

10 DR. STEPHEN SMITH: I guess one of  
11 the other questions for either one of you, Frank or  
12 Gerry, is the -- I mean, has there been a good  
13 quantitation of the ancillary value associated with  
14 this, I mean, trying to sort of grapple with --  
15 because obviously you're spending money, you're --  
16 you saw in the Big Nance area that you had to up the  
17 conservation incentive in order to get a higher  
18 level of participation, and that obviously took some  
19 more money.

20 The question is: Is there a way to  
21 show sort of the cost benefit that is gained from,  
22 again, decreases in having to, you know, treat these  
23 waters, increase in water quality, increase in  
24 fishing and other things like that?

25 MR. FRANK SAGONA: We could do the

1 traditional economics on it. I think what I would  
2 like to do is relay a story I heard from a farmer up  
3 in Virginia that relates to the muddy waters coming  
4 out of Virginia because I think it illustrates that  
5 we might need to take a non-traditional view of  
6 economic analysis.

7                   The guy up there routinely accepted  
8 the loss of three or four head of cattle every  
9 winter by them going down to the water's edge and  
10 slipping on the icy slope, breaking a leg, and then  
11 he was having to shoot them, that was dairy cows,  
12 that's a tremendous economic -- that's production.  
13 He just routinely accepted that as the cost of doing  
14 business versus the \$1,500 it took to put up some  
15 fence and plant some trees on about 1,000 feet of  
16 stream.

17                   He recouped that cost. If you look  
18 at the fence and the trees versus the three or four  
19 head every winter, he recouped that cost in less  
20 than three years, but that's a different way of  
21 looking at environmental benefits and what we're  
22 traditionally taught, and I don't know how we're  
23 going to go about -- we need to work on that, factor  
24 that in somehow.

25                   MR. JIM CREIGHTON: Paul?

1 DR. PAUL TEAGUE: First of all, I  
2 would like to compliment the three last speakers on  
3 the way you presented this in a cooperative,  
4 voluntary, and incentive method, this I totally  
5 agree with. I was impressed with your shoreline  
6 management, if you will.

7 The area I come -- that I am from,  
8 EPA is synonymous with a three-headed water  
9 moccasin. And in my area, Roger knows about Rocky  
10 Top, EPA is synonymous with the revenue that went  
11 up on top of old Rocky Top and may never come down,  
12 so you people have a sales job on your hands, me  
13 included, because we look at EPA as a group of  
14 people that's going to come in and dictate how,  
15 where, what we are going to do as farmers, as  
16 country people up there.

17 So if you will enhance your image by  
18 the talk that you gave today and educate -- and more  
19 on education and continue to be voluntary with  
20 incentives, then you can be very, very effective.

21 Thank you.

22 MR. FRANK SAGONA: You know, I am  
23 kind of the young kid on the block, and one of the  
24 things I learned early on in working the non-point  
25 source and the agricultural sectors, and the

1 watersheds in particular, was to go back to the  
2 tradition of TVA in the early days, the 1930's and  
3 '40s.

4                   The trouble that the first employee  
5 must have had to try to convince someone to use  
6 fertilizers, as Kate said, and to plow along the  
7 contour, because that was not the standard way of  
8 farming, and it's no different now if we take that  
9 same kind of mindset approach. It's just a sales  
10 job, but it's getting the appropriate information  
11 right now into the hands of the farmers and  
12 landowners.

13                   DR. PAUL TEAGUE: There's no way that  
14 you can convince a country farmer if you go in  
15 demanding is my basic point, you will lose every  
16 time.

17                   MR. JIM CREIGHTON: Last questions or  
18 comments?

19                   Okay. Thank you very much.

20                   MAYOR EDDIE SMITH: We would like to  
21 thank all of our presenters for today. We think we  
22 have been very enlightened on all of the various  
23 subjects that you have done, and we appreciate that.  
24 We're down now to getting reports from the  
25 subcommittees, and we will ask Jim to facilitate

1 that and we will be trying to get out of here in a  
2 few minutes.

3 MR. JIM CREIGHTON: I think we have  
4 handled a lot of it, which was all the stuff about  
5 when the meetings are going to be, and so on.

6 Can I get just a quick briefing from  
7 the subcommittee chairs as to where you stand and  
8 what happens next?

9 Roger, do you want to kick us off?

10 SENATOR ROGER BEDFORD: We had a  
11 meeting last week, and it was very well attended  
12 here in Knoxville. We did some more consensus  
13 building. We also got a lot more comfortable with  
14 how the committee structure works. And we're going  
15 to, if it's all right with committee members, as per  
16 our earlier agreement, meet in room 404 for just a  
17 few minutes after this to schedule the next  
18 subcommittee meeting. Anybody else on the committee  
19 is welcome to add anything they would like to.

20 MR. JIM CREIGHTON: Steve, do you  
21 want to comment for water quality?

22 DR. STEPHEN SMITH: Yeah. We have  
23 had -- I guess we have had several meetings. We  
24 have got a very dynamic informed group of folks. A  
25 number of them are actually here because we're going

1 to be actually meeting tomorrow for a full day  
2 session on the water quality, and we're going to be  
3 focusing in a good part of tomorrow on the weeds --  
4 aquatic weed management issue, and that's hopefully  
5 what we will have a recommendation on for the folks  
6 the next time we get together.

7                   We are going through a fairly  
8 difficult process of prioritizing a number of very  
9 important issues associated with water quality, and  
10 we're going to try to tomorrow afternoon finalize a  
11 priority list of issues that we can try to grapple  
12 with in the time remaining. So it's a -- again, we  
13 have got a number of very qualified and educated  
14 folks on the committee. It's a good, ongoing  
15 discussion and education process, and we hope to  
16 have some stuff for the larger committee soon.

17                   MR. JIM CREIGHTON: Elaine?

18                   MS. ELAINE PATTERSON: Infrastructure  
19 committee, we're tentatively -- we're going to meet  
20 on the 28th next month, we're still going to try to  
21 do that, so we will work with our committee to  
22 finalize that date. So if anyone else has other  
23 meetings, the 28th is infrastructure.

24                   MR. PHIL COMER: November 28th.

25                   MS. ELAINE PATTERSON: November. We

1 had an interesting presentation today, you know,  
2 we're continuing to work on sort of just focusing in  
3 on our scope of work, being educated, and based on  
4 Tom's presentation today we also have another issue  
5 to look at as far as the navigation channel to learn  
6 more about that. It's going to be a couple of  
7 months before we have anything to bring to the  
8 Council.

9 MR. JIM CREIGHTON: Ann's not here.  
10 Anybody on --

11 DR. PAUL TEAGUE: Land management, we  
12 had a meeting -- our last meeting was in Nashville.  
13 We had a good turnout from our Council people, but  
14 we had very, very poor attendance, whether that was  
15 our fault or their fault or what, I don't know.

16 Originally we had planned to divide  
17 it up into four different segments. We have changed  
18 that, and we're going to have our next one and have  
19 a big one and let -- and try and invite everybody  
20 interested in land management, recreation,  
21 development, and personal property, and we hope to  
22 have some strong recommendations in February, no  
23 later than March.

24 MR. JIM CREIGHTON: Anything else  
25 that anybody needs to share to just keep everybody

1 abreast?

2 Austin?

3 MR. AUSTIN CARROLL: The fellow from  
4 America Outdoors, I think I heard you say, Jim, that  
5 we were going to invite him back to a Council  
6 meeting to make a more formal presentation, is that  
7 right?

8 MR. JIM CREIGHTON: One of the  
9 subcommittees had proposed having him for a more  
10 detailed presentation.

11 MR. AUSTIN CARROLL: Okay. Because I  
12 caught him outside, you know, and I told him I would  
13 like to hear a little bit more about that and  
14 included the, you know, downstream fisheries, and  
15 those kind of things. I don't think he's aware of  
16 it, so we need to -- if we're going to do that, we  
17 need to probably schedule him.

18 MR. JIM CREIGHTON: I think the idea  
19 was actually to also team him with a utility that's  
20 shaping its releases in an effort to encourage  
21 recreation, and so on.

22 MR. PHIL COMER: Jim, I might could  
23 arrange some more lake level input if you think the  
24 group is really ready for it.

25 MR. JIM CREIGHTON: I have a sense of

1     diminishing returns.

2                     DR. STEPHEN SMITH: I think they're  
3     welcome to come on the 29th of November.

4                     MR. JIM CREIGHTON: So we will need  
5     to reschedule.

6                     MAYOR EDDIE SMITH: Okay. We have  
7     probably one more -- a couple of other things, and  
8     then we will be finished, unless some other members  
9     have anything else, other than what have heard so  
10    far.

11                    Any other concerns?

12                    I want to make one announcement.

13                    MR. LEE BAKER: At some point I would  
14    like to bring up an issue, it does not have to be  
15    now, but before we get away I have one issue I would  
16    like to address with the Chair.

17                    MAYOR EDDIE SMITH: Okay. Let me do  
18    this. We do have a letter of resignation from Bob  
19    Methany, and we regret that you are having to leave  
20    us, but we appreciate the work that you have done  
21    with us. We understand your situation.

22                    And he comes from the TVPPA, and we  
23    have -- TVPPA has recommended a replacement for him,  
24    and he's been here with us today, that's Carl  
25    Dudley.

1                   Would you stand so everybody can see  
2 who you are?

3                   Of course, that would depend on the  
4 TVA's board's decision as to whether he's appointed  
5 or not, but at least he's being recommended by  
6 TVPPA.

7                   SENATOR ROGER BEDFORD: Mr. Chairman,  
8 let's give Bob a hand for the good job he's done.

9                   MAYOR EDDIE SMITH: Okay. Lee?

10                  MR. LEE BAKER: Yes, Mr. Chairman.  
11 Somewhat along that same line, being one of the  
12 distributors from TVPPA, and I wasn't aware that Bob  
13 was going to step down, but also being a  
14 representative of Tennessee, I have some concern  
15 that one of my fellow distributor managers has not  
16 been able to attend. I have not talked to him, but  
17 I just wanted to broach the subject.

18                  It seems we're within a critical  
19 nature of everything, and certainly Tennessee is a  
20 large part of what this watershed is about, and I  
21 have some concern that Mr. Morris is unable to  
22 attend and has not been able to attend. It seems to  
23 me a lot of things are being discussed and talked  
24 about that Tennessee needs to be represented to its  
25 fullest.

1                   I personally would like to see a  
2 distributor, but I understand he was not a part of  
3 TVPPA's appointment, he was part of the Governor's.  
4 So I certainly would wonder where we might go with  
5 this, because that's a representation of the State  
6 of Tennessee that's not being fulfilled, and if I'm  
7 going to stand here and be beat over the head by  
8 some of the special interests, I would like some  
9 help.

10                   MAYOR EDDIE SMITH: I talked with  
11 Mr. Morris about this. I talked with him when I saw  
12 him in Memphis not long ago, and that was just  
13 before we had our last meeting, and he had a meeting  
14 of his board on the same day that we had that last  
15 meeting, and he assured me he was going to make the  
16 rest of the meetings but he's not here today. So I  
17 don't know, but that's what he had indicated to me  
18 when I talked with him about his attendance. I told  
19 him there was some concern about his attendance.

20                   MR. LEE BAKER: In terms of  
21 procedure, when and what happens, you know? I don't  
22 think he's been but to one, has he?

23                   MS. KATE JACKSON: I guess I will  
24 address it, and then I will let the lawyer correct  
25 me. I guess my recommendation would be if the

1 Council has a consensus around the fact that there  
2 is a concern, particularly as you say, looking that  
3 Tennessee has a big stake in this and it would be  
4 nice to have a Tennessee person who's kind of  
5 bringing the Governor's issues to this room, I would  
6 suggest that you would recommend to TVA that we send  
7 some information either from the Chair or from TVA  
8 saying that the Council is concerned to the  
9 Governor's office and let him think about should he  
10 call up Mr. Morris and say, you have got to be here,  
11 or contemplate an alternative.

12 MR. LEE BAKER: I would certainly be  
13 willing to advance that recommendation. I'm not  
14 even sure if the Governor understands that he's not  
15 being properly represented, but --

16 MS. JULIE HARDIN: I have some  
17 problems going to the Governor over Mr. Morris'  
18 head. I would say let's go directly to Mr. Morris.

19 MR. LEE BAKER: I thought that's what  
20 he had done.

21 MS. JULIE HARDIN: Oh, you've tried  
22 that.

23 MAYOR EDDIE SMITH: I talked with him  
24 about it, and he assured me would be at the future  
25 meetings. I don't know what happened today.

1                   Did anybody hear from him when you  
2 sent off to --

3                   DR. KATE JACKSON: Yes.

4                   MAYOR EDDIE SMITH: What was his  
5 excuse this time?

6                   DR. KATE JACKSON: He couldn't come  
7 here. He just couldn't be here.

8                   MAYOR EDDIE SMITH: Okay.

9                   MS. JULIE HARDIN: He might be  
10 relieved and he might take the step that Bob took,  
11 maybe he needs to be offered a choice, could he help  
12 us find somebody else in West Tennessee with the  
13 Governor's approval.

14                  MR. LEE BAKER: Preferably a  
15 distributor.

16                  MS. JULIE HARDIN: And give this man  
17 some calm, some relief.

18                  DR. KATE JACKSON: Well, let me just  
19 offer, as I have watched the political process, it  
20 would be hard for a Governor's appointee go back to  
21 the Governor and say, I don't have time to do what  
22 you asked me to do, so my suggestion would be that  
23 we ask the Governor, because it is your consensus,  
24 that it is so important to have somebody  
25 representing the Governor here.

1 DR. PAUL TEAGUE: I would like to  
2 join with Julie on this and say before we do --

3 MS. KATE JACKSON: I don't think I  
4 can handle that.

5 DR. PAUL TEAGUE: That our chairman  
6 ask him one more time and tell him our concerns and  
7 let him know that we're concerned as a group. I  
8 really don't think you should go, as you said, over  
9 his head until he says that he's doesn't want to.

10 MS. JULIE HARDIN: Did you address  
11 him as our Chair, Mayor, or as all the Council have  
12 directed me to ask you --

13 MAYOR EDDIE SMITH: I asked him from  
14 the point of view that the Council members were  
15 concerned about his attendance and that I was too as  
16 the Chair, and that's the way I approached it. It  
17 may be that we may want to see if he has a  
18 recommendation or something, I don't know, but --

19 DR. STEPHEN SMITH: Should we  
20 formally write him a letter? I mean, I guess it was  
21 an informal conversation.

22 MAYOR EDDIE SMITH: Yeah, because we  
23 were actually at another meeting, we were at a  
24 reception, and I just talked with him casually about  
25 it.

1 DR. STEPHEN SMITH: Maybe a letter  
2 officially from the Council might sort of stimulate  
3 him to take a position one way or the other.

4 MR. PHIL COMER: I would agree with  
5 Julie and Paul Teague that, Mayor Smith, if you  
6 would agree, rather than write a letter, that's sort  
7 of formal, but after this kind of discussion you  
8 could have another discussion with him to let him  
9 know that it has been discussed and, you know, it's  
10 a fairly serious feeling rather than go to the  
11 Governor directly or write a letter, let's try one  
12 more time. That's a pretty touchy matter really.

13 MR. LEE BAKER: Well, assuming that  
14 the Chair would and could do that, which I am sure  
15 you could, could we also agree that if the response  
16 was, well, you know, I might do it or might not do  
17 it, could the Chair be authorized to go ahead and  
18 take the next step instead of us waiting until  
19 January to talk about it again? If the response is  
20 not positive, yeah, then write the letter.

21 MAYOR EDDIE SMITH: In light --

22 MR. LEE BAKER: Then take whatever  
23 steps is necessary, up to and including forwarding  
24 to the Governor that we recommend a replacement.

25 MR. PHIL COMER: Rather than waste

1 three more months.

2 DR. STEPHEN SMITH: That's what I was  
3 assuming, since the Chair has already approached him  
4 verbally in sort of an informal way and was sort of  
5 given a, yeah, I will do it, but then hasn't been  
6 able to do it, that we have already sort of gone  
7 there and --

8 MR. PHIL COMER: Well, I think Lee's  
9 suggestion covers both basis, try one more time and  
10 then move on rather than waste three more months.

11 MAYOR EDDIE SMITH: Let me see if we  
12 have got a consensus, that I will approach him again  
13 and let him know that he needs to be here, and if he  
14 does not give me a favorable response, then we will  
15 go ahead and write the letter or have TVA write the  
16 letter.

17 MS. JULIE HARDIN: With a copy to the  
18 Governor?

19 MAYOR EDDIE SMITH: I guess that's  
20 what I am saying, either we make a recommendation to  
21 TVA and then have TVA make the necessary contact.  
22 That's what my letter, I think, would do to TVA, and  
23 then they in turn would make the recommendation. If  
24 that's a consensus, we will do that.

25 MR. LEE BAKER: He may be just

1 looking for a polite way out and you could give him  
2 that.

3                   MAYOR EDDIE SMITH: He did indicate  
4 he was going to be, you know, attending.

5                   MR. LEE BAKER: It's time to show the  
6 coons and not talk about the coon dogs.

7                   MR. JIM CREIGHTON: I just wanted  
8 to -- I didn't want to start a precedence of getting  
9 comments from non-council members, but there has  
10 been some communication from citizens groups to the  
11 Governor's Office about some dissatisfaction about  
12 that, and apparently -- at least certain levels of  
13 the Governor's office are aware that there's an  
14 issue, but I think the procedure you have has  
15 outlined --

16                   MR. LEE BAKER: I would personally  
17 like him here, is what I would like. I would like  
18 him to be here very much.

19                   MAYOR EDDIE SMITH: We will do that,  
20 if that's agreeable.

21                   SENATOR ROGER BEDFORD: Mr. Chairman,  
22 if it's the consensus of the group, just sort of as  
23 a follow-up, that if the new person was the  
24 Governor's choice, I would like to -- if the Council  
25 is in consensus, we go ahead and authorize you to

1 immediately forward him copies of the minutes of the  
2 meetings, because if it's somebody new they are  
3 going to have to do some homework to get up to  
4 speed, and they have got time to do that before the  
5 January meeting if they have the material.

6 MS. JULIE HARDIN: Over the holidays.

7 DR. KATE JACKSON: I think what we  
8 would do is probably -- just as we will need to do  
9 with Mr. Dudley, provide him lots of information,  
10 and have whoever that is, if this happens, have an  
11 opportunity to get into the field, to see the  
12 forecast center, to get up and down the system a  
13 little bit to really get some perspective on what  
14 the issues might be, and, of course, the transcripts  
15 and all the materials and everybody's telephone  
16 numbers.

17 MR. PHIL COMER: I would volunteer to  
18 meet with him privately on lake levels.

19 MR. LEE BAKER: I would oppose that.

20 SENATOR ROGER BEDFORD: Will you be  
21 dressed in blue?

22 MR. JIM CREIGHTON: We're trying to  
23 get people on to the committee, Phil.

24 DR. PAUL TEAGUE: Mr. Chairman, I  
25 would like to reiterate to Mr. Morris that we want

1 him. He's the biggest distributor or buyer or  
2 whatever you want to call him in the whole system,  
3 and so if you would, reinforce that we want him, but  
4 if he's not going to serve, then we want someone  
5 else.

6                   MAYOR EDDIE SMITH: I will certainly  
7 agree with you on that and will tactfully try to  
8 make sure he understands that.

9                   Anything else?

10                   MR. BOB METHANY: Mr. Chairman, I  
11 would just like to say I appreciate the opportunity  
12 that the Council and TVA has given me. I apologize  
13 for not being able to be present as much as I wanted  
14 to, but I am proud that Carl will probably be  
15 replacing me. I think Carl will quickly get up to  
16 speed and I think do an excellent job. I appreciate  
17 everybody's professional and personal relationships,  
18 and thank you and good luck.

19                   MAYOR EDDIE SMITH: Thank you. Okay.  
20 And if there's not anything else, the next meeting  
21 is January 18th, is that right?

22                   MR. JIM CREIGHTON: Yeah.

23                   MAYOR EDDIE SMITH: Possibly in  
24 Mississippi.

25                   DR. PAUL TEAGUE: No, March in

1 Mississippi.

2                           MAYOR EDDIE SMITH: All right.

3 January in Nashville.

4                           DR. PAUL TEAGUE: We want a catfish  
5 dinner, too.

6                           MAYOR EDDIE SMITH: We might take you  
7 to the casino. Thank you.

8                           END OF PROCEEDINGS

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REPORTER'S CERTIFICATE

STATE OF TENNESSEE        )  
                                  : SS.  
                                  )

I, Kimberly J. Nixon, RPR, the officer before whom the foregoing cause was taken, do hereby certify that the persons whose testimony appear in the foregoing transcript were duly sworn, and that the testimony of said persons was taken by me in machine shorthand, and thereafter reduced to typewriting by me;

That the exhibits annexed to this transcript are the true, accurate and only exhibits introduced, and that the transcript was prepared under my supervision, and attached to this certificate is a true, accurate and complete transcript, as provided by law;

That we are neither counsel for, related to, nor employed by any of the parties to this action; and we further certify that we are not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action; and that the foregoing transcript is complete and accurate in all particulars, as provided by law.

In witness whereof, I have hereunto set my hand this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

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KIMBERLY J. NIXON, RPR  
NOTARY PUBLIC IN AND FOR THE  
STATE OF TENNESSEE AT LARGE.  
MY COMMISSION EXPIRES APRIL 9,  
2000.

