Exhibit No: Witness: Sponsoring Party: Type of Exhibit: Case No: Date Testimony Prepared:

102

Michael Rahrer Union Electric Co. Deposition ER-2007-0002 January 16, 2007

Date 3-16-07 Case No. 102

Reporter ×

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FILED³ APR 16 2007 APR 16 2007 Missouri Public Service Commission

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BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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In the MATTER OF UNION ELECTRIC) COMPANY d/b/a AMERENUE for) AUTHORITY to FILE TARIFFS INCREASING) Case No. ER-2007-0002 RATES for ELECTRIC SERVICE PROVIDED) to CUSTOMERS in the COMPANY'S) MISSOURI SERVICE AREA.)

> DEPOSITION OF MICHAEL RAHRER January 16, 2007

Sheryl A. Pautler, CCR 871

Page 1

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	Page 2	·	Page 4
1	QUESTIONS BY: PAGE NO.	1 2	A P P E A R A N C E S For the Staff of Missouri Public Service
2	Mr. Lowery 5	3	Commission:
3 4	Mr. Dottheim 168		Mr. Steven Dottheim
5	INDEX OF EXHIBITS	4	Chief Deputy General Counsel 200 Madison Street
6	EXHIBIT PAGE MKD.	5	Suite 800 Jefferson City, Missouri 65102-0360
	NO.	6 7	573-751-7489
7	1 Drietout of a maile 22		For the Union Electric Company d/b/a AmerenUE:
8 9	1Printout of e-mails.322Work papers.44	8	Mr. James B. Lowery
10	3 Mr. Finnell's testimony. 67	9	Smith Lewis, LLP 111 South Ninth Street
11	4 Result for Ameren benchmark run. 85	10	Suite 200 Columbia, Missouri 65205-0918
12	5 String of e-mails and documents. 90	11 12	573-443-3141
13	(Whereupon the exhibits were attached to the original and copies.)		The Court Reporter:
14	copies.)	13	Ms. Sheryi Pautler
15		14	Midwest Litigation Services 711 North Eleventh Street
16		15	St. Louis, Missouri 63101 314-644-2191
17	×	16 17	
19		18	Also present: Mr. John Cassidy
20		19	Mr. Tim Finnell Mr. David Queenson
21		20	Mr. Brian Collins Mr. Leon Bender
22		21 22	
23		23 24	
25		25	
	Page 3		Page 5
1	BEFORE THE PUBLIC SERVICE COMMISSION	1	IT IS HEREBY STIPULATED AND AGREED, by and
	OF THE STATE OF MISSOURI	2	between counsel, that the deposition of MICHAEL RAHRER may
2	In the MATTER OF UNION ELECTRIC)	3	be taken in shorthand by Sheryl A. Pautler, a notary public
3	COMPANY d/b/a AMERENUE for)	4	and shorthand reporter, and afterwards transcribed into
١.	AUTHORITY to FILE TARIFFS INCREASING) Case No. ER-2007-002	5	typewriting; and the signature of the witness is expressly
4	RATES for ELECTRIC SERVICE PROVIDED) to CUSTOMERS in the COMPANY'S)	6 7	reserved.
5	MISSOURI SERVICE AREA,)	8	MICHAEL RAHRER,
6		9	of lawful age, being produced, sworn and examined,
78	DEPOSITION OF WITNESS, MICHAEL RAHRER, produced, sworn, and examined on the 16th day of January,	10	deposes and says:
9	2007, between the hours of eight o'clock in the forenoon	11	[EXAMINATION]
10	and one o'clock in the afternoon of that day, at AmerenUE	12	QUESTIONS BY MR. LOWERY:
11	1901 Chouteau Avenue, St. Louis, Missouri, before SHERYL A. PAUTLER, a Notary Public and Certified Court Reporter	13	Q. Good morning, Mr. Rahrer. My name's Jim
13	within and for the State of Missouri, in a certain cause	14 15	Lowery. I'm an attorney representing AmerenUE and I'll be
14	now pending before the Public Service Commission in the	16	asking you questions this morning. Have you ever been deposed before?
15	State of Missouri, in the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing	17	A. No. This is the first time.
17	Rates for Electric Service Provided to Customers in the	18	Q. Okay. Well, let me go over a few ground rules
18	Company's Missouri Service Area.	19	or guidelines just to try to make the deposition go more
19 20		20	smoothly since you haven't been deposed before in
21		21	particular.
22		22	Obviously there's a court reporter here.
23		23 24	She'll be taking down all my questions and all of your answers. So no nodding your head or shaking your head.
25		24	You need to verbalize your responses because she can't take
<u>ــــــــــــــــــــــــــــــــــــ</u>		20	Tou need to verbalize your responses because she call take

2 (Pages 2 to 5)

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Fax: 314.644.1334

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	Page 6		Page 8	
1	down the non-verbal responses.	1	A. It was Lena Mantle. I'm pretty sure that's	
2	I'll try not to talk over you if you'll try	2	who it was.	70.00
3	not to talk over me so she can clearly make a good record	3	Q. Did you know Lena Mantle before she contacted	1
4	of the deposition.	4	you?	,
5	Mr. Dottheim may have an occasion to object to	5	A. Yes, I've met her before.	-0 -0-
6	a question that I ask. And if he does, he can lodge his	6	Q. Can you tell me how you knew her and what	
7	objection, but you would still answer the question. The	7	interactions you might have had before she contacted you i	ń
8	objection is just noted for the record if there was	8	September/October of '06?	ç
9	something we needed to take up with the judge later. But	9	A. The Staff has used the model that my company	ĺ.
10	you go ahead and answer the question anyway.	10	sells, RealTime, for many years, maybe ten years. So in	Ľ
11	You're not taking any medication that would	11	the process of working with Leon Bender and Dave Elliot d	f
12	interfere with your ability to understand my questions or	12	Staff, just being in the room, I've met her several times.	Ê
13	give truthful answers?	13	She introduced herself. I've never really done any	
14	A. No.	14	directed work for her, per se.	4 ' - 4 F VI
15	Q. No other reason that you know of that would	15	Q. And earlier interactions you've had with the	ŀ
16	interfere with your ability to understand my questions or	16	Staff, Ms. Mantle was not really involved in the production	+
17	give truthful answers to my questions?	17	cost modeling aspects of that per se, at least as far as	Å.
18	A. No.	18	you knew?	ŀ
19	Q. Okay. It's certainly possible I may ask you a	19	A. That's right.	1
20	question that you don't understand. And if I do, please	20	Q. Do you know why she was contacting you as	***
21	tell me. I'll try to rephrase and clarify the question.	21	opposed to Mr. Bender for example?	Avve v
22	There will be some aspects of this you'll know more abour		A. I always assumed she was the boss, but I don't	
23	than I will. So I may ask a question that just doesn't	23	know.	1
24	make sense, so just tell me that and I'll try to rephrase	24	Q. Okay. What did When she contacted you, did	ŝ.
25		25	she contact you by phone?	100 million - 14
				11111
_	Page 7		Page 9	C
1	deposition.	1	A. It might have been e-mail or phone. It might	14
2	A couple of definitional items. When I refer	2	have been an e-mail to call her. I don't remember.	ľ
3	to the benchmark run and I know you probably did various	3	Q. Okay. When she contacted you, what was the	564.
4	iterations of the benchmark run. But when I refer to the	4	substance of the conversation, what did she ask you to do	Ê
5	benchmark run without qualification, I'm talking about the	5	or what did she indicate to you was the purpose of her	12.2
6	benchmark run that you talk about in your direct testimony,	6	contact?	İ.
7	the one that's actually used for the basis of your direct	7	A. She wanted to know if I was interested in	
8	testimony. Do you understand that? A. Yes.	8 9	doing the runs for a rate case.	Ē
	A YPS	* 4		٩.,
9		1	Q. Have you ever been asked to run a production	1
10	Q. And when I say Staff model run, I'll be	10	cost model for the purpose of filing testimony in a utility	- m -
10 11	Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct	10 11	cost model for the purpose of filing testimony in a utility rate case before?	
10 11 12	Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som	10 11 el2	cost model for the purpose of filing testimony in a utility rate case before? A. Well, not for Staff. I used to work with a	101 - 11 - 11 - 101 T
10 11 12 13	Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay?	10 11 el2 13	cost model for the purpose of filing testimony in a utility rate case before?A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and	
10 11 12 13 14	 Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay? A. Yes. 	10 11 el2 13 14	cost model for the purpose of filing testimony in a utility rate case before?A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and might have made some runs for him, but I don't remember	
10 11 12 13 14 15	 Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay? A. Yes. Q. Now, the principal subject of your direct 	10 11 el2 13 14 15	cost model for the purpose of filing testimony in a utility rate case before? A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and might have made some runs for him, but I don't remember That was ten years ago.	
10 11 12 13 14 15 16	 Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay? A. Yes. Q. Now, the principal subject of your direct testimony is to explain Staff's production cost modeling in 	10 11 e12 13 14 15 16	 cost model for the purpose of filing testimony in a utility rate case before? A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and might have made some runs for him, but I don't remember That was ten years ago. Q. But you've never before been, in effect, if I 	
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10 11 12 13 14 15 16 17 18 19 20 21 22	 Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay? A. Yes. Q. Now, the principal subject of your direct testimony is to explain Staff's production cost modeling in this case, right? A. Yes. Q. Okay. When were you contacted by the Staff to begin to work on this case? A. I don't remember. I believe it was in September or October, something like that. 	10 11 el2 13 14 15 16 17 18 19 20 21 22	 cost model for the purpose of filing testimony in a utility rate case before? A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and might have made some runs for him, but I don't remember That was ten years ago. Q. But you've never before been, in effect, if I can characterize it this way, the principal sponsor of a production cost modeling result to be utilized in a rate case for a utility; is that fair? A. That's correct, yes. Q. What did What information did Ms. Mantle give you when she asked you if you would be interested it 	
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10 11 12 13 14 15 16 17 18 19 20 21 22	 Q. And when I say Staff model run, I'll be talking about the one that's actually used in your direct testimony, although I understand you've probably done som other runs at various points in time. Okay? A. Yes. Q. Now, the principal subject of your direct testimony is to explain Staff's production cost modeling in this case, right? A. Yes. Q. Okay. When were you contacted by the Staff to begin to work on this case? A. I don't remember. I believe it was in September or October, something like that. 	10 11 el2 13 14 15 16 17 18 19 20 21 22	 cost model for the purpose of filing testimony in a utility rate case before? A. Well, not for Staff. I used to work with a guy that did some testimony in a case in Nova Scotia and might have made some runs for him, but I don't remember That was ten years ago. Q. But you've never before been, in effect, if I can characterize it this way, the principal sponsor of a production cost modeling result to be utilized in a rate case for a utility; is that fair? A. That's correct, yes. Q. What did What information did Ms. Mantle give you when she asked you if you would be interested it 	

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1 because I had to see how ii fit in with the rest of my 1 any. 2 schedule. That was essentially it. And a few weeks later, 2 P. 3 she contacted me and we got a contract to do the work. Bud 4 at the time, all was really interested in is when it was 5 dec. Q. So you were willing to do the work as long as 6 Q. So you were willing to do the work as long as Kinds of things at that time? 7 A. Itodi them I needed the data and they sent 8 A. Yes. C. What questions did you have for her at that 9 Q. What questions did you have for her at that C. Min from Tim. 10 time other than what was the schedule, what are the due To 11 deres? A. At that time, I don't think I had any 12 A. At that imm, I don't think I had any The most of them. So I assume that where hey come. 14 A. Yes. A hot of them had the letters DR in Front of them. So I assume that was a CD that I 15 There was a CD and I. Think hand any The was a CD and I. Think hand any 16 New was and you contact and the letters DR in Front of them. So I assume that where hey contact and the 16 New was and the letters DR		Page 10		Page -12
2 c. Q. All right. So you were contacted by maybe 3 she contacted me and we got a contract to do the work. Bard M. Bender, maybe Ms. Mantle was involved. You got the 4 at the time, all I was really interested in is when it was Bender, maybe Ms. Mantle was involved. You got the 5 due. Contract finalized. You were whiling to do the work as long as 6 Q. So you were willing to do the work as long as Sinds of things at that time? 7 it fin into your schedule? A. It told them I needed the data and the ysent 9 Q. What questions did you have for her at that Contract finalized. You were what signed the contract and signed the contreat finalized. You were with a sind wind wore	1	because I had to see how it fit in with the rest of my	1	any
3 she contracted me and we got a contract to do the work. But a the time, all I was really interested in is when it was do de. Mr. Bender, maybe Ms. Mantle was involved. You got the do the work. Did you discuss parameters, information about the case, those discusses disc				
4 athe time, all I was really interested in is when it was 5 due, 6 Q. So you were willing to do the work as long as 7 if fit into your schedule? 8 A. Yes. 9 Q. What questions did you have for her at that 10 time other than what was the schedule, what are the deu 11 dates? 2 A. At that time, I don't think I had any 13 questions for her. 14 Q. What do you charge for your work? 15 A. S75 an hour. It's a bargain. 16 Q. That is a bargain. 17 Have you esscutially - have you told me the 18 wesstonace of your initial contacts and conversations with 19 Ms. Mantle? 10 Ms. Mantle? 11 New have seening, I don't member, but at the 12 A. Once again, I don't member, but at the 14 A. Once again, I don't member, but at the 15 they take hydrog generation. 16 they have, hydrog generation. 17 Timed out. 18 On off it was going to happen or not. It may have beenet Leen 1 <td></td> <td></td> <td></td> <td></td>				
5 due, Q. So you were willing to do the work as long as $\frac{5}{10}$ you discuss parameters, information about the case, those $\frac{6}{10}$ M. So you were willing to do the work as long as $\frac{5}{10}$ with a substance of your sinched layer in the substance of your thirk land any $\frac{12}{10}$ A. At that time, I don't think I had any $\frac{12}{10}$ A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. At that time, I don't think I had any $\frac{12}{10}$ with A. Stys an hour. It's a bargain. $\frac{11}{10}$ that is a bargain. $\frac{11}{10}$ there was a C and -1 think mobility it was a C that I if a substance of your initial contacts and conversations with a substance of your initial contact you had the way to use any particular questions for them $\frac{12}{20}$ When was when was your next contact with $\frac{12}{20}$ W. When was when was your next contact with $\frac{12}{20}$ with A. Shantle? $\frac{12}{20}$ W. When was when was your next contact with $\frac{12}{20}$ they told me it had been a week or so. So I didn't ere. $\frac{12}{20}$ What sub some a week or so. So I didn't ere. $\frac{12}{20}$ With a contract with a list of things that would be dono, deposition, testimony, the running of the models, those $\frac{1}{10}$ with A. Sets the contract with a list of things that would be donow $\frac{1}{20}$ What sub scope of the work? Do you understand what the secope of the work? Do you understand what the secope of the work? Do you understand what the secope of the work? Do you understand what the secope of the work? Do you understand what the forwise the trans and the secope of the work? Do you understand what the forwise the provide that. I did not treere it the subst				
6 Xo you were willing to do the work as long as it fit into your schedule? 6 kinds of things at that time? 8 A. Yes. 7 A. I told them 1 needed the data and they sent 9 Q. What questions did you have for her at that 9 confidentiality thing, they started sending me data, 1 11 dates? 10 think from Tim. 10 12 A. At that time, I don't think I had any 12 about, I guess, data request responses and perhaps work 13 questions for her. 14 Q. What go you charge for your work? 14 A. Yes. 16 M. Toid Mark mostly it was a CD that I 17 Free was a CD and - 1 think mostly it was a CD that I 17 Have you essentially - have you told me the 15 Font of them. So I assume that's where they came from. 18 Q. When was - when was your next contact with 18 Q. or did you just say I need the data necessary to run the 21 Q. When was - when was your next contact with 21 A. Wels. When was - when was your next contact with 23 Staff and with whom beyond that initial contact you had 19 D, or did you just say I need the data necessary to run the 24 A. Once again, I don't memmber, but at the - 2				
7 if time your schedule? 7 A. Itold them Ineeded the data and they sent I 8 A. Yes. 7 A. Itold them Ineeded the data and they sent I 9 Q. What questions did you have for her at that 7 M. Itold them Ineeded the data and they sent I 10 time other than what was the schedule, what are the due 7 M. Itold them Ineeded the data and they sent I 10 time other than what was the schedule, what are the due 7 M. Itold them Ineeded the data and they sent I 10 think from Tim. 9 Sobati I guess, data request responses and perhaps work 11 questions for her. 12 about, I guess, data request responses and perhaps work 12 about, I guess, data request responses and perhaps work 13 14 Q. What do you charge for your work? 14 A. Yes. A lot of them had the letters DR in 15 front of them. Ineed fuel coat. 16 Q. Did you specify to Staff, I need A, B, C, and 19 Ms. Mantle? Q. What was any anticular questions for them. 17 24 A. Once again, I don't remember, but at the - 25 Q. Did you specify to Staff, I need A, B, C, and 19 No if it was going to happen or not. It may have been Leon		1	-	
8 A. Yes. 8 me - as soon as we had signed the contract and signed the cont			-	
9 Q. What questions did you have for her at that 9 confidentiality thing, they started sending me data, 1 10 time other than what was the schedule, what are the dut 10 11 time other than what was the schedule, what are the dut 10 12 A. At that time, I don't think I had any Q. When you say data from Tim, you're talking 12 about, I guess, data request responses and perhaps work 13 questions for her. 13 14 Q. What do you charge for your work? 14 15 A. Yes. A lot of them had the letters DR in 16 Q. That is a bargain. 16 17 Have you essentially - have you lold me the 13 18 substance of your initial contacts and conversations with 18 Q. Did you specify to Staff, I need A, B, C, and 19 Ms. Mantle? 2 D, or did you just say I need the data necessary tor un the 20 A. Yes. Mantel whom beyond that initial contact you had 2 Tim gave them on that CD. But, yes, I told them clearly 23 Staff and with whom beyond that initial contact with a list of things that would be done, 2 Did you uave any particular questions for them 24 A. Once again, I don't remember exa		-		
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 10 mean by that term? 11 A. Yes. To make all the runs that the Staff 12 needed to support their case. And to provide, you know, 13 testimony, deposition if necessary, you know. 14 Q. And just all on, if I can use this phrase, on 15 a time and materials kind of basis; whatever time you 16 spend, you charge \$75 and that's how it will work? 17 A. Probably with a ceiling, yes. I 18 underestimated some of the cost or some of the time 19 involved. 10 ever given in a regulatory proceeding? 11 A. Right. Written testimony. 12 Q. Have you given verbal testimony? 13 A. No. 14 Q. And that testimony was fairly limited in that 15 case. I believe it was limited to a particular narrow 16 issue on surrebuttal, if I remember correctly? 17 A. I think I provided that. I did not reread it. 18 underestimated some of the cost or some of the time 19 involved. 20 Q. So you sort of gave them a lump estimate as 21 well and you're going to stick to that lump estimate? 22 A. Yes. 	8		8	
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19involved.20Q. So you sort of gave them a lump estimate as21well and you're going to stick to that lump estimate?22A. Yes.21Yes.22A. Yes.23Yes.24Yes.25Yes.26Yes.27Yes.28Yes.29Yes.20Yes.20Yes.21Yes.22Yes.23Yes.24Yes.25Yes.26Yes.27Yes.28Yes.29Yes.20Yes.20Yes.21Yes.22Yes.23Yes.24Yes.25Yes.26Yes.27Yes.28Yes.29Yes.20Yes.20Yes.21Yes.22Yes.23Yes.24Yes.25Yes.26Yes.27Yes.28Yes.29Yes.29Yes.20Yes.20Yes.21Yes.22Yes.23Yes.24Yes.25Yes.26Yes.27Yes.28Yes.29Yes.29Yes				A. I think I provided that. I did not reread it.
20Q. So you sort of gave them a lump estimate as 21 well and you're going to stick to that lump estimate?20it's in here somewhere or I've already given it to you.21Well and you're going to stick to that lump estimate?21Q. Did you discuss with Staff either around the 2222A. Yes.21Utime of your initial engagement or at any time since then	18	underestimated some of the cost or some of the time	18	That was before I was on the electronic system. I got a
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21 well and you're going to stick to that lump estimate?21Q. Did you discuss with Staff either around the22A. Yes.21time of your initial engagement or at any time since then	r			it's in here somewhere or I've already given it to you.
		well and you're going to stick to that lump estimate?		Q. Did you discuss with Staff either around the
23 Q. What was that? [23] whether Staff had done some modeling related to this rate		A. Yes.	22	time of your initial engagement or at any time since then
		Q. What was that?	23	whether Staff had done some modeling related to this rate
A. 280 hours, which I think when you use your 24 case before they engaged you?				
25 calculator, it's about \$21,000, plus travel expenses if 25 A. No.	25	calculator, it's about \$21,000, plus travel expenses if	25	<u>A. No.</u>

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Page 16 Page 14 O. And you understand there's a difference Q. You don't know whether they have or they 1 1 between Ameren and AmerenUE, correct? 2 2 haven't? 3 A. No, I didn't know that. A. I don't know whether they have or not. I did 3 Q. All right. Ameren is the holding company that 4 ask if they had created a RealTime model for this. I don't 4 owns Union Electric which is a subsidiary of Ameren. 5 5 recall their answer, but I think they said the last case 6 A. All right. 6 was in 2002. 7 O. Did you know anything about AmerenUE's 7 Q. Was there any discussion about why they were transmission system? 8 8 engaging you to do the production cost modeling as opposed A. No. Well, I knew that up until this year, to them doing the production cost modeling as they had 9 9 they were in a joint dispatcher agreement with somebody. 10 normally done in the past? 10 That's all. Somebody had mentioned that to me before and A. I think they said they were getting a lot of 11 11 that's all I knew. 12 rate cases and they were understaffed. 12 13 Q. You said you think Staff used the RealTime 13 Q. When you say somebody, somebody on Staff 14 mentioned that? 14 model for about ten years? A. That sounds about right, yes. 15 A. Yeah, must have been. 15 16 Q. What was your understanding of the joint 16 Q. Do you know what they paid for it? 17 dispatch agreement; did you have one or do you have one? 17 A. No. At that time -- I think I have a ballpark 18 and I'll give it to you in a second. At that time, the 18 A. That there's two companies, one in Missouri and one, I think, in Illinois or somewhere over there. And 19 model was owned by another company. I owned a piece of it. 19 they got together to -- and would dispatch their units to 20 A guy named Steve Mitnick did the selling. He made the 20 21 serve their common load. 21 sale to Missouri Public Service and I think it was \$40,000 Q. Okay. Did you have any particular knowledge 22 or something like that, but I'm not positive. He didn't 22 23 about the region in which AmerenUE operates before you wer 23 always give me all the sales information. Q. When did you first -- Well, let me back up. 24 engaged in this case? 24 25 What was the nature of the first model run that you did 25 A. I know that it affected somehow Missouri, Page 15 Page 17 because that's what Staff does. related to this case; was it related to trying to benchmark 1 1 2 the model? 2 Q. Didn't know anything about the energy markets 3 3 in the area? A. Yes. 4 Q. Okay. And about when did you do that, do you 4 A. Correct. 5 5 Q. Transmission systems, how they operated? know? A. That's correct. 6 6 A. It was in late October. Q. And you needed certain data and information to 7 Q. Nothing -- You didn't know anything about any 7 8 transmission constraints that might exist or not exist? 8 run that model, right? 9 9 A. Yes. A. That's right. 10 Q. Did you get all the data and information that 10 Q. Didn't know anything about the mix of base load generation versus peaking generation that UE had, 11 you needed in order to make your model run? 11 12 A. Yes. Yes. 12 correct? 13 A. Correct. I did not know that. 13 Q. Have there been any changes in your assignment 14 since you were first given it? 14 Q. Or what mix of coal, nuclear, gas, oil, those kinds of things, didn't really know anything about any of 15 A. No. 15 16 those parameters; is that fair? Q. Before you were contacted, I guess by 16 A. Yes. 17 Ms. Mantle to work on this case, did you know anything 17 18 about Ameren, AmerenUE? 18 Q. Is it then fair to say that whatever relevant and necessary information that you received in connection 19 A. No. 19 20 O. Never heard of them? 20 with your work in this case was provided to you by the 21 A. I heard of Union Electric, but not AmerenUE. 21 Staff? 22 Q. Did you know what generating units EU owned? 22 A. Yes. 23 When I say UE, I'm talking about AmerenUE, Union Electric 23 Q. Do you know what the MISO is? 24 Company, or UE are all the same company. 24 A. I've heard it and I've heard the Staff mention A. Until I took this job, no, I did not. 25 it to me, but I've forgotten what it is. 25 5 (Pages 14 to 17)

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Page 18		Page 20
O Do you know what an independent system	1	A. No, I did not.
		Q. Do you know at what point and over what period
		any rates that are set as a result of this case would be in
A. Ivo.		effect?
		A. No, I don't. I heard on the news this morning
	-	that you haven't had a rate increase for 20 years, but
	7	that's all I know.
	8	Q. I take it you don't have any knowledge about
		the effect that rates that may be set in this case might
A. No, I don't. I can take a guess, but I don't.		have on the company's earnings, its stock price, its
		ability to provide service to the customers?
		A. No, I don't.
		Q. No knowledge or opinion about any of that?
		A. Correct.
		Q. I think you said you first did excuse me
		you first did a benchmarking run in late October?
		A. Yes.
		Q. How many benchmarking runs did you do? I
		mean, you're doing benchmarking runs in October, you get to
		filing direct testimony on December 15. In between there,
		you had to obviously be doing some work. Did you do
		multiple benchmarking runs in that period?
		A. After I finished the benchmark run, which I
		think it was October 26, something like that, maybe a few
-		days later, I didn't run the benchmark run anymore at all,
A, Ies,	25	days later, I thun than the benchmark full anymore at an,
Page 19		Page 21
	1	I was finished with it. In fact, I think these results
	2	still here are the same results I reported in that October
using that synonymously with variable production cost; is	3	date.
that fair?	4	Q. When did you do the Staff model run that was
	5	used in your testimony?
Q. Okay. So if you say fuel cost throughout the	6	A. I started that it was a few weeks later. I
deposition, unless you qualify it, can I take it that	7	don't know exactly how long, but I think that we got the
	8	final first Staff run around December 12, something like
A. I'll be more careful next time. I'll say	9	that rings a bell. So there was some period of time of
	10	inactivity from when I finished the benchmark run to when
	11	started the Staff run.
I'm understanding your answers.	12	Q. Did you have, I guess I would call them
A. Okay.	13	preliminary Staff model runs, did a run, here's some
Q. Because I do the same thing; I sometimes will	14	results, did another run, here's some results, ultimately
mix them up too.	15	you get to the Staff model run used in your testimony; is
Do you know whether the results of simulations	16	that kind of how it went?
that you are running affect the revenue requirement that	17	A. Yes.
	18	Q. Do you know how many of those preliminary
Staff is recommending for UE in this case?	ΤŲ	
Staff is recommending for UE in this case? A. No, I do not.	19	versus final Staff model runs vou did?
0		versus final Staff model runs you did? A. No idea.
A. No, I do not.Q. Don't know how any of that works?	19	A. No idea.
A. No, I do not.Q. Don't know how any of that works?A. I know what you guys are asking for a rate	19 20 21	A. No idea.Q. When I say Staff model run, of course I'm
A. No, I do not.Q. Don't know how any of that works?A. I know what you guys are asking for a rate	19 20 21	 A. No idea. Q. When I say Staff model run, of course I'm talking about now you've got the benchmark run done, you
 A. No, I do not. Q. Don't know how any of that works? A. I know what you guys are asking for a rate hike and I don't know what Staff is recommending for a rate 	19 20 21 22	A. No idea.Q. When I say Staff model run, of course I'm
	 Q. Do you know what an independent system operator is? A. No. Q. Or a regional transmission organization? A. No. Q. Do you know what LMP stands for? A. LMP, no. Q. Do you know what congestion charges are? A. No, I don't. I can take a guess, but I don't. Q. Can you describe for me in your own words what the purpose of a production cost model is? A. You can use it for many things. In this case, we're using it to come up with fuel costs. It determines the method of running your generating assets or all your assets so that you can minimize your cost. Q. When you say we're coming up with fuel costs, are you talking about you're essentially trying to come up with what you believe under a certain set of conditions would be the variable production costs for a utility, in this case AmerenUE, right? A. That's correct. Q. And that's fuel, it's purchased power, it's margins from off-systems sales as an offset to that to lower the production cost, correct? A. Yes. Page 19 Q. Any other elements that come into play Let me back up. When you use the term fuel cost, you were using that synonymously with variable production cost; is that fair? A. Generally, yes, that's fair. Q. Okay. So if you say fuel cost throughout the deposition, unless you qualify it, can I take it that you'll be talking about variable production costs for UE? A. Til be more careful next time. Til say variable. Q. Sure. No problem. I just want to make sure I'm understanding your answers. A. Okay. Q. Because I do the same thing; I sometimes will mix them up too. Do you know whether the results of simulations 	Q. Do you know what an independent system 1 operator is? 3 A. No. 3 Q. Or a regional transmission organization? 4 A. No. 5 Q. Do you know what LMP stands for? 6 A. LMP, no. 7 Q. Do you know what congestion charges are? 8 A. No, I don't. I can take a guess, but I don't. 9 Q. Can you describe for me in your own words what10 11 the purpose of a production cost model is? 11 A. You can use it for many things. In this case, 12 we're using it to come up with fuel costs. It determines 14 assets so that you can minimize your cost. 15 Q. When you say we're coming up with fuel costs, 16 are you talking about you're essentially trying to come 17 up with what you believe under a certain set of conditions 18 would be the variable production costs for a utility, in 19 this case AmerenUE, right? 20 A. That's correct. 21 Q. And that's fuel, it's purchased power, it's 23 margins from off-systems sales as an offset to that to 23 lower the

6 (Pages 18 to 21)

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	Page 22		Page 24
	Q. Now you're changing inputs and assumptions	1	When the Staff started making the run, they wanted to run
	based upon the parameters that Staff is giving you,	2	it from July 1, '05 to June 30, '06.
2		3	O. Now, when you're talking about these changes
3	A. Changing some inputs and assumptions, yes.	4	that we're making, are these changes from what was in the
4	Q. Okay. These various you said you don't	5	benchmark run or are these changes between your various
5	remember how many exactly, but these various Staff mod		I'll call them iterations or versions of the Staff model
7	runs that you did, whether it's one or two and then you get	7	run or both?
8	to the final or however many it was, what changes in inpu	ts 8	A. I started the Staff run by making an identical
9	and assumptions were there between these various runs,	9	copy of the benchmark run. So I saved everything from the
10	first Staff model run versus the final one that's used in	10	benchmark run in one directory and I started a brand new
11	your testimony, do you remember?	11	one. But I started the base of it was with the
12	A. Well, I know in general. I don't remember the	12	benchmark run.
13	order. One of the changes was the load, they changed the	13	Q. And then you started making changes?
14	hourly load. And so I don't know what order I got these	14	A. Yes.
15	things in. They changed the fuel cost. They changed the	15	Q. And we talked about five material changes that
16	forward price curve, which is the cost of purchase power	16	I guess that you thought of so far?
17	and sales power. We changed some assumptions on the	17	A. Yes. And I can't think of I can't think of
18	Callaway units.	18	anymore. But, yes.
19	So as these were coming in, I would put the	19	Q. How long does it take to make a run?
20	new data in, make a run just to make sure that I got the	20	A. You mean the elapsed time at which you push
21	data in correctly. Maybe an hour or a day later, I would	21	the button until it finishes running?
22	get some new data from Staff and make new runs.	22	Q. Give me that.
23	Q. So loads changed from the time first you did a	23	A. Fifteen minutes maybe.
24	Staff model run until the final. Fuel cost when we talk	24	Q. All right. What about I take it that you were thinking there might be another part of that question
25	about fuel cost, are we talking dispatch cost or accounting	23	
	D	1	
	Page 23		Page 25
1	cost?	1	such as what, setting up the model?
2	cost? A. Both cost; dispatch and accounting.	2	such as what, setting up the model? A. Right.
2 3	cost?A. Both cost; dispatch and accounting.Q. You said forward price curve. The energy	2 3	such as what, setting up the model?A. Right.Q. Once you had the benchmark run done and then
2 3 4	cost?A. Both cost; dispatch and accounting.Q. You said forward price curve. The energy prices used as input in your model changed over time that	2 3 4	such as what, setting up the model?A. Right.Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the
2 3 4 5	cost?A. Both cost; dispatch and accounting.Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct?	2 3 4 5	such as what, setting up the model?A. Right.Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes
2 3 4 5 6	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. 	2 3 4	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in
2 3 4 5 6 7	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward 	2 3 4 5 6 7	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day,
2 3 4 5 6 7 8	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward price curve. 	2 3 4 5 6 7 8	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day, a half a day, couple days?
2 3 4 5 6 7 8 9	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward price curve. Q. Some assumptions regarding the Callaway unit 	2 3 4 5 6 7 8 9	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day, a half a day, couple days? A. Well, the load for example, the load came in
2 3 4 5 6 7 8 9 10	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward price curve. Q. Some assumptions regarding the Callaway unit were changed? 	2 3 4 5 6 7 8 9 10	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day, a half a day, couple days? A. Well, the load for example, the load came in and I think it was in just one long vector of numbers and I
2 3 4 5 6 7 8 9 10 11	 cost? A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward price curve. Q. Some assumptions regarding the Callaway unit were changed? A. Yes. 	2 3 4 5 6 7 8 9 10 11	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day, a half a day, couple days? A. Well, the load for example, the load came in and I think it was in just one long vector of numbers and I had to change that to another format, import it into the
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 A. Both cost; dispatch and accounting. Q. You said forward price curve. The energy prices used as input in your model changed over time that Staff was giving you, correct? A. They changed them from the benchmark run. They gave me another set of 8,760 values for the forward price curve. Q. Some assumptions regarding the Callaway unit were changed? A. Yes. Q. What else changed; can you think of anything else? A. Well, hang on a second. We went from using a 2005 year using going from July 1 to June 30, 2006. So it's the same number of hours, but we shifted the time frame. Q. When you say you went from using a 2005 year in other words, you went from using well, tell me what you mean by that. When you say I went from a 2005 year to I take it the test year which was July 1, '05 to June 30, '06, correct? A. Correct. The Ameren benchmark run was from January I to December 31, 2005. And the load that Tim 	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then you made that copy and you start that as the base of the Staff model run, to make the changes, these five changes you've thought of so far, what kind of time is involved in making those kind of changes in making a run; is it a day, a half a day, couple days? A. Well, the load for example, the load came in and I think it was in just one long vector of numbers and I had to change that to another format, import it into the model. We're talking maybe 30 minutes to on hour. The fuel cost mostly is cut and paste from the spreadsheet, cut out the numbers and you move it over there. All you have to do is be careful that you're moving the right numbers over. It's relatively quick. Q. Once you took all that initial data and information, got the benchmark run all set up, once all that's done, you benchmarked it, doing additional runs is really not all that time consuming of a task; is that fair? A. Correct, that is fair. Q. These changes that we've talked about Let

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	Page 26		Page 28
1	communicate about the subject of your assignment?	1	A. Yes, I have.
2	A. There was four people. John Cassidy, Greg	2	Q. Tell me the principal inputs that you used and
3	Meyer, Leon Bender, and Dan Beck a few times. I think	3	needed in order to run your model?
4	that's all.	4	A. The major input in a model like this is load,
5	Q. And Lena Mantle?	5	because the whole purpose of the model is to serve load.
6	A. She didn't do any direction as far as the	6	And to serve load, you need generating units. And the two
7	technical issues, the data, anything of that nature.	7	most important things of a generating unit is its
8	Q. Okay. She was kind of involved in the	8	efficiency or heat rate curve and the variable cost.
9	beginning, getting you hired. And after that, she	9	There are a lot of other things, but they're
10	disappeared from the picture as far as you're concerned?	10	minor compared to those things. We want to know what this
11	A. As far as I'm concerned, yes.	11	unit is going to cost to run and we want to know how much
12^{11}	Q. All right. Tell me from your viewpoint,	12	it can generate to serve load.
13	what's Mr. Cassidy's role in all of this in terms of the	13	Q. You need to know dispatch prices, right?
14	fuel modeling.	14	A. Only if you want to have a purchase power
15	A. I probably had the most interaction with John	15	contract or sale contract. You don't really need to know
16	Cassidy and he sent me the data that I was requesting from	}	dispatch price. This thing generates internally the
17	him. Actually, I wasn't requesting it. He was just	17	dispatch price of the units based on the heat rate curve
18	sending me new data, put the new data in the model, run i		and the variable costs which are fuel and variable O & M,
19	and report back to him.	19	could be emission cost.
20	Q. So in terms of these changes, you weren't	20	Q. So the variable costs you're talking about are
21	requesting any of those or suggesting any of the changes.	21	the fuel cost, variable O & M, emissions. Okay.
22	If changes were made, it was information flow driven from		Do you need to know about planned outages?
23	Staff saying, Mr. Rahrer, here's some data, make this	23	A. Oh, definitely, yes.
24	change, and you did it; is that right?	24	Q. Forced outages?
25	A. Exactly, yes.	25	A. Yes.

	Page 27		Page 29
1	Q. You weren't exercising your own discretion	1	Q. Derates?
2	about doing those things, correct?	2	A. Yes.
3	A. No.	3	Q. Equivalent availability?
4	Q. What about Mr. Meyer; from your viewpoint,	4	A. The model comes up with that.
5	what's his role in all this?	5	Q. The model comes up with that.
6	A. To me, John and Greg were almost the same. In	6	Reserve requirements?
7	fact, just recently, I couldn't tell their voices apart	7	A. Yes.
8	when they called me. I considered them to be just a source	8	Q. What else? Have we missed any important
9	of data.	9	inputs?
10	Q. So both of them were they were in charge of	10	A. If you're going to have purchase and sales,
11		21	those are very important. The Ameren system has two hydro
12	A. Yes.	12	units. So they're important. They have one pump storage
13	Q. What about Mr. Bender?	13	unit. So that's important.
14	A. I think I guess Leon would sort of be	14	Q. Do you know who on Staff is responsible for
15	the I don't know about the head guy but the guy that	15	each of those inputs we just talked about?
16	was sort of the coordinator on the project. I can't	16	A. No.
17	remember if he ever gave me any data other than telling me	1	Q. You got all that information essentially from
18	maybe it would be coming. But Leon did not, as I recall,	18	Mr. Meyer and/or Mr. Cassidy?
19	send me any new data or anything.	19	A. Yes.
20	Q. What about Mr. Beck?	20	Q. In the context of the work that you did, do
21	A. He called a few times and said, we want a run	21	you believe that you obtained necessary information
22	for this or run for that, but I don't remember exactly.	22	respecting all of the factors and information that you
23	Q. Okay. Have you provided all the work papers	23	needed to properly run your model and to arrive at your
24	underlying all the analyses or studies that were used in	24	opinion about what the appropriate level of variable
25	connection with your direct testimony?	25	production costs were for AmerenUE?
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Page 32 Page 30 assumptions are? 1 1 A. I didn't have an opinion about what the 2 A. No. But I think they're provided in this pile production cost should be. But, yes. Do the first part of 2 3 somewhere. 3 the question again. Q. All right. Can you point me to what those 14 4 O. Do you believe that you received all necessary 4 5 assumptions are? 5 information and data that you needed to properly run your 6 A. I thought they were in one of my out e-mail model and also to arrive at an opinion about what the 6 7 proper level of variable production costs for AmerenUE boxes, but. 7 8 Q. Well, it's possible. I think when you print 8 should be? it, there's 61 or 2 pages of e-mails. So I could have 9 A. The first part of the question is yes. And 9 10 the second part is I don't have an opinion what it should 10 missed it. be. But do I think they gave me sufficient information to 11 A. I have to see which one of these things 11 12 might -- I might be able to recreate them in my mind, but give them a number, the answer is yes. 12 Q. Now, your modeling results produce a variable 13 I'd rather not. 13 14 MR. LOWERY: Can we mark this, please. 14 production cost for AmerenUE, correct? 15 (Whereupon the reporter marked Exhibit No. 1 15 A. Correct. 16 for identification.) O. Do you have an opinion about whether your 16 17 Q. (By Mr. Lowery) Mr. Rahrer, I'm going to hand 17 modeling results are accurate? you what's been marked as Deposition Exhibit 1, Rahrer. 18 A. Yes, I do have an opinion about that. And, 18 And take a look at that. I'll represent to you that this 19 19 yes. 20 is a printout of your inbox and your outbox, that as I Q. Have you told me everything that changed 20 understand it, you provided to the company in response to 21 between your benchmark run and the Staff model run that is 21 DR number TDF-Staff-018. If you could look at that and see 22 22 the subject of your direct testimony? 23 if we printed that accurately. 23 A. Verbally today? 24 One other thing, I have numbered these, just 24 Q. Yes. 25 the number of pages that printed so you and I can follow 25 A. No. I said somewhere in my testimony that we Page 31 Page 33 changed the Rush Island forced outage rate from the 1 along more easily so we're not shuffling around quite as 1 2 much. 2 benchmark to the Staff run. We changed the -- I think I 3 3 mentioned here today that we changed the Callaway A. Yes, this looks like it. Q. See if you can find in Exhibit 1 -- I asked availability. By availability, I mean planned and forced 4 4 you a minute ago about these 14 modeling assumptions that 5 5 outages. 6 Other than that, I believe I have told you of were discussed. And you were looking through the copy of 6 all the differences between the benchmark run and the Staff7 7 the e-mails that you had looking for a complete list of 8 those 14 assumptions. See if you can find that in 8 run, yes. 9 Exhibit 1 and then I'll follow along with you. 9 Q. Okay. You provided in connection with some 10 A. There may not be all 14 of them, but I've seen 10 discovery that was recently done a fairly large batch of 11 two cases in my stack here where we can get most of them. 11 e-mails, right? 12 And perhaps I can remember the rest of them. 12 A. Yes. 13 13 Q. I can tell you --O. And in several of your e-mails, there's a 14 mention of 14 modeling assumptions. Do you recall that? 14 A. On Page 7. A. Yes, I do. 15 Q. Yeah. On Page 7 or 8 there's some discussion 15 16 of those, or at least some of them. I believe on Page 6 of Q. And I take it, according to your data request 16 Exhibit 1, there's some discussion also perhaps. 17 responses, I think you indicated you lost six months of 17 18 e-mails from your inbox recently? 18 A. Okay. We can start trying to put together the 19 A. Yes. 19 14 assumptions. Looking at this, it jogs my memory 20 O. Do you have any idea what happened? 20 somewhat. 21 A. No. I wish I did. I tend to keep all of 21 Did you check my outbox? 22 them, which is why I have so many of them. 22 Q. I did, but I could have missed it. 23 A. I found some in the outbox. There does not 23 Q. Right. If I've read the e-mails correctly, I seem to be a complete list of them here. I'm sure I've got 24 don't see a particular e-mail where all 14 assumptions are 24 one somewhere, but it doesn't seem to be here. So we can 25 actually listed in an e-mail. Can you tell me what the 14 25

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Page 36 Page 34 Q. And you say they sent you, was it like a 1 try to put them together if you'd like. 1 2 spreadsheet with three different tabs? Q. All right. I would like to do that, please. 2 3 A. I believe the first one was in reference to A. Right. 3 O. So there was a NORM tab? the new Callaway outages. So I'll call that No. 1. 4 4 A. Right and WTH NORM. Actually, I used that 5 5 Q. Okay. Tell me -- Well, do you want to try to first and they told me I had the wrong one. I thought I 6 do the list of 14 and then we'll talk about each of them a 6 7 had it right and I didn't. 7 little bit? Which way is easiest for you? 8 Q. WTH NORM? 8 A. It's up to you. 9 A. It might have been WTHR. But something I 9 Q. Let's get the list and then let's go back 10 could get the feeling that it meant weather normalized. 10 through them. New Callaway outage information? Q. That was your understanding, was that WTHR 11 11 A. Yes. Q. That's No. 1. 12 NORM was weather normalized data? 12 13 A. Yes. 13 A. I can't remember how many -- it was on the 14 O. What was the third tab? list, but we changed all the fuel cost -- not all the fuel 14 cost, but some of the gas and coal cost, both accounting 15 A. I don't remember. It might have been the same 15 16 and dispatch. 16 as the benchmark load. I was instructed to use the one 17 17 that said NORM or NORML, which they told me was normalized Q. Okay. 18 A. Changed the APL contract price to \$20.10. I 18 and that was for the period of July 1 to June 30 of '06. 19 think one of the things is we were using a new nuclear --19 Q. July -- the 12 months ending June 30, '06? 20 20 no, we didn't use a new nuclear price. Sorry. Yes, we A. Yes. 21 21 did. We changed the nuclear price, the nuclear fuel price. Q. Okay. I think I've got seven on my list so 22 We had a discussion about the Sioux fuel blend. We raised 2 far. 23 the sales -- raised the sales limit. 23 A. Some of them were just very - are you sure Q. When you're talking about sales, you're 24 24 you're doing such and such. Oh, one of the assumptions was 25 talking about volume of energy, correct? 25 that we added the Joppa unit, the EEInc unit. Page 35 Page 37 1 A. Correct. 1 Q. Okay. And Staff gave you whatever information 2 Q. Megawatt hours, correct? 2 you had regarding what inputs related to the Joppa unit 3 A. Yes, correct. 3 that you needed to put in your model? 4 Q. Sorry. I just need it for the record. 4 A. Correct. Yes. This is the sum and substance 5 5 of what I remember these things being. We're missing some A. I was talking to my shoe. 6 We also did the same for the purchase power 6 but some were, like I said, are you sure that you're using 7 contract. I'm not positive if that was one item or two 7 the new load. 8 8 Q. Let me ask you, you brought a large stack of items. 9 Q. All right. 9 documents with you today. I take it that those are 10 A. Some of them were -- some of the assumptions documents that you believe were responsive to Exhibit A, 10 11 were simply things like you are using the new load. So thell the Notice of Deposition, that was served in this case for 12 answer was yes to that. 12 your deposition? 13 Q. When you say new load, you mean they're A. Yes. 13 14 verifying whether you're using the final weather normalized 4 Q. Do you think that within those documents if I 15 loads for the period 7/1/05 to 6/30/06 that they provided 15 gave you a few minutes off the record, that you could 16 you, they being Staff? 16 actually find a list of these 14 assumptions? 17 A. They provided me with three separate loads. 17 A. No. If they're not in this inbox thing --One of them was called weather normalized, but that's not 18 18 Q. Okay. 19 what I used. I used one called normalized, and that's 19 A. -- then I don't have them. They were -- the 20 straight from Staff instructions. 20 assumptions were -- like I said, some of them were just are Q. So you used -- they provided three loads for 21 21 you sure you're using this. One of the assumptions might 22 that period? 22 be are you using 7.0716 for a PEPL gas. And that could 23 A. Well, they sent me something that had three 23 have been one -- that could have been one or two or three 24 sets of load in it. The one I used was called normalized 24 assumptions. But this is the sum and substance of the 25 or NORM. 25 assumptions even though we're missing a bunch of them.

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	Dage 39		Page 40
	Page 38		
1	Q. All right. Let me direct your attention to	1	Q. Well, I think you said a moment ago that some
2	Page 2 of Exhibit 1 that we've marked today. And take a	2.	mention was made the load was too high or too low,
3	look at that, particularly if you'll look below that dark	3	something like that. Where did you get that understanding?
4	black line about a third of the way down the page from the	4	• A. From the two different runs, from the weather
5	top of the page. And right below that, it looks like	5	normalized run, I think the load was around 40 million and
6	there's an exchange of e-mails between you and Mr. Cassid	6	the other tab was 39-point something million. There was
7	regarding the loads. Is that what that deals with?	7	definitely a difference in the total load from those two
8	A. Yes, it is.	8	tabs.
9	Q. Now, a moment ago, you told me there were	9	Q. The normalized tab, do you have an
10	three tabs. If you look about two-thirds of the way down	10	understanding of what that data represents?
11	that page, I see a question from you and verify if I'm	11	A. No. I know that they No. I guess I should
12	looking at this right it's a question from you to John	12	say no.
13	Cassidy where you're asking him, do I use the normalized	13	I mean, let me clarify that. I know what they
ŀ		14	tried to do. They were trying to make a study that looks
14	tab, the weather normal tab, or the actual tab, right?	ł	
15	A. Yes.	15	into the future, they try to take the variances out of the
16	Q. And right above that, does Mr. Cassidy answer	16	weather from it may be a cold year like this winter, and
17	your question?	17	try to make the load look more normal so they can project
18	A. I believe he told me to use the weather	18	more carefully into the future.
19	normalized tab.	19	Q. Do you know
20	Q. All right. Now, a minute ago, I believe you	20	A. I don't know how they do it.
21	testified that you did not use the weather normalized tab.	21	Q. When they say normalized, when they have a
22	You used the normalized tab. Which is accurate?	22	normalized tab versus a weather normalized tab, do you know
23	A. They're both accurate. What I said a few	23	what the difference is between those two in terms of how
24	minutes ago is that I began by using the weather normalized	24	they get to those two numbers?
25	tab, but I made a mistake. I don't know if I misunderstood	25	A. Do I know? No, I don't.
	Page 39		Page 41
1	John, but I did my first set of runs for the weather	1	Q. Do you know if the normalized tab reflects any
2	normalized tab, they looked at output, they saw that the	2	attempt to reflect normal weather, as opposed to abnorma
3	load was either too high or too low, and they came back and		weather?
4	told me to use the normal tab.	4	A. No, I don't.
5	Q. I apologize. After this December 8 e-mail	5	Q. They just told you now they first told you
6		1	
	from Mr. Cassidy telling you to use the weather normalized	1	to use the weather normalized tab, right?
7	tab, you ran the RealTime model using the weather	7	A. Yes.
8	normalized tab data for load?	8	Q. And then they said, no, that's wrong; you need
9	A. Yes.	9	to use the normalized tab, right?
10	Q. And that produced results, right?	10	A. That's correct.
11	A. Yes.	11	Q. So you did it?
12	Q. And you sent them to Mr. Cassidy, Mr. Meyer,	12	A. Yes.
13	both?	13	Q. Didn't really question it; you just did it,
14	A. I usually e-mailed them both. If the		right?
15	attachment was large, I would just send them to one person	15	A. Yes.
		En C	Q. So the Staff model run that underlies your
16	Q. And you received a call, e-mail, some	16	C
		1	direct testimony used the normalized tab for the load data
16	Q. And you received a call, e-mail, some	1	
16 17	Q. And you received a call, e-mail, some communication from somebody about those results, correct	217	direct testimony used the normalized tab for the load data
16 17 18	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? 	?17 18 19	direct testimony used the normalized tab for the load data in the model run; is that correct? A. Yes.
16 17 18 19 20	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? A. I don't remember. It was either Greg or John. 	217 18 19 20	direct testimony used the normalized tab for the load data in the model run; is that correct? A. Yes. Q. Not the weather normalized?
16 17 18 19 20 21	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? A. I don't remember. It was either Greg or John. Q. And they told you what? 	217 18 19 20 21	direct testimony used the normalized tab for the load data in the model run; is that correct?A. Yes.Q. Not the weather normalized?A. Correct.
16 17 18 19 20 21 22	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? A. I don't remember. It was either Greg or John. Q. And they told you what? A. They told me that I should be using the normal 	<pre>?17 18 19 20 21 22</pre>	 direct testimony used the normalized tab for the load data in the model run; is that correct? A. Yes. Q. Not the weather normalized? A. Correct. Q. Let me direct your attention to Page 6 of
16 17 18 19 20 21 22 23	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? A. I don't remember. It was either Greg or John. Q. And they told you what? A. They told me that I should be using the normal tab. 	217 18 19 20 21 22 23	 direct testimony used the normalized tab for the load data in the model run; is that correct? A. Yes. Q. Not the weather normalized? A. Correct. Q. Let me direct your attention to Page 6 of Exhibit 1. About a third of the way down in the middle of
16 17 18 19 20 21 22	 Q. And you received a call, e-mail, some communication from somebody about those results, correct A. I believe it was a phone call. Q. From whom? A. I don't remember. It was either Greg or John. Q. And they told you what? A. They told me that I should be using the normal 	<pre>?17 18 19 20 21 22</pre>	 direct testimony used the normalized tab for the load data in the model run; is that correct? A. Yes. Q. Not the weather normalized? A. Correct. Q. Let me direct your attention to Page 6 of

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1	A. Yes. We need the run to reflect all the 16	1	state that the Staff included approximately 65 million in
2	points that we went over last week via e-mail and Yes, I	2	annualized costs associated with EEInc generation.
3	do see it.	3	Were you aware that these numbers comprised of
4	Q. And it continues: And also to reflect the new	4	21.2 million of demand charges and 44.1 million of energy
5	weather normalized net system that we sent you last week,	5	charges?
6	right?	6	A. No.
7	A. Yes.	7	(Whereupon the reporter marked Exhibit No. 2
8	Q. And the new weather normalized net system	8	for identification.)
9	input and this e-mail is dated it looks like if you	9	Q. (By Mr. Lowery) I'm going to hand you what's
10	go back to the prior page on December 11 on Page 5 of	10	been marked Exhibit 2, Rahrer, for this deposition. And I
11	Exhibit 1; is that right?	11	ask you to take a look at that. And in particular, do you
12	A. Yes.	12	see down at the bottom where fuel for purchase power an
13	Q. That new weather normalized net system input	13	load has been broken out for fuel for interchange?
14	is the same weather normalized data that we were talking	14	A. Yes.
15	about back on Page 2 where they told you to use the weather	15	Q. And do you see this 44,109,584 number?
16	normalized tab; is that right? Page 2 of Exhibit 1.	16	A. Yes, I do.
17	A. Yes.	17	Q. And I think you indicated that there's
18	Q. And that was on December 8 when they first	18	\$65 million of cost in your data request response that
19	told you to use the weather normalized tab, right?	19	Staff had added in for the Joppa plant, right?
20	A. Yes.	20	A. When did I say that?
21	Q. And then on December 11, they're still telling	21	Q. Well, let me show you.
22	you to use the weather normalized net system input, right?	22	A. I think you said it a minute ago and I might
23	A. That's what they say, yes. However, I don't	23	have nodded too soon.
24	know how they name their tabs. The new weather normalized	24	Q. Let me show you. Do you recognize this
25	tab might have been called normal for all I know.	25	response to DR number TDF-Staff-008?
	Page 43		Page 45
1	Q. You're absolutely sure that your model run is	1	A. Yes.
2	based on that normal tab, not the weather normalized tab?	2	Q. And this is your response, correct?
3	A. I'm absolutely sure, yes.	3	A. Correct.
4	Q. All right. The 16 points that they mention on	4	Q. Provided on January 11?
5	Page 6 of Exhibit 1, are the 14 assumptions part of those	5	A. Yes, it is.
6	16 points, is it a subset of it, is there overlap between	6	Q. Of 2007?
7	the two, or are we talking about a different set of points?	7	A. Yes.
8	A. I do not remember. I assume they're part of	8	Q. Bear with me just a second. All right. I
9	the 14 points, but I don't recall ever seeing 16 points.	9	don't think you did say that. I think we had an incorrect
10	Q. All right. Other than you see there's a	10	reference. We'll go on to another topic.
11	mention of 16 points here?	11	A. Okay.
12	A. Yes, I do.	12	Q. Now, you didn't include cost in your
13	Q. You don't have any particular recollection of	13	production modeling related to Joppa, right?
14	how those differ perhaps?	14	A. Correct.
15	A. No, I don't.	15	Q. And Joppa was modeled as a purchase power
16	Q. I think you mention that your Staff model run	16	contract in effect?
17	did Let me back up. Did the Staff model run that you	17	A. Yes.
18	did, did it include any cost associated with I'm going	18	Q. You've done other RealTime simulations for
19	to say EEInc or Joppa and use those terms interchangeably?	1	clients over the years, right?
20	Do you understand that those are the same thing?	20	A. Yes.
21	A. Yes.	21	Q. You mentioned a few of those in your DR
22	Q. Did your Staff model run include any costs	22	responses to the company's data request, right?
23	associated with Joppa?	23	A. Correct.
24 25	A. No.	24	Q. In other simulations that you do for other
	Q. In your response to DR TDF-Staff-008, you	25	clients, if you include a resource, a generating unit, a

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1	Page 46		Page 48
1 r	ourchase power agreement, typically you include the cost	1	the power would be taken by UE from the Joppa plant?
	associated with that resource, true?	2	A. The whole process that I went through is they
3	A. Correct. Yes.	3	gave me monthly generation from this unit. And they told
4	Q. It's unusual to model a resource, but not	4	me that the maximum capacity of the unit, I think, was 405
	nclude any cost associated with it, isn't it?	5	So I took for the peak hours of the day, which are the
6	A. Not totally unusual. Hydro, for example, is	6	middle 18 the first six hours and the last two hours are
	frequently put in at zero cost.	7	non-peak, off peak. The other 18 hours of the day are on
8	Q. But Joppa is not a hydro plant, right?	8	peak.
9	A. Right.	9	So I assigned 405 to all the on-peak hours.
10	Q. It's a coal plant?	10	And I assigned the remainder of the output per month base
11	A. But I'm just saying, you asked about a	11	on the load shape for the off-peak hours. So it varied
	resource and it's a resource. It's unusual to have a	12	from 405 down to I don't remember. But all the output
	generating unit render zero cost.	13	from Joppa is in this stack someplace.
14	Q. It's unusual to have a base load, general coal	14	Q. And you said based on the load shape. Is that
4	unit run in a production cost model without associating	15	the load shape reflected in there I guess we don't know
	cost with it, right?	16	they're normalized or weather normalized, but whatever lo
17	A. Yes.	17	Staff had given you for the test year?
18	Q. Did you question why the Staff wanted you to	18	A. Correct.
1	do that?	19	Q. What is the basis for the assumptions of
20	A. Yes, I did. I said, I can put cost in for it.	20	assigning all 405 megawatts in the on peak and the
	And they said they would handle it off model or somethin	1	remainder to that low shape. How did you decide that's ho
	like that.	22	you're going to model it or did somebody tell you to do it
23	Q. Did they give you any reason why they would	23	that way?
1	handle it off model or how they would handle it off mode		A. I think that was my decision to do it that
25	A. How and why are two separate questions.	25	
101 / mail the of the same of	Page 47		
1	-	-	Page 49
1	Q. Well, let's go one at a time. Did they give	1	Q. Why?
	you any information about how they were going to handle i	_	A. I don't know. It just seemed like a good
1	outside the model?	3	thing to do. I took the monthly load and divided it by the
4	A. No. But the reason why They said something	4 E	number of hours in the month. I knew the thing could run
	to me once about fuel cost or something. But, anyway, I	5	at 405 and it didn't seem like it made sense to run it at
	don't recall it. But they did say something about why, but	6	at 405 at 1:00 a.m. I knew it was physically a unit, not a
	they never told me anything about how, except that they	7	purchase power contract. So I just assumed that they would
1	would do it outside the model.	8	run it more during the peak hours.
9	Q. What was the why that they gave you?	9	Q. That was an assumption that you made?
10	A. I just said I don't really remember. It was	10	A. That's correct.
	something to do with fuel cost or something.	11	Q. Didn't have any operating data, history,
12	Q. All right. Do you have an understanding that	12	information that backed up or didn't back up that
	in effect, the way that they handled it outside the model	13	assumption; is that fair?
	ends up assigning those energy costs to interchange sales,	14	A. That's correct, yes.
	as opposed to load native load?	15	Q. Did you discuss that assumption with Mr.
16	A. No, I don't know anything about it.	16	Meyer, Mr. Cassidy, or anybody else at Staff?
	Q. All right. Of course for the APL or	17	A. I might have told them that I did it after the
17	Entergy I forget you know what I'm talking about, the	18	fact, but I don't recall any input from them on the
17 18 1			
17 18] 19]	APL contract that is modeled in your model?	19	subject.
17 18 1 19 1 20	APL contract that is modeled in your model? A. Yes.	20	Q. Don't recall them commenting on that one way
17 18 19 20 21	APL contract that is modeled in your model?A. Yes.Q. You did include costs associated with that,	20 21	Q. Don't recall them commenting on that one way or the other?
17 18 19 20 21 22	APL contract that is modeled in your model?A. Yes.Q. You did include costs associated with that, correct?	20 21 22	Q. Don't recall them commenting on that one way or the other?A. Correct.
17 18 19 20 21 22 23	 APL contract that is modeled in your model? A. Yes. Q. You did include costs associated with that, correct? A. Correct. 	20 21 22 23	Q. Don't recall them commenting on that one way or the other?A. Correct.Q. Let's go back and talk about some of these 14
17 18 19 20 21 22 23 24	APL contract that is modeled in your model?A. Yes.Q. You did include costs associated with that, correct?	20 21 22	Q. Don't recall them commenting on that one way or the other?A. Correct.

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Page 52 Page 50 Island forced outage rates? You said you made a change 1 impression I got. 1 2 The benchmark run also had one long planned from the benchmark run to the Staff model run, right? 2 3 outage in the springtime sometime. I forget how long it 3 A. Yes. 4 was. 900 hours. But, anyway, I forget. And in the -- in 4 Q. Please explain that for me. 5 5 the Staff run, the Staff did not want to model it that way. A. To come up with the forced outage rates for I don't know where they got their data, but they wanted me 6 6 the units, I processed the data that Tim Finnell had provided, the GADS data. I think it was six years of 7 to simulate some forced outages, and they changed the 7 8 planned outage to the fall and it was of shorter duration. 8 history for each of the units. I used that for all of the 9 Q. Okay. So Staff told you, we disagree with how 9 units except the Callaway unit. I used it for all the **1**.0 10 major coal units. When I was making the benchmark run the company has modeled forced outages of Callaway and we 11 disagree with the duration and timing of the planned outage could get the Rush Island units to match what was in the 11 that the company used and so we want you to use X, Y, and Z 12 12 benchmark run. Q. Let me just stop you. Is that all the Rush 13 for those parameters; is that a fair summary? 13 14A. The very last part of your question is true. 14 Island units? 15 They wanted me to use X, Y, Z. Whether they disagreed with 15 A. Both. The two. Q. Okay. Go ahead. 16 16 the way Ameren ran it or they had somebody else in mind, I 17 17 A. I checked the heat rate, I checked the don't know. 18 dispatch, what I thought it should be, I checked the fuel 18 Q. You didn't discuss why they wanted you to use 19 cost. Everything seemed to be right. The only thing that 19 X, Y, and Z, but they wanted you to use different input 20 would make a difference would be in the outage rate of the 20 assumptions for Callaway forced outages and for time and 21 duration for the planned outages than had been used by the 21 unit. 22 22 So I tweaked these outage tables that are in company? 23 the unit, which are explained somewhere in here, to make if 23 A. That's correct. 24 either be more or less available. I forget which one it 24 O. So Staff gave those to you and said, use this, 25 was. Whatever change I made, it finally got the unit to 25 and you just input it into the model, right? Page 51 Page 53 generate closer to the benchmark numbers. 1 1 A. Not actually. They said they wanted -- it was 2 So for the benchmark, I used a modified forced 2 that very first thing on that list. I may have a copy of 3 outage rate from the GADS data. When I made the Staff run 3 that list some place. They said they wanted an outage of certain duration, let's say 88 hours. They wanted it to 4 I went back to the original forced outage rates for the two 4 5 Rush Island units that I had gotten from the GADS data, 5 occur in the fall sometime. So they left it to up me where 6 because I wanted everything to be as consistent as 6 to put the outage. possible. 7 7 There were about six of those. Some were 8 Q. So the benchmarking results reflect your 8 shorter duration of about 24 hours. Some of them were 9 adjustment of the Rush Island 1 and 2 unit outage rates; is 9 longer. They told me where to put the planned outage, as I 10 that right? 10 recall. They gave me either six or seven outage periods. 11 11 A. Correct. Some of them were derates, some of them were full outages 12 Q. But then you changed it back to using the GADS 12 Q. All right. Let me back up and make sure I'm 13 data from AmerenUE, the outage rates -- the forced outage 13 processing this information. I think we're talking about 14 rates for Rush Island to the GADS data from AmerenUE for 14 two things. We're talking about them giving you 15 the Staff model run? 15 information as to when they want forced outages to occur 16 A. Yes, I did. 16 for Callaway, true? 17 Q. Okay. You talked about one of the assumptions 17 A. Not totally. 18 that changed in the Staff model run were new Callaway 18 Q. All right. Tell me where I'm not 19 outages? 19 understanding. 20 A. Correct, yes. 20 A. Let's take a full forced outage. 21 Q. Please recount for me in full what changes 21 Q. Let's forget the planned outage for a minute. 22 were made regarding Callaway outages. 22 A. So this is a full forced outage. I believe 23 A. In the benchmark run, the Ameren model, they 23 there were two of them; there might have been one. They 24 simply derated the Callaway unit on a monthly basis by a 24 said, we want it to be out for a number of hours, let's say 25 certain percentage to simulate forced outages, was the 25 80 hours, sometime in March.

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1 And so I just I put the outage in March 1 as to what they meant by fall, in terms of what period? 2 someplace. I don't recall they specified the date they A. Yes. They told me the month. I think it was 4 Q. But they gave you the month? A. Yes. They told me the month. I think it was 6 Q. So if we look at your RealTime information, Your outputs, and was eas forced outage in March - Th 7 March, July, and November. Let's say there were three of YMarch, July, and November. Let's say there were three of YMarch, July, and November, Let's say there were three of YMarch, July, and Novembri, is that right? Q. And given the duration of the planned 10 there, The Staff told you, we want forced outage of X Nouri! 10 O. And given the duration of the planned 11 in this month, is indart right? November? 12 they yave you the month, is that right? November? 13 A. That's my impression yes. Yes. 14 A. Correct. Q. Do you have experience with that? Do you know Yes. 15 A. No. Yes. Q. Do you nave experience with that? Do you know 14 A. No. Yes. Q. Do you remember what the duration of the planned outage, right? 15 A. Correct. Yes planned outage, right?		Page 54		Page 56
2 someplace. I don't recal' they specified the date they wanted it to be in. 2 A. Yes. They told me the month. I think it was November. 4 Q. But they gave you the month? So if we look at your Real Time information, 7 your outputs, and we see a forced outage in March - I'm making base up. Well look at it maybe in at minute. But 10 them. The Staff told you, we want forced outage of Nourth Q. And given the duration of the planned outage in the month, is month, and this month. They didn't 12 tell you March 10 to 12, you just picked sometime in March 13 but they gave you the month, is that righ? 10 14 A. That's my recollection. And all the outages 15 are here. 10 Q. Net under 10 to 12, you just picked sometime in March 14 11 15 force do utage in the north or 13 Now. for the planned outage - forget the 14 11 11 16 Q. Well look at them in a minute. 16 Q. Is there about 740 hours in a 31-day month. 19 planned outage, right? 21 14 A. They sub less than a month's worth. 12 Q. Do you now for example since Callaway has 3 16 Q. Well, November ? 17 14 A. No. 14 A. Yes. 20 20 you now for example since Callaway has 3 20 2 Q. Dol you know for example since Callaway has 3 </td <td>1</td> <td>And so Liust I put the outage in March</td> <td>1</td> <td>as to what they meant by fall, in terms of what period?</td>	1	And so Liust I put the outage in March	1	as to what they meant by fall, in terms of what period?
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6 Q. So if we look at your KealTime information, making these up. We'll look at it maybe in at minute. But making these up. We'll look at it maybe in at minute. But March, July, and November. Let's say there were three of the staff tod you, we want forced outage of Narch - Hu 11 in this month, and this month. They didn't 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 12 tell you March 10 to 12; you just picked sometime in March, 13 hovernber? A. Yes. 16 Q. Is there about 740 hours in a month's worth. 13 hovernber? Norember in December, but 1'm 14 A. Traits my recollection. And all the outages 14 A. Correct. No. 16 Q. Is there about 740 hours in a month's worth. 19 Q. Do you entember what the duration of the 20 pianned outage errer piant, they're also called 22 facelling outages, right? 18 A. No, No. 21 A. No, U tim, twas less than a month's worth. 22 Q. So you could fit it all in November? 23 A. Correct. 24 D. Did you know for example since Callaway has 30 been built, it's had a planned outage erry 18 months? 31 callaway thad a planned outage errer 18 months? 32 A. No, 1 didn't know that be priming the string for 32 Q. So for a planned outage, the company had planned outage in the failt porteoius planned outage in the failt porteoius planned outage in the sprimg, right? 33 Callaway, bat the string the sprimg the next time, 17 you 34 distinction? 34 A. No, 1 didn't know that Bay			5	• • •
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13 but they gave you the month, is that right? 13 November? 14 A. That's my recollection. And all the outages 14 A. The might have run over in December, but I'm 15 arc here. 14 A. It might have run over in December, but I'm 16 Q. We'll look at them in a minute. 15 not positive. 16 Q. We'll look at them in a minute. 16 A. Tat's my recollection. And all the outages 17 Now, for the planned outage, a refuelling outage, right? 18 A. 744 hours in a 31-day month. 19 planned outage, a refuelling outage, right? 20. O you remember what the duration of the 21 Q. At a nuclear plant, they're also called 21 A. No, but it was less than a month's worth. 23 A. Correct. 20. Do you wave experience with that? Do you know 24 Q. Weil, November is 30 days, but you could get 25 have a planned outage every 18 months? 24 Q. Now, I think you mentioned something about 3 detrest at Callaway and i seems like you were drawing a 4 distinction between forced outages is what I meant to say. A 4 mothed a planned outage in the spring henext time. If you 9 Q. We were talking about these forced outages is what I meant to				Q. And given the duration the Staff gave you,
14 A. That's my recollection. And all the outages 14 A. It might have run over in December, but I'm not positive. 15 are here. 0. We'll look at them in a minute. 15 16 Q. We'll look at them in a minute. 16 not positive. 0. 18 forced outages for a minute. Now we're talking about ap planned outage, a refuelling outage, right? 18 A. 744 hours in a 31-day month. 9 20 A. Correct. 20 Do you remember what the duration of the 20 planned outage, they gave you was? 21 A. Correct. 21 A. No, but it was less than a month's worth. 22 refuelling outages, right? 23 A. Creect. 22 Q. So you could fit it all in November? 23 A. Correct. 22 Q. So you could fit it all in November? 23 A. Yes. 2 Q. Did you know for example since Callaway has been built, it's had a planned outage every 18 months? 4 A. Yes. 2 Now, I think you mentioned something about darates. Were you 4 3 been built, it's had a planned outage in the spring the next time. If you of the math of 18 months, you can see how that would work, 9 6 A. Is should'n have been. A full forced outages in those particular durations. The changes you made regarding 12 <td< td=""><td>12</td><td>tell you March 10 to 12; you just picked sometime in March</td><td>1,12</td><td>could you fit the whole planned outage in the month of</td></td<>	12	tell you March 10 to 12; you just picked sometime in March	1,12	could you fit the whole planned outage in the month of
15 are here. 15 not positive. 16 Q. We'll look at them in a minute. 16 Q. Is there about 740 hours in a month, something 17 Now, for the planned outage - forget the 16 Q. Is there about 740 hours in a 31-day month. 19 planned outage, a refuelling outage, right? 18 A. 744 hours in a 31-day month. 19 Q. At a nuclear plant, they're also called 19 Q. Do you remember what the duration of the 21 Q. At a nuclear plant, they're also called 20 Q. So you could fit it all in November? 23 A. Correct. 20 So you could fit it all in November? 23 A. Correct. 20 We'll you know for example since Callaway has 26 been built, it's had a planned outage every 18 months? 2 Q. Now, I think you mentioned something about 3 derates at Callaway and it seems like you were drawing a 4 distinction between forced outages in derates. Were you 3 A. No, I didn't know that. 9 Q. We were talking about these forced outages 4 A. No. 10 A. Ishouldn't have been. A full forced outages in those particular months with 4 A. Sound good. 10 A. I shouldn'	13	but they gave you the month; is that right?	13	
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17 Now, for the planned outage forget the 17 like that? 18 forced outages for a minute. Now we're talking about a 18 A. 744 hours in a 31-day month. 19 planned outage, ar fubeling outage, right? 20 Do you remember what the duration of the 20 A. Correct. 20 Do you ansee they gave you was? 21 A. Correct. 20 So you could fit it all in November? 23 A. Correct. 20 So you could fit it all in November? 24 Q. Do you have experience with that? Do you know 24 Q. Weil, November is 30 days, but you could get 25 how often nuclear plant, they re also called 21 A. Yes. 25 Page 55 Page 57 1 A. No. 1 A. Yes. 2 Q. Did you know for example since Callaway has 2 Q. Now, I think you mentioned something about 3 been built, it's had a planned outage in the spring the next time. If you 4 distinction between forced outage is and derates. Were you 5 A. No, I didn't know that? May and it seems like you were drawing a 4 6 A. I shouldn't have been. A full forced outage is a derate. Wer				
18 A. 744 hours in a 31-day month. 19 planned outages for a minute. Now we're taking about a 19 planned outage, a refuelling outage, right? 20 A. Correct. 21 Q. At a nuclear plant, they're also called 20 22 Generation of the spring planned outages, right? 20 23 A. Correct. 20 24 Q. Do you have experience with that? Do you know 24 25 Now often nuclear plants have major planned outages? 24 26 Do you know for example since Callaway has 25 36 A. No. 2 2 Did you know for example since Callaway has 20 37 A. No. I didn't know that. 20 4 without exception, roughly every 18 months? 2 5 A. No. I didn't know that. 20 6 Q. All right. And if Callaway had a planned 4 7 outage in the fall the previous time, then it's going to 7 6 A. Sounds good. 20 10 right? A. Sounds good. 11 A. Sounds good. 20 12<				
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20 A. Correct. 20 planned outage they gave you was? 21 Q. At a nuclear plant, they're also called 21 A. No, but it was less than a month's worth. 23 A. Correct. Q. So you could fit it all in November? 23 24 Q. Do you have experience with that? Do you know 24 Q. So you could fit it all in November? 24 Q. Do you have experience with that? Do you know 24 Q. Well, November is 30 days, but you could get 25 it close to fitting in November, right? Page 57 1 A. No. Page 55 2 Q. Did you know for example since Callaway has 2 3 been built, if's had a planned outage every 18 months? 1 4 without exception, roughly every 18 months? 2 5 A. No, I didn't know that. 2 6 have a planned outage in the spring the next time. If yout 5 9 do the math of 18 months, you can see how that would work, 9 9 10 right? 10 11 A. Sounds good. 11 12 Q. You didn't know that's how it always worked at 11 13 Callaway, correct? </td <td></td> <td></td> <td></td> <td></td>				
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22 refuelling outages, right? 22 Q. So you could fit it all in November? 23 A. Correct. 23 A. Correct. 24 Q. Do you have experience with that? Do you know 24 Q. Well, November is 30 days, but you could get it close to fitting in November? 25 have often nuclear plants have major planned outages? Page 55 1 A. No. 24 Q. Did you know for example since Callaway has 3 been built, it's had a planned outage every 18 months? 2 Q. Now, I think you mentioned something about 3 terates at Callaway and i terates like you were drawing a 4 distinction between forced outages and derates. Were you 5 A. No, I didn't know that. 6 A. Shudhd't have been. A full forced outage is what I meant to say. A 6 Q. You didn't know that's how it always worked at 7 7 A. Sounds good. 10 right? 10 partial forced outage is that I meant to say. A partial forced outage is those particular months with particular durations. The changes you made regarding 12 Q. So for a planned outage, the company had 11 partial forced outages in those particular 13 Callaway, koret teys. 12 13 Callaway, were thet				
23A. Correct.23A. Yes.24Q. Do you have experience with that? Do you know24Q. Well, November is 30 days, but you could get25it close to fitting in November, right?257A. No.20Did you know for example since Callaway has203been built, it's had a planned outage every 18 months?1A. Ýes.4without exception, roughly every 18 months?2Q. Now, I think you mentioned something about5A. No, I didn't know that.2Q. Now, I think you mentioned something about6Q. All right. And if Callaway had a planned4distinction between forced outages and derates. Were you7A. No, I didn't know that.6A. I shouldn't have been. A full forced outage7outage in the fall the previous time, then it's going to do the math of 18 months, you can see how that would work, 9Q. We were talking about these forced outages10right?10Hat Staff gave you that they wanted particular moths for particular durations. The changes you made regarding12Q. Nou didn't know that's how it always worked at at Callaway, correct?1014A. No.1115A. Correct, yes.1116Q. Did you know that the previous planned outage1517A. Correct, yes.1618A. No, 1 didn't.1619at Callaway had been in the fall?1910Q. So the company had modeled a planned outage in the fall?1914Q. So the company had modeled a pla				
24 Q. Do you have experience with that? Do you know 24 Q. Well, November is 30 days, but you could get 25 how often nuclear plants have major planned outages? 25 it close to fitting in November, right? Page 55 Page 57 1 A. No. 1 A. Ýes. 2 Q. Did you know for example since Callaway has 3 derates at Callaway and it seems like you were drawing a 3 without exception, roughly every 18 months? 4 distinction between forced outages and derates. Were you 5 A. No, I didn't know that. 5 A. I shouldn't have been. A full forced outage 6 Q. All right. And if Callaway had a planned 6 A. I shouldn't have been. A full forced outage 7 and a partial forced outage is a derate. 9 Q. We were talking about these forced outages 10 right? 10 that Staff gave you that they wanted particular months with 11 A. No. 11 particular durations. The changes you made regarding 12 Q. Did you know that the previous planned outage 15 that Were talking about for Callawa? 10 right? 10 that Were talking about for Callawa? 12 13 <td></td> <td></td> <td></td> <td></td>				
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15 (Pages 54 to 57)

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run it at 950. They did that and we removed those and we	1	A. You asked me if I benchmarked and I just said
		no, I didn't benchmark.
•	3	Q. You didn't benchmark at all?
	4	A. Not in those cases.
	5	Q. All right. When you have benchmarked or
	6	calibrated your model for clients, and I assume well,
	7	yeah, for clients, what percentage of the time would you
-	8	say that you benchmark it or calibrate it against actual,
	9	as opposed to benchmarking or calibrating against somebody
	10	else's model run?
AmerenUE modeled it that way?	11	A. I don't recall I've ever calibrated against
A. No.		somebody's model run.
Q. Did you ask Mr. Finnell what the rationale		Q. Until this case?
was?	14	A. That's correct.
A. I don't remember whether I did or not, but	15	Q. This is the first time you've ever done that.
Q. You don't know if that was, for example, based	16	Why didn't you calibrate your model against
on actual operating history of Callaway over a period of	17	
years?	18	A. Well, the actual data wasn't provided. We
A. No. But that doesn't seem likely, but	19	were trying to benchmark it against the Ameren benchmark
Q. Before you getting involved in this case, you	20	
• • •	21	Q. Did somebody tell you to benchmark your model
		against UE's model, as opposed to benchmarking or
1		calibrating against actual data?
		A. One of the bullets in my contract was to run a
operating nuclear facilities in general?	25	benchmark model against the Ameren benchmark model.
Page 59		Page 61
A. No.	1	Q. So Staff actually prescribed in your scope of
		work, that they wanted you to benchmark the model against
		Ameren's model, right?
A. Yes. I think several of the ones I do have	4	A. Yes, correct.
nuclear units in it.	5	Q. And something you've never done before?
Q. Have you ever done any studies or analyses	6	A. Not that I recall.
about typical forced outage rates at a nuclear plant?	7	Q. Did you find it unusual that Staff wanted you
A. Not that I can recall.	8	to benchmark your model against another model run, as
Q. All right. Pages 11 and 12 of your testimony,	9	opposed to actuals like you'd always done before?
you say that you normally benchmark the RealTime mode	110	A. I asked them about it and they explained that
against actual data. That's how you normally do it, right?		with interchanges and other factors, it just wasn't that
A. Correct, yes.	12	easy to do, to get the data that we needed.
Q. All right. And in response to DR	13	Q. Tell me as specifically as you can recall what
TDF-Staff-001, you identified a few different RealTime	14	their explanation was.
	15	A. Well, it was yesterday and my memory is not
of those clients, did you benchmark or calibrate if I	16	that good even from yesterday. It was because of the
	17	interchange sales between CIPS and Ameren, something of
interchangeably; does that make sense to you?	18	that nature.
A. Yes.	19	Q. They gave you this explanation yesterday?
Q. All right. Did you calibrate the model to	20	A. Yeah, because I asked them about it again
actual data before making those runs for those clients?	21	yesterday.
A. In those studies that I mentioned in the DR,	22	Q. Well, you state in your testimony on Pages 11
	23	and 12 Do you have a copy of your testimony with you
no, I did not.		and 12 Do you have a copy of your testimony with you
no, I did not. Q. Did you calibrate the model at all before making those studies that you mention in the DR?	23 24 25	A. Yes, I do. Q. I want to make sure I'm reading this
	changed the maximum monthly capacity of the unit to sor other numbers. Q. Right. And you understood that AmerenUE modeled it that way that was their way of simulating forced outages throughout the year, correct? A. That's what I was told, correct. Q. You were told that by Staff or? A. Mr. Finnell. Q. Okay. Do you have an understanding why AmerenUE modeled it that way? A. No. Q. Did you ask Mr. Finnell what the rationale was? A. I don't remember whether I did or not, but Q. You don't know if that was, for example, based on actual operating history of Callaway over a period of years? A. No. But that doesn't seem likely, but Q. Before you getting involved in this case, you didn't know anything about the Callaway unit; is that correct? A. Correct. Q. And do you have any particular experience with operating nuclear facilities in general? Page 59 A. No. Q. Have you regularly modeled utilities that have nuclear units in it. Q. Have you ever done any studies or analyses about typical forced outage rates at a nuclear plant? A. Not that I can recall. Q. All right. Pages 11 and 12 of your testimony, you say that you normally benchmark the RealTime mode against actual data. That's how you normally do it, right? A. Correct, yes. Q. All right. And in response to DR TDF-Staff-001, you identified a few different RealTime model runs that you've done for various clients. For any of those clients, did you benchmark or calibrate if I use the term benchmark and calibrate, can I use those interchangeably; does that make sense to you? A. Yes.	Q. Right. And you understood that AmerenUE4modeled it that way that was their way of simulating forced outages throughout the year, correct?6A. That's what I was told, correct.7Q. You were told that by Staff or?8A. Mr. Finnell.9Q. Okay. Do you have an understanding why10AmerenUE modeled it that way?11A. No.12Q. Did you ask Mr. Finnell what the rationale13was?14A. I don't remember whether I did or not, but15Q. You don't know if that was, for example, based16on actual operating history of Callaway over a period of17years?18A. No. But that doesn't seem likely, but19Q. Before you getting involved in this case, you20didn't know anything about the Callaway unit; is that21correct?23Q. And do you have any particular experience with24operating nuclear facilities in general?25Page 593A. Yes. I think several of the ones I do have4nuclear units in it.5Q. All right. Pages 11 and 12 of your testimony,9you say that you normally benchmark the RealTime model10against actual data. That's how you normally do it, right?A. Correct, yes.222Q. All right. And in response to DR13TDF-Staff-001, you identified a few different RealTime14model runs that you've done for various clients. For any15of those clients, did you benchmark or c

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1	correctly. You state in your testimony at Lines 20 to 22,	1	average of the last three years.
2	you state: In the current case, test year data being used	2	So that is not benchmarking against actual.
3	by RealTime has already been processed and synthesized by	3	The actual data on January 1, hour 14 last year, there was
	AmerenUE and can no longer be compared against an unbiased		an actual forward price curve value, and I was not given
4 E		5	that value. So you can't model it if you're not given the
5	objection.	6	value.
6	That's your sworn testimony, right?	7	Q. Well, AmerenUE's model run that underlies
7	A. Yes, it is.	8	Mr. Finnell's testimony in this case wasn't attempting to
8	Q. Did somebody discuss with you this concept of	9	model actual conditions, was it?
9	processed and synthesized data?	10	A. No, it wasn't.
10	A. Well, I must have heard from somewhere. I	11	Q. I mean, production cost model, one of the
11	looked at their I looked at their I mean for example,	12	reasons you use a production cost model is we've got
12	the Callaway unit, I just figured that it could not run at	13	conditions that differ from actual, we want to model those
13	that derating level. I looked at another data set that I	14	so we can see what we think the results will be, correct?
14	maintain and J saw that Callaway did indeed have forced	15	
15	outages in 2005. So I knew immediately that their	16	A. I don't know why you guys run them.
16	benchmark run was not against actuals.	10	Q. Well, how about production cost modeling in
17	Q. Well, yesterday you're asking them again,	18	general. We don't need a production cost model to tell us
18	roughly a month after you file your direct testimony, you're asking them to give you some explanation as to why	19	what the actual results in a given 12-month period were, do we?
20	they wanted you to benchmark your model against AmerenUE	ş 🛛	A. No, not if the period has passed, you don't.
21	model. And you testified that one of the reasons they gave	21	Q. Right. I mean we just look at the books and
22	you, there's something about interchange sales between	22	we know how many megawatt hours were generated, we know
23	· · ·	23	what the prices were, we know what the margins were, we
24	A. No. I actually asked them yesterday, I said,	24	know what the fuel costs were, we know that information
	we should have benchmarked this thing against our actuals.	25	without running a model, correct?
		23	without fullining a moder, concet:
	Page 63		Page 65
1	That's been my opinion.	1	A. You should, yes.
2	Q. That's been your opinion all along, that	2	Q. So when AmerenUE ran their model that
3	really the way to benchmark is to do it against actuals,	3	underlies Mr. Finnell's testimony which you benchmarke
4	right?	4	against, right?
5	A. Yeah. But they explained to me why it was	5	A. Yes.
6	difficult to get the data.	6	Q. Mr. Finnell wasn't trying to find out what the
7	Q. Well, you give some reasons on Pages 11 and 12	7	actual results were for that past period; Mr. Finnell was
8	of your testimony. Where did you get these reasons?	8	trying to model based upon a different set of conditions
9	Because you testify in your December 15 testimony, you	9	what the results would be, correct?
10		10	A. I don't know what he was doing.
11		11	Q. Well, does that make sense; that he was
	reasons?	12	modeling something other than actual conditions? You
13	····· 1·····		just
14	(,	14	MR. DOTTHEIM: I object, Mr. Lowery.
15	independent thought or did somebody suggest these reasons	15	Mr. Rahrer has answered your question.
16		16	Go ahead. Answer the question.
17	A. I was told to benchmark against the Ameren	17	A. I don't know why Tim did what he did.
18		18	THE WITNESS: Sorry. Can I call you Tim; is
19		19	that all right?
20	· · · · · · · · · · · · · · · · · · ·	20	MR. FINNELL: Yes.
21	page. The market price curve was created from data	21	A. When you benchmark a model against reality,
22		22	it's not to find out the number. Let's say the magic
23	· · ·	23	number for Ameren last year was 47. You don't run a mode
24	worksheets that I was given by Ameren, it clearly showed	24	to try to come up with the 47; you try to run a model to
25	that they were getting their forward price curves from the	25	see if you can get close to the 47 just to let you know
,	n 2 👔 ya a a anali ya bakata kuwa kasana kuta kata kata kata kuta kata kata kat		and the second se
			17 (Pages 62 to 65)

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that your model is working correctly. Know whether he used actual hourly load or he had some kit 2 Q. (By Mr. Lowery) That's right. A. That's why you would do that. Oreclean transmodel whether he used actual hourly load or he had some kit 3 A. That's why you would do that. Oreclean transmodel whether he used actual hourly load or he had some kit 4 A. That's why you would do that. Oreclean transmodel whether he used actual hourly load or he had some kit 5 Oreclean transmost work he has done, correct? A. Uh-huh. 7 A. There was several pieces of it. I know I read hat he follow-up. 10 Q. Testimony from back in July of 2006 - A. That's correct. 11 A. That's correct. A. That's correct. 12 Q he discussed in hat testimony calibration It and recorrect? 13 A. I don't recorrect? D. Whether he did. I clearly does say he compared 14 A. I don't recorrect? C. Which is what you would normally do? 15 Q. And you read that? C. 16 A. Yes. G. You don't know what was available or 19 A. I fly was attached to it, I'm sure I did. G. You don't know what was available or 19 A. I don't recall G. Y				
 Q. (By Mr. Lowery) That's right. A. That's why you would do that. A. That's why you would do that. Q. Well, desen't Mr. Finnell's direct testimony where he discussed the calibration work he has done to calibrate AmerenUE's production cost model? A. There was several pieces of it. I know I read the first piece of restimony that he sent out. I don't end the follow-up. Q. Well, desen't Mr. Finnell's direct testimony that he sent out. I don't end the follow-up. Q. Well, desen't Mr. Finnell's direct testimony that he sent out. I don't end the follow-up. Q. Testimony from back in July of 2006 - M. That's correct. M. That's correct? M. Thens' to correct? A. I believe so, yes. A. I believe so, yes. A. I believe so, yes. A. I don't recall. Q. Wui din't ask fif to get for you any of the data underlying? M. Finnell's calibration runs that he discussed in his testimony? M. I don't recall. A. I don't recall. A. I don't recall. A. I don't recall. A. Jou't recall. A. Do you have his testimony blace of on raw and another piece, he was talking about the realthmark true. Finnell' data. M. LOWERY: I'm going to hand you - Let's taking about the realthmark the splease. M. R. LOWERY: I'm going to hand you what's taking about the realthmark the splease. M. R. LOWERY: I'm going to hand you wita's taking about the realthmark the splease. M. R. LOWERY: I'm going to hand you wita's taking about the realthmark the splease. M. R. LOWERY: I'm going to hand you wita's taking about the realthmark the splease. M. R. Dowery I'm going to hand you wita		Page 66		Page 68
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19 Q. All right. I'm going to direct your attention 19 A. I guess they wanted to, but I don't know				
			1	
20 to Page 5 and ask you to just read that to yourself. 20 whether they could or not.	20	to Page 5 and ask you to just read that to yourself.	1	whether they could or not.
				•
		Q. Do you agree with what Mr. Finnell has to say	ì	wanted you to benchmark it against Ameren's model run, a
23 there about calibrating models against actual data? 24 A Well I don't know how big models against actual data?			1	
A. Well, I don't know how his model works, so I 24 asked for the actual information, correct?			1	
25 really can't answer that. I don't know where he I don't 25 A. As far as I know, yes, that's true.	25	reatly can't answer that. I don't know where he I don't	25	A. As far as I know, yes, that's true.

18 (Pages 66 to 69)

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	Page 70		Page 72
1	Q. You don't have any reason to believe or any	1	utility?
2	evidence to suggest that had Staff asked for that	2	A. Yes.
3	information, it would not have been available; is that	3	Q. I mean for example if AmerenUE's model
4	fair?	4	produces biassed fuel burn projections, AmerenUE may buy
5	A. I can't possibly answer that. No, I have no	5	too much fuel or not enough fuel which could have negative
6	evidence.	6	impacts on its business, correct?
7	Q. You don't have any evidence it would not be	7	A. Yes, it could.
8		8	Q. Do you have any evidence that AmerenUE's fuel
	available, right?	9	burn projections that have been made using the PROSYM mode
9	A. That is true.	10	produced biased results?
10	Q. You don't have any particular reason to	11	A. I don't have any evidence, but I haven't seen
11	believe it would not be available, correct?		
12	A. That is true.	12	any of them.
13	Q. You don't know for sure if it was available,	13	Q. You don't have any evidence, right?
14	but you don't have any evidence that it was not available,	14	A. That's correct.
15	correct?	15	Q. Do you have any evidence of any kind that
16	A. That is correct.	16	AmerenUE's production cost model produced biassed results
17	Q. I take it because you didn't seem to express a	17	in any of these important areas?
18	lot of familiarity with the calibration work that	18	A. I have no evidence to that effect.
19	Mr. Finnell has done, I take it you don't have any	19	Q. Now, actual data for a particular historical
20	criticisms of his calibration; is that true?	20	period I think we talked about this a little bit it
21	A. I don't recall seeing any information from his	21	may very well not be reflective of future conditions that
22	calibration other than this paragraph.	22	we're trying to model, correct?
23	Q. And based upon that paragraph or a prior	23	A. Correct, yes.
24	review you make of Mr. Finnell's testimony filed in July of	1	Q. Changes sometimes take place during a
25			particular period. For example, let's say the test year in
25	oo, do you have any enticisms of his canoration work?	~~~	particular period. For example, let's say the test year in
	Page 71		Page 73
1	A. It's impossible to have criticism or praise	1	this case, changes may take place in generation, in loads,
2	with only that paragraph. I mean, a half percent sounds	2	purchase power contracts that are not available. Those
3	I'm not supposed to volunteer information. A half percent	3	changes may take effect that we know are going to be
1			
1 4		1	
4	sounds good, but I don't know what his load input was.	4	permanent. So if we're trying to run a model for a test
5	sounds good, but I don't know what his load input was. Q. You haven't examined his calibration results	4 5	permanent. So if we're trying to run a model for a test year so we can use those results to try to predict what may
5 6	sounds good, but I don't know what his load input was. Q. You haven't examined his calibration results or asked for any of the underlying data in order to	4 5 6	permanent. So if we're trying to run a model for a test year so we can use those results to try to predict what may be a production cost level in the future, we need to model
5 6 7	sounds good, but I don't know what his load input was. Q. You haven't examined his calibration results or asked for any of the underlying data in order to evaluate it; is that fair?	4 5 6 7	permanent. So if we're trying to run a model for a test year so we can use those results to try to predict what may be a production cost level in the future, we need to model those changes, right?
5 6 7 8	sounds good, but I don't know what his load input was. Q. You haven't examined his calibration results or asked for any of the underlying data in order to evaluate it; is that fair? A. I haven't seen any of it and I haven't asked	4 5 6 7 8	permanent. So if we're trying to run a model for a test year so we can use those results to try to predict what may be a production cost level in the future, we need to model those changes, right? A. When you model the future, yes.
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5 6 7 8 9 10	 sounds good, but I don't know what his load input was. Q. You haven't examined his calibration results or asked for any of the underlying data in order to evaluate it; is that fair? A. I haven't seen any of it and I haven't asked for it; that's correct. Q. You were aware it existed because you read the 	4 5 7 8 9 10	 permanent. So if we're trying to run a model for a test year so we can use those results to try to predict what may be a production cost level in the future, we need to model those changes, right? A. When you model the future, yes. Q. And that's really why we have models, so we can make changes to actual data and determine what we think
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19 (Pages 70 to 73)

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	Page 74		Page 76
1	0 0 sains anal ²	1	you use in your model, right?
1	Q. Or going away? A. Yes.	2	A. Yes, but for the future. When you're dealing
2	 A. Tes. O. Models are designed to accept those kinds of 	3	with the past year, you don't have to process or synthesize
3	changes or inputs. And if you have a good model, they're	4	anything. You've got the invoices.
	designed to produce reasonably accurate results even based	5.	Q. You do understand that rates to be set in this
5 6	on those changes, right?	6	case will be in effect in the future, right?
7	A. They should, yes.	7	A. Yes.
8	Q. They should. I mean that's the point of	8	Q. We're not trying to figure out what the
9	having a model, right?	9	production costs were in a past period. We're trying to
10	A. Correct.	10	figure out what a normalized level of production cost would
11	Q. Doesn't when we have conditions that we're	11	be so that the Commission can make a decision about how to
12	modeling that are different than actual we just talked	12	use that calculation in setting rates. Is that your
13	about a whole bunch of things that are different than maybe	13	understanding?
14	the actual information from a period. Isn't it true that	14	A. Yes.
15	data is often processed and synthesized before we input it	15	Q. Rates in the future, right?
16	into the model?	16	A. Yes.
17	A. If you're talking about what you were just	17	Q. And various processed and synthesized data was
18	talking about, modeling the future for handling changes in	18	used by you in your model in order to come up with those
19	weather	19	results for the Staff, correct?
20	Q. I mean, weather data I know you testified	20	A. I don't know where they came from, but I
21	you don't really know how people go about weather	21	assume they processed them somehow to give me the data.
22	normalizing loads. But you know that weather normalized	22	Q. On Page 12, Lines 3 to 5 of your testimony,
23	loads reflect a lot of different kinds of analyses and so	23	you say: Usually items such as heat rate curves are
24	on that go on, that they process and synthesize actual	24	created from periodic heat test, not a heat rate curve such
25	temperatures and so on throughout the year to come up with	25	as AmerenUE uses.
	Page 75		Page 77
1	-	1	-
12	a weather normalized load. There's a lot of processing that went on to come to that weather normalized load,	1 2	Or that's the import of what you said. Is that a fair characterization of what you said?
3	correct?	3	A. Correct, yes.
4	A. Yes.	4	Q. Have you been involved with any utilities
5	Q. Unit availabilities, the information you use	5	generating unit heat rate testing programs?
6	and the company used, and I'll pull Callaway out of that	6	A. No. But I've been involved with utilities
7	and I know you made some adjustments on Rush Island, but in		where they told me they got their data from heat rate test.
8	general, was a six-year average of GADS data, right?	8	Q. Do you know anything about the frequency of
9	A. Right.	9	those heat rate tests, how they do them?
10	Q. I mean, that's not actual data; that's an	10	A. No, I don't.
11	average that's been calculated, right?	11	Q. They just told you they get them from heat
12	A. Correct. But going into the future, you can	12	rate tests, right?
13	have actual date for forced outages. You can have an	13	A. Yes.
14	actual date when a new unit is going to come on line, for	14	Q. That's really the extent of your knowledge
15	example.	15	A. Yes.
16	Q. What about energy prices. Are you aware that	16	Q is that some utilities told you, hey, we
17	Dr. Proctor ran various regressions, took averages, did	17	use heat rate tests, that's how we get this heat rate
18	various data processing and synthesizing of data to come up	18	information?
19	with what he believed normalized level of energy prices	19	A. That's correct, yes.
20	were?	20	Q. All right. Do you know how often utilities
21	A. Once again, he's going into the future. And I	21	typically perform a heat rate test?
22	assume that's what he did, but I don't know where he got	22	A. No, I don't.
23	his data from.	23	Q. Do you know how heat rate testing is actually
24	Q. But assuming that's what he did, he processed	24	done?
25	and synthesized data before he fed you those inputs that	25	A. No, I don't.
			20 (Pages 74 to 77)

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		Page 78		Page 80
1	0.	Do you know if they test at maximum loads	1 ·	MR. DOTTHEIM: Mr. Lowery, would you permit
2	only?	20,000	2	Mr. Rahrer to complete his answer.
З		No, I don't.	3	MR. LOWERY: I think he's answered my
4	Q.	At minimum and maximum loads, do you know		question.
5		I don't know, no.	5	MR. DOTTHEIM: Well, he's
6	Q.	Do they test at various points?	6	MR. LOWERY: If you want to ask him a question
7		I don't know.	7	on redirect, you can ask him a question on redirect.
8		Don't really know anything about it.	8	MR. DOTTHEIM: I thought, Mr. Lowery, you said
9		Are off-line adjustments needed to correct for	9	you wouldn't talk over Mr. Rahrer, which is what I think
10		water temperatures of the time of the test,	10	you were doing.
11		er it is they do the test?	11 12	MR. LOWERY: I thought he had completed his
12		I don't know.	13	answer. MR. DOTTHEIM: No, I don't think he had
13		What parameters impact the unit's heat rate,	14	completed his answer.
14	do you l		15	Mr. Rahrer, had you completed your answer?
15 16		No, I guess I don't. Does air temperature affect it?	16	A. I was going to say that using those three
17		That, I believe it does, yes.	17	coefficients to come up with the heat rate curve is
18		Water temperatures?	18	probably a good generic way to do it. But with a few heat
19		I believe so, yes.	19	rate tests, you could probably get come closer to the
20	Q.		20	right answer.
21		I imagine.	21	Q. (By Mr. Lowery) Mr. Rahrer, you don't know how
22		How the equipment is performing?	22	many heat rate tests or the frequency of those heat rate
23		I don't know what you mean by that. I don't	23	tests or how they were done, you don't have any idea what
24	know.	v v	24	heat rate tests do or do not underlie AmerenUE's heat rate
25	Q.	The amount of auxillary equipment that may be	25	curves, do you?
		Page 79		Page 81
1	on line	at the time of the heat rate test; does that affect	1	A. I have no idea.
12	it?	at the time of the heat fate test, does that affect	2	Q. You have no idea?
3		I don't know.	3	A. That's correct.
4		To the extent that all those kinds of items	4	Q. So when you say a few heat rate tests might
5		he heat rate, do you think a single test is going	5	come to a closer answer, you don't whether AmerenUE maybe
6		de a sufficient heat rate information to actually	6	has done, in your words, a few heat rate tests, do you?
7		on in your production cost model?	7	A. That's correct, I do not.
8		That, I don't know.	8	Q. Or when they did them or how they did them or
9	Q.	Do you have any evidence that AmerenUE's hea	t 9	what conditions they were done under; is that correct?
10	rate cur	ves are not reflective of the current heat rates at	10	A. That's correct.
		AmerenUE's generating units?	11	Q. So, again, I'm going to ask you, you don't
12	Α.	No. I looked at some hourly output from	12	have any evidence except the speculation that you seem to
13	another	product that I have. And some of them were not	13	be expressing, that there's any inaccuracy in AmerenUE's
14		the same thing, but the product that I looked at	14	heat rate test heat rate curves, do you?
15		oss heat rate sorry gross capacity. So I	15	A. I have no evidence.
16		t exactly tell. But it looked like to me in some	16	Q. And your testimony where you talk about the
17		ere were some variances, but I don't have anything		heat rate curves is really based upon some comments that
18	written		18	you received from other utilities that, hey, we use heat
19 20		You really don't know anything about how	19	rate test, as opposed to a heat rate curve; is that the
20		nUE derived its heat rate curves, do you? I do not.	20	substance of your testimony?
22			21 22	A. Assuming they were telling me the truth, yes,
22	Lest rat	You really don't have any evidence that their e curves are inaccurate in any way; is that fair?	22	that's
24		No, I guess I don't. But there's	23	Q. And you don't know anything about what they
1 <u>~</u> "	л.	ito, i guess i dont. Dut mere S	24	do, do you?
25		All right.	25	A. It's been explained to me in the past. But,

21 (Pages 78 to 81)

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	Page 82		Page 84	8
-1	- I didn't as monitor the test	1	A. That's true, but I thought they were included	* ** *
	no, I didn't go monitor the test. Q. But in effect, you were criticizing AmerenUE's	2	here.	·
2	use of heat rate curves in your testimony, weren't you?	3	Q. Just assume that they're not included. If	د در دهد
3 4	A. Yes, I was.	4	that's the case, they were not included and you included	
5	Q. Without really any basis for that criticism;	5	them, the outage hours would go up, correct?	1. The second
6	is that fair?	6	A. Yes.	- 440 M
7	A. I didn't have I don't know if	7	Q. And if the outages are greater, then the	1
8	Q. You don't have any evidence that there was	8	equivalent availability is going to be less in each of	1.1
9	problems with the heat rate curve?	9	those units, correct?	×.
10	l apologize for interrupting. I thought you	10	A. Hours are greater?	
11	were done.	11	Q. Outage hours are greater.	
12	A. Ask the question again.	12	A. Yes, that's right.	10.12
13	Q. You didn't have any evidence that there were	13	Q. Now, for the RealTime outage hours outage	
14	problems with AmerenUE's heat rate curves, but you	14	hours RealTime, which would be the fourth column on	1.1
15	criticized the use of those heat rate curves in your	15	Schedule 3 are you with me?	1.1
16^{10}	testimony?	16	A. Yes.	
17	A. Yes, I did.	17	Q. How did you calculate those numbers?	
18	Q. Could you please take a look at Schedule 3 to	18	A. Those are from the equivalent availability of	÷.
19	your testimony. Can you tell me how the numbers in the	19	the unit.	
20	Ameren the outage hours Ameren column were determined?		Q. Let's take a look at Labadie 1 in the outage	1010010
21	A. It might have been from the GADS worksheet	21	hours RealTime. You're showing Labadie out 2,307 hour	
22	that was provided to me. There was a list of actual	22	right?	F'
23	outages and outage hours were summed up or I summed up the		A. Yes.	
24	hours. This was definitely from Ameren input to me.	24	MR. LOWERY: I'm going to show you I gues	
25	Q. Do you know if it was 8,760 hours minus the	25	we can go ahead and mark this too.	
	Page 83		Page 85	magens - germ
1	hours connected to load for each of those units?	1	(Whereupon the reporter marked Exhibit No. 4	veriu
2	A. No, I do not know that.	2	for identification.)	1.5
3	Q. Are you familiar with your work paper	3	Q. (By Mr. Lowery) I'm going to hand you what's	ŀ
4	RT_AMB_Outages.xls?	4	been marked Exhibit 4, Rahrer, for this deposition. Do you	1
5	A. I think that's where I got this information	5	recognize this?	
6	from.	6	A. Yes.	1
7	Q. Is that spreadsheet the source of your	7	Q. And this is these are the results of your	4.000
8	calculations in the column we're talking about?	8	RealTime Ameren benchmark run; is that right? Look it	
9	A. Yes. I think I just typed the number in.	9	over.	Ľ.
10	Q. Are you aware that the outage hours of Ameren	10	A. Yes.	ŀ.
	in this column, they do not include derates?	11	Q. All right. And I'm going to direct your	ŀ
12	A. I thought they did include derates.		attention to a page that at the top, it says, Ameren	1000
13	Q. So if they don't include derates, you were not		MPSC0140, Ameren benchmark run, original 2005. And over o	n.
14	aware of that; in fact, you made the opposite assumption?		the left, it says, hours connected to load?	;
15	A. I thought these were what I call equivalent	15	A. Yes.	į
16	outage hours, which is the number of hours it would be	16	Q. You're familiar with this, right? This is	
17	equivalently out if it was on full force outages all the	17	output from your model, right?	
18	time. That was my assumption.	18	A. Yes.	÷
19	Q. If that assumption was wrong and derates were	19	Q. For Labadie 1, if we go over here to the total	ľ.
20	not included, if we included derates in these numbers, the		column, we get 6,729 hours connected to load, right?	ľ
21	outage numbers would go up, wouldn't they? We'd be ou		A. Uh-huh.	ľ
22	more if we include derates, as opposed to not including	22	Q. All right. On Schedule 3, you've got Labadie	ľ,
23	derates, correct?	23	out 2,307 hours, right?	Ē
24	A. If they're not included here?	24	A. Yes.	ľ
25	Q. Yes.	25	Q. And if you sum those two together, we get	Ì

22 (Pages 82 to 85)

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Page 88 Page 86 Q. Let's take a look at Schedule 1 to your 9,038 hours; would you agree with that? 1 1 testimony, please. Is this a mistake in the labeling on 2 A. Yes. 2 3 the left most column, the last line that says purchases? 3 Q. And there's only 8,760 hours in a year, Is that purchases or is that in fact total energy in 4 4 correct? A. Correct. 5 5 megawatt hours? 6 A. That is a mislabel. 6 Q. So that can't be right, can it? 7 Q. Is it supposed to be --7 A. But this hours connected to load is not what 8 A. I believe it's a mislabel. I know it didn't 8 you guys are used to. Let's look at the equivalent 9 availability for the unit. 9 purchase that much. Q. If you look at Schedule 4, you have a similar Q. Okay. Explain what you're trying to get at 10 10 11 benchmark results table and you label that same line as 11 there. total energy in megawatt hours. A. I'm trying to show you where I got this 12 12 13 number 2,307. 13 A. Yes. Q. So Staff's production cost model reflects 14 Q. How did you get that number? 14 15 total energy in megawatt hours of 40,947,977; is that 15 A. I used the equivalent availability and I just 16 worked the formula backwards to find out how many correct? 16 17 equivalent hours it would have been out. 17 A. I believe -- Well, I can't do the math in my 18 Q. Well, let's take a look at another one. 18 head. This clearly is a mislabeled item. The purchases are actually three lines up. 19 Labadie 2 is out, according to Schedule 3, 717 hours, 19 20 right? Q. Yeah. The purchases are actually the 20 21 A. Yes. 21 1.5 million megawatt hours, right? 22 22 A. Correct. Uh-huh, Q. And Labadie 2 is shown as on-line in your Q. That's just a typographical error? 23 benchmarking run of 8,531 hours. And the total of those \$23 24 again more than the number of hours in a year. So explain 24 A. Yes. 25 to me again why that can be true. 25 Q. Could you please explain how you get Page 87 Page 89 1 A. I do not remember what this report reports, 1 equivalent availability information -- pardon me -- in your 2 these hours connected to load. And that's the source of 2 model? 3 3 the controversy. A. Yes. It's the number of hours in the 4 4 Q. This is your report, right? period -- I gave you a copy of my manual. It's in there 5 A. Yes, it is. This is a report that somebody 5 under the element report. Essentially, it's total hours 6 asked me to write and I'm not sure exactly what it reports 6 available minus the full outage hours, which is -- a full 7 7 and I can't tell you because I don't have my model in front outage is when the capacity is zero for the unit, minus the 8 8 of me. derated hours. The derated hours are -- a hundred megawatt 9 9 Q. Somebody at Staff asked you to write it, unit is derated to 70. Let's do the math. 10 10 correct? Every time it loses the amount of capacity for 11 A. No, no. This has been part of the RealTime 11 full generation, that would be one more derated hour. So 12 model for a long time. 12 you subtract the hours in the period, minus the full outage 13 Q. I see. Somebody asked you to conclude the 13 hours, minus the derated hours, divided by, I believe, the 14 capability in your model to produce this report at some 14 outed hours in the period. 15 15 point in the past? But that's Chapter 6 for the element report in 16 16 the manual. It's spelled out there. A. Yes. 17 Q. So when you spit out a RealTime model run 17 Q. All right. With the exception of Callaway and 18 results, this report is one of the reports that comes out? 18 I guess ultimately in the Staff model run, you ended up 19 A. You can ask for it, yes. 19 back at the same GADS information for Rush Island as well, 20 Q. And you chose to ask for it in making Staff's 20 right? 21 runs? 21 A. Correct. 22 22 A. That was one of the things, I think, that was Q. So with the exception of Callaway, you used 23 requested. 23 the NERC GADS data from UE and used some external RealTime 24 module; is that right? 24 Q. Staff requested this report? 25 25 Uh-huh. A. Yes. Α.

23 (Pages 86 to 89)

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1	Page 90		Page 92
1	Q. That's what you were sort of describing?	1	outages reported in the AmerenUE benchmarking model.
2	A. Yes.	2	It's the second sentence on that page, right?
3	Q. Now, after you use that external module, you	3	A. Yes.
	had to do some further manual adjustments; is that correct?	4	Q. Doesn't that reflect that you're making some
5	A. No. The module actually gives me the tables	5	manual adjustments after this external module had
	that I imported directly into RealTime.	6	calculated equivalent availability numbers?
7	Q. Do you recall back in December, I believe it	7	A. Yes. I did that for the Rush Island units, as
	was, there were some bullets that had been sent that we had	8	I've already said.
	sent to the company, the company sent to Staff, and Staff	9	Q. So you're talking about the adjustments you
	had provided to you in terms of looking for other work	10	made in the benchmarking run for the Rush Island unit;
	papers. Do you recall that?	11	that's what this is referring to?
12	A. You guys were looking for work papers from us?	12	A. To the best of my recollection, yes.
13	Q. Yes.	13	Q. All right. Thanks.
14	A. I don't remember the date. There's been two	14	So just so I'm clear and we'll set Callaway
15	cases.	15	aside. When you did the Staff model run, were the
16	MR. LOWERY: Let me show you and maybe it will	16	equivalent availabilities that you used by unit, by
17	refresh your recollection.	17	generating unit, were they exactly the same as the
18	Could you mark that, please.	18	equivalent availabilities that AmerenUE used in its
19	(Whereupon the reporter marked Exhibit No. 5	19	modeling?
20	for identification.)	20	A. Equivalent availabilities are not an input to
21	Q. (By Mr. Lowery) I'm going to hand you what's	21	RealTime. Equivalent availabilities are an output from
22	been marked Deposition Exhibit 5. I'm sure you would not	22	RealTime.
23	recognize the first page because it's an e-mail actually	23	Q. Let's ask it this way then: Did the
24	from me to some folks at Ameren forwarding on some	24	equivalent availabilities that came out of RealTime for al
25	information.	25	those non-Callaway units and the Staff model run, did the
	Page 91		Page 93
1	But you see that we have an e-mail from	1	match the equivalent availabilities from UE's modeling?
2	somebody at the Missouri Staff to myself and other folks,	2	A. I did not look at them.
3	with the subject line ER-2007-0002. That's this case,	3	Q. You don't know.
4	right?	4	Take a look at Exhibit 1. I think it's
5	A. Uh-huh.	5	Exhibit 1. Yeah. It's the e-mails, your e-mails. Take a
6	Q. Staff witness Rahrer work papers more to	6	look if you would at Page 45. And look between the two
7	follow, and then there's some file attachments. Do you se	e 7	dark black lines, there's an e-mail.
8	those?	8	A. Apparently I did.
9	A. Uh-huh.	9	Q. You looked at exactly what we were just
10	Q. I'll represent to you that the file	10	talking about, didn't you?
1		11	A. I guess I did.
11	attachments attached to this Exhibit 5 are correspond to		
	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these	12	Q. That's fine. I don't expect you to remember
11 12 13		12 13	
11 12 13 14	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail?A. Yes, I do.		Q. That's fine. I don't expect you to remember
11 12 13	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail?	13	Q. That's fine. I don't expect you to remember everything you've done in the last six months.
11 12 13 14 15 16	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail?A. Yes, I do.Q. You prepared these, right?A. Yes, I did.	13 14	Q. That's fine. 1 don't expect you to remember everything you've done in the last six months.A. I don't remember where I got the equivalent
11 12 13 14 15 16 17	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail?A. Yes, I do.Q. You prepared these, right?	13 14 15	Q. That's fine. 1 don't expect you to remember everything you've done in the last six months.A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might
11 12 13 14 15 16	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail?A. Yes, I do.Q. You prepared these, right?A. Yes, I did.	13 14 15 16	 Q. That's fine. 1 don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did.
11 12 13 14 15 16 17 18 19	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, 	13 14 15 16 17	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether
11 12 13 14 15 16 17 18 19 20	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, it's only got text on about a fifth of the page and it 	13 14 15 16 17 18	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for
11 12 13 14 15 16 17 18 19 20 21	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, it's only got text on about a fifth of the page and it starts out, the following file contains the actual unit 	13 14 15 16 17 18 19	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for each AmerenUE unit by unit, excluding Callaway, matched the
11 12 13 14 15 16 17 18 19 20	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, it's only got text on about a fifth of the page and it starts out, the following file contains the actual unit forced outage information, etc. Do you see that? 	13 14 15 16 17 18 19 20	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for each AmerenUE unit by unit, excluding Callaway, matched the equivalent availability from AmerenUE's model run and the
11 12 13 14 15 16 17 18 19 20 21 22 23	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, it's only got text on about a fifth of the page and it starts out, the following file contains the actual unit forced outage information, etc. Do you see that? A. Uh-huh. 	13 14 15 16 17 18 19 20 21	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for each AmerenUE unit by unit, excluding Callaway, matched the equivalent availability from AmerenUE's model run and the answer would be no; is that correct?
11 12 13 14 15 16 17 18 19 20 21 22	 Bullet 1, Bullet 2, and Bullet 3. Do you recognize these documents that are attached to this e-mail? A. Yes, I do. Q. You prepared these, right? A. Yes, I did. Q. And if we take a look at one page of these, it's only got text on about a fifth of the page and it starts out, the following file contains the actual unit forced outage information, etc. Do you see that? A. Uh-huh. Q. It says: After an initial run of the model 	13 14 15 16 17 18 19 20 21 22	 Q. That's fine. I don't expect you to remember everything you've done in the last six months. A. I don't remember where I got the equivalent outage hours to compare, but apparently I did. It might have been from one of the inputs. But, yes, clearly I did. Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for each AmerenUE unit by unit, excluding Callaway, matched the equivalent availability from AmerenUE's model run and the answer would be no; is that correct? A. I was thinking about something else. Ask it

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1	model run matched the equivalent availability from	1	A. The benchmark numbers? Is that what you're
2	AmerenUE's modeling on a per unit basis, again excluding	2	saying? Are you back to talking about the benchmark model?
3	Callaway. And before, you said, I didn't look at it, I'm	3	Q. Yes.
4	not sure. But this e-mail on Page 45 of Exhibit 1	4	A. The only thing we're off on is, of course, the
5	indicates you did look at it, right?	5	cost. RealTime came within nine megawatts of meeting
6	A. Yeah. Apparently the Schedule C comes from	6	Ameren's load.
7.	that comparison. Like I said, I don't remember it. You	7	Q. But we're off on the cost?
8	asked me where I came up with the numbers on Schedule 3 for	8	A. One and a half percent on the cost. RealTime
9	the Ameren numbers and I said I don't remember. I thought	9	is lower.
10	they might have been some of the input forms. I'm not sure	10	Q. Well, is it possible that one way to get your
11	whether they were output from the model.	11	model closer would have been to run more iterations?
12	Q. RealTime apparently in certain units must have	12	A. I can't you can't tell until you do it.
13	higher equivalent availability, correct, in the Staff model	13	Q. You ran 16 iterations; is that right?
14	run because it's generating 260,836 more megawatt hours,	14	A. Yes.
15	right, according to Exhibit 1, Page 45.	15	Q. How many iterations would you normally run for
16	A. It's not generating more. It's allowing that	16	other clients?
17	many more megawatts to be available.	17	A. Some clients run an absolute number of
18	Q. Right. Because the equivalent availability is	18	iterations. I always like to set and don't ask me
19	apparently higher, according to RealTime, than according to	19	statistics, because I can hardly pronounce statistics, much
20	Ameren's modeling, correct?	20	less know much about it, except there's a test in the model
21	A. That's correct, yes.	21	that you can set a level of confidence and a maximum
22	Q. And you indicate in the second line of that	22	sampling error. And every time the model gets finished
23	e-mail that we're looking at, that the data is pretty good,	23	with a run, it does it checks to see whether the model
24	but not perfect. So there were some imperfections in the	24	has converged on those numbers yet.
25	data you were using, right?	25	So I normally set for a one-year run, I
	Page 95		Page 97
1	A. When you're looking at a random element, it's	1	normally set the level of confidence to 99 percent and
2	hard to say you can call it an inaccuracy. It's hard to	2	sampling error to one. I just let it run until it meets
3	say that. It's an unknown. You don't know when the forced	3	that.
4	outage is going to occur. So to say that the RealTime	4	Q. Okay. You'll have to help me a little with
5	versus the PROSYM are inaccurate, we'd have to wait for the		statistics maybe. A confidence level of 99 and a sampling
6	period to be finished before we can determine that, the	6	error of one?
7	time frame you want to study. Not to split hairs. This is	7	A. Yes.
8	something in the future that hasn't happened yet, so we	8	Q. All right. Tell me Put that in eighth
9	don't know.	9	grade English for me.
10	Q. If in fact the equivalent availabilities from	10	A. That's probably better than most polls they
11	RealTime were higher than they should be, and I said if,	11	take on CNN or USA Today. There's also a section in th
-	I'm not asking you to agree that they are. But if they	12	manual that explains it. I use this thing called a T test
13	were, and it allows the units to generate more megawatt	13	for small samples. It's just a formula for doing it.
14	hours, the direction of that difference between AmerenUE	14	Q. Does it mean that at least based upon
15	and RealTime is going to be more megawatt hours	15	statistical analyses, that you believe that your model
16	availability, more off-system sales, more margins, and a	16	you're 99 percent sure that your model is coming within
17	lower overall production cost; is that right?	17	one percent of the actual results? If I stated it wrong,
18 19	A. That's correct, yes.	18	you tell me.
20	Q. You mentioned something about 70,760 of the	19	A. You could be stating it right. It's something
21	megawatts relating to Callaway changes. Are those changes no more, no less the changes we talked about before that	20	like that, yes.
22	you made to modeling regarding Callaway?	21 22	Q. But you're not completely sure yourself?
23	A. That's correct, yes.	22	A. No. I'm using a statistical test that somebody else gave me. What it does is it gives you, to
24	Q. How could you have made your model match or	24	coin the phrase, level of confidence in the results so that
25	get closer to AmerenUE's numbers?	25	the results might come close to reflecting reality.
			ine results might come close to reflecting reality.

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_	Page 98		Page 100
1 0	Now, you said something about, I think, some	1	benchmark run.
	set an absolute number of model iterations or	2	Q. On the benchmark run.
	hing like that. Were you given any direction by the	3	And total production costs, using rough
	uri Staff on how many iterations to run?	4	numbers, we're looking at, are 5 to \$600 million for
	. No.	5	AmerenUE?
). How did you arrive at 16?	6	A. The variable costs were, I think, 596,868,000.
	The model stopped at 16 because the results	7	That's the units, not purchase or sales.
	rged on that 99 and one percent.	8	Q. Give me that number again.
). You'd agree if you run Real Time once based on	9	A. 596,868,000.
	cular set of inputs, the results may have sampling	10	Q. So we're about \$9 million off. If we're a
10 a parti 11 error?	cular set of inputs, the results may have sumpling	11	percent and a half off, we've got a \$9 million divergence,
	. It's not going to reflect reality very well.	12	right?
	And multiple iterations, you're trying to	13	A. No. I took that one and a half percent based
	e that sampling error, right?	14	on the final cost, which was whatever these three number
	A. Correct.	15	were added together.
). I think you even discussed this with	16	Q. You're looking at Schedule 4?
	ender. If you look on Page 24 of Exhibit 1, you're	17	A. Yes.
	sing this very issue, are you not? Take a look at	18	Q. All right. Maybe we ought to just add them
	efore you answer that.	19	up.
	A. This was obviously early. I don't know what	20	A. You've got the results there some place. It's
	te of this is, but it's an early phase of the model	21	on a spreadsheet.
	don't remember what was changed, but something wa		Q. What numbers should I add?
	usly changed in the outage schedules or something.	23	A. On this one?
	2. We're talking about the benchmark run here,	24	Q. Uh-huh.
	you agree?	25	A. Try adding all three of those.
		2.5	A. Try adding all thee of those.
	Page 99		Page 101
	A. Hang on a second. Yes, it is the benchmark	1	Q. 596, 31, and the negative 325?
2 r un.		2	A. Yes. The bottom line number on the RealTime
	Q. If you look down about 80 percent of the way	3	benchmark run was about 302 million. I believe the bottom
	that page, I see a 10/20/2006 date. I don't know if	4	line on the Ameren benchmark run was 3.7 or actually, I
	associated with the e-mail that we were just looking		don't remember, but we've got it in front of us somewhere.
6 at.		6	Q. Let me ask it this way: If you're a percent
1	A. These are in order.	7	and a half off on the benchmark run on total cost, then
	Q. So we're in that October 20 time frame	8	your starting point when you then run the Staff model run
9 proba	•	9	is a divergence of one and a half percent in terms of cost;
	A. Yes.		is that right?
1	Q. And you're indicating that you're going to try	11	A. It could be.
	rations to try to get the sampling error down to	12	Q. Well, why wouldn't it be?
	ercent?	13	A. It could go the other way just as easy, I
	A. Right.	14	mean.
1 2 5	Q. You're trying to get that 99 percent, one	15	Q. When you say the other way?
		116	A. It's based on just Okay. Let's go back to
16 perce	nt confidence level we were talking about?	16	j · · · · j · · · · · · · · · ·
16 perce	A. Right.	17	your statement. We're starting RealTime. Probably due to
16 perce 17 1 18 0			
16 perce 17 1 18 0 19 1	A. Right.	17	your statement. We're starting RealTime. Probably due to
16 perce 17 1 18 0 19 1	A. Right. Q. Did you ever run 30 iterations?	17 18 19	your statement. We're starting RealTime. Probably due to forced outages, RealTime is coming in one and a half percent less than your cost. So RealTime outages are
16 perce 17 2 18 0 19 2 20 some	 A. Right. Q. Did you ever run 30 iterations? A. I don't think I did. I think I ran 25. Then 	17 18 19	your statement. We're starting RealTime. Probably due to forced outages, RealTime is coming in one and a half
16 perce 17 18 0 19 20 somet 21 what	 A. Right. Q. Did you ever run 30 iterations? A. I don't think I did. I think I ran 25. Then thing was changed in the model, which I can't tell you 	17 18 19 120	your statement. We're starting RealTime. Probably due to forced outages, RealTime is coming in one and a half percent less than your cost. So RealTime outages are probably going to keep it at one and a half percent. That's a reasonable assumption to make.
16 perce 17 1 18 0 19 1 20 something 21 what 22 something	 A. Right. Q. Did you ever run 30 iterations? A. I don't think I did. I think I ran 25. Then thing was changed in the model, which I can't tell you it was, but obviously an outage unit outage table 	17 18 19 120 21	your statement. We're starting RealTime. Probably due to forced outages, RealTime is coming in one and a half percent less than your cost. So RealTime outages are probably going to keep it at one and a half percent. That's a reasonable assumption to make. Q. All right. So our starting point right off
16 perce 17 18 0 19 20 some 21 what 22 some	 A. Right. Q. Did you ever run 30 iterations? A. I don't think I did. I think I ran 25. Then thing was changed in the model, which I can't tell you it was, but obviously an outage unit outage table place that made this thing converge at 16 iterations. Q. Now, on costs, you're one and a half percent 	17 18 19 20 21 22	your statement. We're starting RealTime. Probably due to forced outages, RealTime is coming in one and a half percent less than your cost. So RealTime outages are probably going to keep it at one and a half percent. That's a reasonable assumption to make.

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Pagé 104 Page 102 Q. So part of it may be -- let's assume PROSYM 1 A. No. You can't say that. Because I mean this 1 also randomly assigns forced outages and RealTime does it 2 2 was based on their forward price curve numbers. We've and maybe the random results don't match up perfect, right; 3 3 changed the forward price curve numbers. I mean I --4 that's one point you were making? Q. I'm sorry. Go ahead. 4 5 A. They definitely don't match up perfect. 5 A. I changed the way Rush Island forced outages 6 Q. So that's part of it. And part of it is also 6 were. And I'm sorry. I don't remember whether it was to 7 forcing -- if I can use the word forcing -- certain forced 7 get more out from them or not. I went back to the outages regarding Callaway into particular months; that 8 8 original, so perhaps I shouldn't have done that in 9 would be part of the divergence, right? retrospect, but I wanted to match the benchmark model. And 9 10 A. It's clearly different from the way Ameren 10 the Staff one. I wanted to be as accurate as possible with 11 modeled Callaway, yes. the outages. 11 Q. It's different so the results are going to Q. What should you perhaps have not done in 12 12 13 diverge because it's different, right? 13 retrospect? A. Yeah. 14 A. Maybe not have adjusted the Rush Island units 14 15 Q. Do you need to take a short break? 15 and the benchmark run trying to get more output from them. Going back to the original good -- what I call 16 A. No. I'm fine. 16 17 Q. Okay. Good. I'm okay for now myself. good outage numbers from GADS, I think it was the correct 17 18 Let's talk about Sioux a moment, the Sioux decision for the Staff model. There -- Yeah. 18 19 units. 19 Q. Take a look at Page 26 of Exhibit 1 if you 20 A. Okay. 20 would, please. 21 21 Q. Back in October when you were working on the A. Okay. 22 benchmarking runs, it appears to me that you expressed a 22 Q. Down at the bottom, you've got an e-mail from 23 23 you to Leon Bender. Is Leon, Leon Bender? concern regarding whether AmerenUE actually ran the Sioux 24 units as AmerenUE modeled it or whether that was just an 24 A. Yes. 25 25 Q. You're asking him whether you should force the assumption made on AmerenUE's part. Do you remember that? Page 103 Page 105 1 model to buy less, sell less -- Well, just tell me what it 1 A. It wasn't an assumption. I wanted to know 2 is you're trying to communicate to Mr. Bender. 2 whether they actually ran the units the way the input said 3 A. I was asking him how close he wanted me to get 3 they ran the units or whether they were doing that for some 4 to the Ameren numbers. And actually probably the 4 modeling purpose. 5 difficulty in getting to the Ameren benchmark numbers is 5 Q. Right. Well, you wanted to know -- Well, 6 the variability in our forced outage schedules and they're 6 okay. 7 7 probably never going to match. You wanted to know if AmerenUE had made an 8 Q. Once you take those forced outages and you put 8 assumption that that's how they should run for modeling 9 them into whatever month Staff gave you, then you're going 9 purposes, as opposed to is that how AmerenUE actually ran 10 to have this divergence, right? 10 the units? 11 A. Now you're putting words in my mouth. Only 11 A. Correct. 12 for Callaway did we do that. Forced outages occur in a 12 Q. And you were of the mind that if in fact that 13 random pattern in RealTime. I don't know how they occur in 13 is how AmerenUE actually ran the units, then that is an 14 PROSYM so you can never tell exactly when a forced outage 14 appropriate way to model the units; is that fair? 15 is going to occur or what coincidence --15 A. That's a true statement. Whether that was my 16 Q. I understand. 16 thought at the time or not, that's a good statement. A. -- of the different units are going to occur 17 Q. So whether it was your thought at the time or 17 18 at the same time. So if for bad luck, you have a bunch of 18 not, if AmerenUE actually runs the Sioux units in X, Y, Z 19 major units out at the same time, you're going to purchase 19 fashion, that's how you should model the Sioux units, 20 more and obviously sell less in that situation. 20 correct? Q. But part of that equation where the forced 21 21 A. For the benchmark run, correct. 22 outages may not match up between Ameren and your 22 Q. All right. How did you model the benchmark 23 benchmarking run are also what you did with Callaway, 23 run? How did you model Sioux in the benchmark run? 24 right? 24 A. I did not model it the way they did it, 25 Clearly, yes. 25 Α. because I didn't -- it was either input from Staff or 27 (Pages 102 to 105)

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	 Page 106	-	Page 108 ?
1	something. I don't remember exactly. So	1	way the company I want you to assume for a minute the
2	Q. So I'm sorry. Go ahead.	2	company does actually operate it in the fashion that
3	A it didn't model I think the first four	3	Mr. Finnell has expressed to you and in the fashion that
4	hours of the day, they reduced the capacity to 428. I	4	they modeled it. You made some calculation that not
	think that's right. And they changed the fuel mix.	5	modeling it in that fashion in effect lowered the company's
5		6	production cost by more than \$10 million, right?
6	Q. So to the extent that AmerenUE actually ran	7	A. I have to read this. Hang on a second. You
7	the units in that fashion, then in the benchmark run, the	£	
8	correct way to have modeled it would have been to model	110	have to ask that question again.
9	the way they ran the units, right?	9	Q. The calculations that are reflected in your
10	A. Yes.	10	e-mail to Greg Meyer is that an e-mail to Greg Meyer?
11	Q. And you did not model that way based upon	11	A. Yes.
12	direction from Staff?	12	Q. Where right underneath Greg's name it says: I
13	A. We had several discussions on it. I can't	13	put the Sioux capacity constraints in and the units do
14	remember exactly the give and take. But, yes, that's true.	14	generate less than
15	Q. Because if it had been up to you, because	15	A. Yes.
16	that's the right way to model it in your opinion, you would		Q. The calculations reflected there reflect a
17	have modeled it the way they ran the units?	17	calculation that you did that indicate that modeling Sioux
18	A. Yes.	18	as Staff wanted you to model it, as opposed to the way the
19	Q. All right. Isn't it true that you found out	19	company modeled it, which Tim Finnell indicated to you
20	that indeed that is how AmerenUE ran the units, the way	20	which is how the company actually ran the units, was
21	that AmerenUE had modeled them?	21	lowering the company's production cost by more than
22	A. I don't know how they run the units.	22	\$10 million, right?
23	Q. You don't know?	23	A. The profit increased by 10 million when you
24	A. No.	24	ran it the Staff's way.
25	Q. You still don't know to this day?	25	Q. If the profit from off-systems sales increased
	Page 107		Page 109
1	A. No. I haven't checked. I had one	1	by more than \$10 million, then when you take into account
2	conversation with Tim about it and I still couldn't tell	2	those off-systems sales profits in your total production
3	whether it was an accounting thing or actually a running	3	costs, your total production costs are going to go down by
4	thing.	4	more than 10 million; is that right?
5	Q. You had quite a lot of back and forth with	5	A. That sounds right, yeah.
6	Staff about this whole issue about how we should be	6	Q. We talked about before we've got fuel, we've
7	modeling Sioux; is that fair to say?	7	got purchase power, and we've got margins, and we've got to
8	A. Yes, it is.	8	take those three things and that's where we get total
9	Q. You expressed concerns on several occasions	9	variable production costs, right?
10	about can Sioux really sell that much or generate that muc	h10	A. Yes.
11	and are we really modeling right. Is that generally a fair	11	Q. All right.
12	characterization?	12	A. This was an early run I made and I made
13	A. Yes.	13	another set of runs which are also included in here that
14	Q. You were asking them a lot of questions. Can	14	are actually better than these.
15	we really assume that it's going to run differently than	15	Q. When you say early, this was around
16	the way the company is saying they're operating it, right?	16	November 29 or November 30, right, if you look at the
17^{-5}	You asked that question more or less asked that question		e-mail above and below it?
18	several times?	18	A. Yes.
19	A. Yes.	19	
20	Q. And each time, Staff stuck with the position	20	Q. It's a couple weeks before your testimony is filed, right?
21		1	
22	that, no, we're not going to model that way; we're going to model it the way we want to model it, right?	1	A. Yes.
		22	Q. On the next page, Page 40, Mr. Meyer responds
23	A. That's my understanding, yes.	23	to your e-mail, it appears; is that right? Is he
24	Q. You did some calculations on Page 39 of	24	responding, does it appear to you?
25	Exhibit 1 that indicated to you that not modeling it the	25	A. I would say so.
			28 (Pages 106 to 109)

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1	Q. He's saying, I'm aware of Sioux plant	1	Q. But the explanation he gave you was logical,
2	modifications. And his last line says, I just want to make	2	night?
3	sure we get the benefits from the peak if we have to take	3	A. For what he explained. They were trying to
4	the derating in the night.	4	save money, but perhaps they're wrong, so. I think
5	Can you explain what that means to you?	5	Staff you have to ask Staff, but I think they're
6	A. No, I don't know what that means.	6	completely valid in exploring the possibility of let's run
7	Q. And on Page 39, you go back a page, you're	7	this unit differently.
8	telling Greg Meyers at the bottom of that page: I would be	8	Q. They didn't explore the possibility.
9	inclined to go with Ameren on the Sioux reduced overnight	9	Ultimately, they filed their case based upon it being run
10	capacities.	10	differently, didn't they?
11	And part of that I think is based upon, if you	11	A. I don't know.
12	go back up four paragraphs, you say: Tim's explanation wa	s 12	Q. Well, you do know that. That's how your Staff
13	logical as far as I understand.	13	model run that underlies your direct testimony
14	So what Tim had told you about how Sioux was	14	A. But I can't tell you what's in their mind.
15	being operated would make sense to you, right?	15	But, yes, clearly.
16	A. Yeah.	16	Q. I mean the numbers you used, you supplied them
17	Q. And based on that, you're telling Greg Meyer,	17	that are in your direct testimony have Sioux being run in
18	I'm inclined to go with Ameren on this. But then you say,	18	the way that would make Sioux more profitable, which is how
19	I'm just a mechanic here, you guys are the drivers.	19	Staff told you to run it, right?
20	So essentially the guys who own the car in	20	A. That's correct, yes.
21	this analogy, Staff, are telling you, I want you to fix it	21	Q. All right. Which was against the inclination
22	this way, so do it that way, right?	22	you had when you wrote this e-mail to Greg Meyer?
23	A. We were doing the Staff run and the question	23	A. I don't know if I get to say things. But my
24	wasn't whether it wasn't whether I'm volunteering	24	reason was one less item to be different on, but that's not
25	information again it wasn't whether Ameren was running	25	my call.
[Page 111		Page 113
1	the unit that way at this point; it was whether it could be	1	Q. I understand. Were you principally
2	run another way and increase the profit to the company and	2	communicating with Greg Meyer about the Sioux issue as
3	decrease its bottom line.	3	opposed to John Cassidy?
4	Q. So you know by now that this is how AmerenUE	4	A. Fifty percent of the time, I sent e-mails to
5	is running the units?	5	both of them. Sometimes I forgot. I did not have a
6	A. I still don't know that, no.	6	main one contact. I think I probably had more contact
7	Q. Okay. But that question was irrelevant by	7	with John, but it's just a feeling.
8	this point in the discussions with Staff; is that what	8	Q. Now, we're back on, I believe, the e-mails we
9	you're saying? Staff didn't care how they were running it.	9	were just talking about were November 29, November 30,
10	Staff wanted you to model it based upon an assumed way o	F10	around that time frame, right?
11	running the plant that might generate more megawatt hours		A. Uh-huh.
12	right?	12	Q. If you go over to Page 44 of Exhibit 1, I
13	A. A complex question. But in general, that's	13	guess you'd have to look at Page 43. And you can see that
14	correct, yes.	14	your e-mails have got up to December 4, a few days later,
15	Q. I'll try to make it a little simpler.	15	right?
16	Staff was suggesting that Staff was saying,	16	A. Yeah.
17	I don't really care if AmerenUE is running the plant based	17	Q. I guess as we go deeper into this Exhibit 1,
E 1 0		18	we're getting later into December, right, directionally?
18	upon this particular coal blend, for example, or during		
18	these particular hours of the day. I want you to assume	19	A. What page?
19 20	these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was	ł –	Q. Page 45, we're at December 5 and 6, and Page
19 20 21	these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was asking you to assume it could be run would generate more	19	
19 20 21 22	these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was asking you to assume it could be run would generate more profit from Sioux, right?	19 20	Q. Page 45, we're at December 5 and 6, and Page
19 20 21 22 23	these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was asking you to assume it could be run would generate more profit from Sioux, right? A. The way Staff asked me to run the model would	19 20 21 22 23	Q. Page 45, we're at December 5 and 6, and Page 43, we're at December 4. So on Page 43 to 44, you're going
19 20 21 22	these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was asking you to assume it could be run would generate more profit from Sioux, right?	19 20 21 22 23	Q. Page 45, we're at December 5 and 6, and Page 43, we're at December 4. So on Page 43 to 44, you're going through these are these 14 assumptions we were talking

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Page 114		Page 116
	1	the unit down at midnight, right? Right?
		A. I guess.
		Q. That's probably how it worked?
		MR. DOTTHEIM: I think Mr. Rahrer has answere
		your question.
	6	Q. (By Mr. Lowery) And Mr. Finnell explained to
	7	you there was economic reasons for why the company was
	8	doing what it was doing, correct?
		A. Mr. Finnell said the company could make more
	10	profit if they did that. Yes.
•	11	Q. Did you have an understanding that it had to
	12	do with higher costs of using more Illinois coal?
	1	A. Yes.
	14	Q. And so that's on I don't know. You're
	15	raising the issue again because of your concerns around the
Sioux the way we've told you to do it, you're saying let's	16	4th, 5th, 6th of December. Then if we go over to Page 47
do all these other things first, make some runs, and then	17	of Exhibit 1, at the bottom of that page, you're telling
play with the Sioux capacity reduction scenario. So you're	18	John and Greg despite the fact that the decision had
bringing the Sioux issue up again, right?	19	already been made by Staff, that you're going ahead and
A. Yes, I am.	20	working on and looking at the Sioux reduction, right?
Q. Why are you bringing it up again?	21	A. You're talking about the one that says, John,
A. This e-mail was in response to making sure	22	dispatch
that I'm doing the assumptions again. I think obviously	23	Q. I'm talking about the bottom of Page 47, the
assumption No. 9 must have had something to do with Sioux	24	line that says, I'm starting to work on the Sioux reduction
So I said there, see below, which is why it's out of order.	25	now.
Page 115		Page 117
I think the decision had been made that we	1	A. I think I had told him earlier I would make
	2	some runs. We were trying to get out the Staff model an
	ne3	everything. I didn't have time to work on the Sioux runs.
		so I guess I was telling them I was going to start on some
the capacity.	5	testing.
Q. Because you still have questions in your mind	6	Q. And you point out to them on Page 47 above
	it 7	that, that if you use the blend that the company is telling
is really going to work in the real world, didn't you?	8	you, they would be using dispatch costs or 77 cents per
A. I guess I did No. By throwing in the word	9	MMBTU higher, correct?
real world in the end, the unit You can't say anything	10	A. Correct.
can you, Tim?	11	Q. Which means the unit is going to be dispatch
The unit somebody a troll doesn't come	12	less dispatch cost is going to be higher?
	13	A. That's not a true statement. If you're
thing Ameren how Ameren runs that unit, from my	14	talking about meeting domestic load, sure. But if you're
understanding. This is all my understanding. I think it's	15	talking about making sales, false.
	16	Q. Well, at least if you're talking about making
that and let's see what the results are.	17	sales, the margin on those sales is going to be smaller,
Q. Well, you had some questions in your mind	18	correct?
about whether or not the economics at Sioux would really		A. That's correct, yes.
	20	Q. And it may be that you're also going to make
support the way Staff wanted you to model it?		
A. I had questions.	21	less sales?
A. I had questions.Q. You had some questions.	21 22	less sales? A. That is true also.
A. I had questions.Q. You had some questions.And Mr. Finnell had explained to you there	21 22 23	less sales? A. That is true also. Q. Can you explain the numbers that Mr it
A. I had questions.Q. You had some questions.	21 22	less sales? A. That is true also.
	do all these other things first, make some runs, and then play with the Sioux capacity reduction scenario. So you're bringing the Sioux issue up again, right? A. Yes, I am. Q. Why are you bringing it up again? A. This e-mail was in response to making sure that I'm doing the assumptions again. I think obviously assumption No. 9 must have had something to do with Sioux So I said there, see below, which is why it's out of order. Page 115 I think the decision had been made that we were going to use the capacity that the Staff wanted to use. I think I was volunteering to say we would make sor Sioux runs later to see what would happen if we did reduc the capacity. Q. Because you still have questions in your mind whether running Sioux the way Staff is asking you to run is really going to work in the real world, didn't you? A. I guess I did No. By throwing in the word real world in the end, the unit You can't say anything can you, Tim? The unit somebody a troll doesn't come in at midnight and turn it down to 428. That's a voluntary thing Ameren how Ameren runs that unit, from my understanding. This is all my understanding. I think it's completely proper that Staff says we're not going to do that and let's see what the results are.	me and correct me if I'm characterizing this 1 inaccurately. It appears to me you're sort of verifying 2 with John Cassidy that you got all the assumptions right 3 according to those 14 assumptions, correct? 4 A. Yes. And this the best list of the 14 5 assumptions that I've seen. 6 Q. So this was maybe the one you were looking for 7 before? 8 A. Yeah. 9 Q. And I'm not sure why you get down to the 10 bottom of that e-mail and you sign it Michael. We're on 11 Page 44 right before the dark black line that's horizontal 12 on the page. I'm not sure why you have No. 9 out of order. 13 But in that No. 9, despite the fact that a few days 14 earlier, Greg Meyers essentially, it appears, told you do 15 Sioux the way we've told you to do it, you're saying let's 16 do all these other things first, make some runs, and then 17 play with the Sioux capacity reduction scenario. So you're 18 bringing the Sioux issue up again, right? 19 A. Yes, I am. 20 Q. Why are you bringing it up again? 21

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1	be Mr. Cassidy because whoever signed this e-mail is Joh	n 1	in an off-peak part of the year. You would not want it to
2	on the top of Page 49.	2	be coincident with other major units. Those are priority
3	A. I think I asked him the question what coal	3	to me anyway.
	split Sioux are you simulating. That was for the Staff	4	Q. All right. Would energy prices have any
4	• • •	5	relevance in deciding when to put planned outages?
5	model.		
6	Q. Okay.	6	A. Yes, but energy prices are usually reflected
7	A. He had given me one price for Sioux coal	7	in hourly load.
8	dispatch cost and one accounting cost for Sioux. So I	8	Q. There's a correlation between load and energy
9	wanted to know what percentage that was what he was	9	prices, isn't there?
10	simulating the percentage was.	10	A. Correct, yes.
11	Q. These are the numbers that are used in the	11	Q. Would what level of capacity reserves you
12	Staff model run for Sioux then, it would appear, on the to	512	might have if you put an outage in a particular place might
13	of Page 49.	13	be a relevant consideration, to maintain your reserves?
14	A. That looks right, yes.	14	A. Sure, yes.
15	Q. Okay. On Page 14, Lines 4 to 5 of your	15	Q. Whether contractors are available to do all
16	testimony, you indicate that within the Staff model run,	16	the planned outages you wanted to do a particular time,
17	you change capacities of coal units from the capacities	17	would that be relevant?
18	used in the benchmark run to use the unit's actual monthly		A. Of course. But I don't have any knowledge of
19	capacity. Am I accurately understanding what you said?	19	
20	A. What line is that?	20	Q. Right. I'm just asking if those are things
		21	
21	Q. Four and five on Page 14.		you probably ought to be thinking about when you decide
22	A. Yeah. That's Yes.		where you're going to put a planned outage?
23	Q. Why did you do that?	23	A. Right.
24	A. I guess I thought it was right the right	24	Q. And whether the maintenance personnel you need
25	thing to do.	25	are going be to available; do you have enough of them to d
	Page 119		Page 121
	-	1	<u>,</u>
2	Q. Why would it be the right thing to do?		all the planned outages you want to do at a particular
	A. Because that's the real capacity of the unit.	2	time, right?
	And I don't know where I got that information, but I think	3	A. Yes.
4	they were generally I think they were probably higher	4	Q. And you usually need equipment and materials
5	than they were in the benchmark run, but I don't remember	5	to do when you're going to do planned outages to repair
6	that for a fact.	6	or replace the things you're going to work on, so you need
7	Q. Which is going to cause your model to reflect	7	to make sure you've got all those things, right?
8	a higher level of generation from the UE units than the	8	A. Yes.
9	benchmark run?	9	Q. All right. It's normal to spread outages
10	A. Yes. That's assuming that they went up.	10	among different major units between the spring and the
11	Q. Okay. On the assumption that the maximum	11	fall, as opposed to scheduling all major units or a large
12	capacity wouldn't the maximum capacities have to be	12	number of your major units in one or the other, right?
13	higher than the average as a matter of mathematics? I'm	13	A. I would think so, yes.
14	not a great math whiz, but	14	Q. Now, you moved the Callaway planned outage a
15	A. Well, I got the average values from Ameren.	15	Staff's direction from the spring to the fall, right?
16	Maybe I shouldn't have used the word average. But I got a	16	A. Correct.
17	value from Ameren for the monthly capacity of the unit.	17	Q. And you moved it into November?
18	Then we changed those monthly capacities when we went t		A. Yes.
19			
20	the Staff model. I'm not sure where I got those monthly	19	Q. And I forget, and I'm sorry if you asked you
	maximums either, but I got them from somewhere in the da		this, but you were told to move it my whom, do you
21	sent.	21	remember?
22	Q. Can you tell me what factors are important	22	A. It was in one of those 14 assumptions. I
	when determining when to schedule planned outages for a	23	think it was the very first or second assumption, and I
23		0.4	don't recall who I got it from I'm own it was aither
24	generating unit?	24	don't recall who I got it from. I'm sure it was either
11	generating unit? A. Sure. I would think load, your hourly demand	24 25	Greg or John.
24	e e)	

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1	Q. That was an assumption given to you pretty	1	Callaway outage, you didn't move any of those coal outages	
2	early on in your work?	2	out of the fall away from the time of the Callaway outage,	
3	A. That was early on in the beginning of the	3	correct?	14 - A -
4	Staff of the Staff model.	4	A. That's correct. But I'm going to not	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
5	Q. Once you were ready to do the Staff model run	5	correct my earlier testimony, but one of the things they	ĺ
6	as opposed to the benchmark run, that's an assumption	6	asked me was to put it in November and avoid other major	4
7	that's sort of been there from the beginning; move it from	7	outages. And I assumed they meant planned major outages	×., y
8	the spring to the fall and put it in November?	8	and I believe I did that. That's why I didn't fall totally	÷.
9	A. As I said earlier, I don't remember what order	9	in November because I think I was jumping moving it away	У.
10	I was given these things. When I first started the list	10	from some other unit outage.	;
11	of 14 things came out later. That was more of a checklist		Q. Well, take a look at Page 43 of Exhibit 1.	
12	to make sure I had done the things that they had requested		A. Okay.	
13	earlier.	13	Q. Look at Item 2. Isn't it a fact that you were	1000
14	Q. Did you raise any concerns at all at any point	14	not able to avoid the coincidence with some other major	22.3.
15	in time with the Staff about moving that outage to the	15	unit planned outages in November?	ł
16	fall?	16	A. That's correct. I wasn't totally able to do	1.4
17	A. Not that I recall.	17	that. What did I say? November 7. So I did keep it all	* *
18	Q. And you didn't have any information about what		in November. And I put it as far as I could into the month	
19	UE's actual schedule called for?	19	to limit the coincident outages with those Labadie units,	198.5
20	A. No, I didn't.	20	Labadie 1 and Sioux 1.	·
21	Q. And I think you testified before you didn't	21	Q. But Labadie 1 and Sioux 1 are going to go all	1 e 2 e
22 23	know that the prior outage had been in the fall?	22	the way into early December, right?	de linner
24	A. That's right.	23 24	A. That's what it says.	
25	Q. And that outages occur every 18 months; you didn't know that, right?	24	Q. So you've got Labadie 1, Sioux 1 and Callaway	
23		23	all out at the same time in your modeling, right?	ł
	Page 123		Page 125	-
1	A. That's correct.	1	Page 125 A. That's what it looks like, yes. All the	w chunchan v T
2	A. That's correct.Q. Do you know whether the energy prices that you	2	A. That's what it looks like, yes. All the planned outages are also in this stuff.	
2 3	A. That's correct.Q. Do you know whether the energy prices that you used in the Staff model run are higher during the spring	2 3	A. That's what it looks like, yes. All the planned outages are also in this stuff.Q. Do you recall what UE's schedule was?	الويافة والتالية مترسيتين
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	Page 126		Page 128 ;
1	Q. You don't know what the load levels were,	1	A. If you're doing a benchmark run, it is. If
2	whether or not the load levels would allow that number of		you're modeling the future, it is usually not.
3	outages all at one time; you don't know that, right?	3	Q. That's what we're doing here, right?
4	A. The model did not under generate so I can	4	A. For the benchmark run, no.
5	assume that it handled.	5	Q. Well, for Staff model run we are, aren't we?
6	Q. You don't know if there were contractors and	6	A. Yeah. As you said before, it's synthesized or
7	other maintenance personnel available to handle all those	7	processed, best guess of how this unit will perform in the
8	outages?	8	future.
9	A. Of course not.	9	Q. Well, you design RealTime to randomly select
10	Q. And whether there were materials and equipmen	t10	the forced outages; that's normally how it's done, is it
11	available?	11	not?
12	A. No, of course not. As you said before, that's	12	A. Yes. However, you can set in your planned
13	what a model does. You can do things that don't happen t		outage section, you can tell it to simulate a planned
14	reflect reality. That's what you can do in a model.	14	outage as a forced outage. That's the way you benchmark
15	Q. But of course if you know before you model	15	essentially the past. So if I had wanted to benchmark
16	something that something's not feasible, then you don't	16	2005, I would have asked for a list of all the actual
17	want to model that way if you've got that information,	17	outages for the units and I could then put them as planned
18	right?	18	outages.
19	A. That's generally the case.	19	Q. Do you have any knowledge about what the
20	Q. And if there's a fair question raised about	20	energy prices were that you used in Staff model runs in
21	whether or not perhaps something may or may not feasibl		those months when Staff had you force outages at Callaway?
22	you might want to ask some questions or seek some	22	A. No.
23	information about whether it is feasible before you just go		Q. You're aware Callaway is the company's largest
24	ahead and model it; wouldn't that be fair?	24	generating unit, right?
25	A. I did, yes.	25	<u>A. Yes.</u>
	Page 127		Page 129
1	Q. Well, you did. You just asked Staff their	1	Q. You're aware, I believe you indicated before,
2	opinion. But you don't know if Staff did any due diligence	2	that the company, based upon its actual operating
3	on that issue at all, do you?	3	experience at Callaway, essentially used a 94.5 percent
4	A. As far as I know, they did or they didn't. I	4	Callaway capacity factor in each hour of the year in its
5	don't know. Was there a I'm sorry. I don't get to ask	5	modeling as its proxy for forced outages at Callaway;
6	questions, do I?	6	you're aware of that?
7	Q. Now, we've already talked about the fact that	7	A. I didn't know the exact number. I know that
8	Staff gave you particular dates and durations to simulate	8	they reduced their monthly maximum capacities to simulate
9	forced outages that you manually plugged into the RealTim		their usage or whatever they do.
	model for Callaway, right?	10	Q. Isn't that a reasonable way to simulate forced
11	A. Yes.	11	outages, based upon that actual operating experience?
12	Q. The RealTime model includes with it	12	A. I don't think so, no.
13	includes within it the capability to randomly select forced	13	Q. Well, if it's not, which way would the error
14	outage periods and durations, right?	14	tend to go?
15	A. Yes.	15	A. That's really hard to tell. As you said,
16	Q. I mean, that's what you did for the coal	16	that's what models are for. We can make a run and find
17	units, correct?	17	out. I think the best way would be to treat it like a
19	A. Correct.	18	normal unit, put in your 18-month planned outages and us
	Q. That's a selling point of RealTime or any	19	your GADS data to put in the forced outages and let it run
20	production cost model, that it's got the capability of doing that right?	20	Q. Let the model randomly select the forced
21	doing that, right? A. Yes.	21	outages; that's how you would really do it, right?
122		22	A. Yes.
•			O Dut have done Staffer dimension all starts and 1
23	Q. Manually inputting forced outages in a	23	Q. But based on Staff's direction, that's not how
23 24			Q. But based on Staff's direction, that's not how you did it?A. Well, for the benchmark run, that was based on

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1	Ameren direction.	1	A. It's up to the kind of contract how you're
2	Q. But for the Staff model run, which actually	2	selling power.
3	reflects the production cost that Staff's using in this	3	Q. All right. Does RealTime consider the affects
4	rate case, that's not how you did it, right?	4	of transmission restraints on the company's ability to
5	A. That's correct, yes.	5	dispatch lowest cost resources?
6	Q. How much spending reserve was used in your	6	A. No.
7	model?	7	Q. Would transmission constraints reduce the
8	A. 101 megawatts an hour.	8	megawatt hours available to sell off-system if they exist?
9	Q. What's the model definition of spinning	9	A. It's impossible to know. It's according to
10	reserves?	10	where you're selling it. If you've got a big buyer next to
11	A. Well, the way I ran it, it had to be spinning.	11	Callaway, you know, one mile away, maybe not. If it's on
12	So it had to be on-line. For example, Labadie 1 has a	12	the other side of the state, maybe it would.
13	limit of contribution to reserve of 20 or some odd	13	Q. But if there are some transmission constraints
14	megawatts. So Labadie 1 would be running, let's say, 20	14	that don't allow you to get the power from the generator to
15	megawatts below its maximum capacity to be contributing t		the market where it needs to be sold, then those
16	reserve.	16	constraints are at some point going to reduce the megawatt
17	Q. Are spinning reserves held constant each hour?	17	hours you can sell, right?
18	A. Yes.	18	A. Yes.
19	Q. Do spinning reserves increase with load	19	Q. And your model didn't consider that?
	levels?	20	A. That's correct.
21	A. They can, but I did not model it that way. I	21	Q. Did you have occasion to discuss with
22	did a constant 101.	22	Mr. Finnell why there exists such a disparity between the
23	Q. And the reason you chose That's a choice	23	megawatt hours your model generated from UE's units, versus
24	you can make?	24	your benchmark run?
25	A. Yes.	25	A. Not that I recall in the benchmark run. We
	Page 131		Page 133
1	Q. Why did you make that choice?	1	had one conversation about the Staff run.
12	A. I just saw somewhere in the Ameren	3	
	A. I just saw somewhere in the Ameren		
	submissions that 101 was their eninning reserve. I didn't	2	Q. Can you tell me about that?
3	submissions, that 101 was their spinning reserve. I didn't	3	A. I asked him which unit we're showing the
3 4	see anything by hour or load or by daily peak or monthly	3 4	A. I asked him which unit we're showing the greatest disparity between I don't know what they called
3 4 5	see anything by hour or load or by daily peak or monthly peak or anything like that.	3 4 5	A. I asked him which unit we're showing the greatest disparity between I don't know what they called them let's call them the Ameren staff between the
3 4 5 6	see anything by hour or load or by daily peak or monthly peak or anything like that. Q. Which units are assigned a spinning reserve?	3 4 5 6	A. I asked him which unit we're showing the greatest disparity between I don't know what they called them let's call them the Ameren staff between the Ameren staff run and the Staff run and he said it was Siou
3 4 5 6 7	see anything by hour or load or by daily peak or monthly peak or anything like that. Q. Which units are assigned a spinning reserve? A. I don't know. They're all coal units, but not	3 4 5 6 7	A. I asked him which unit we're showing the greatest disparity between I don't know what they called them let's call them the Ameren staff between the Ameren staff run and the Staff run and he said it was Siou by about 400,000 megawatts. And I don't think we got into
3 4 5 6 7 8	see anything by hour or load or by daily peak or monthly peak or anything like that.Q. Which units are assigned a spinning reserve?A. I don't know. They're all coal units, but not all the coal units.	3 4 5 6 7 8	A. I asked him which unit we're showing the greatest disparity between I don't know what they called them let's call them the Ameren staff between the Ameren staff run and the Staff run and he said it was Siou by about 400,000 megawatts. And I don't think we got into any other units.
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3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21 22	 see anything by hour or load or by daily peak or monthly peak or anything like that. Q. Which units are assigned a spinning reserve? A. I don't know. They're all coal units, but not all the coal units. Q. Do you know how much was assigned to each of those coal units? A. I can't tell you off the top of my head. I think the most was maybe 21 for a couple of units, 19 for some. In that ballpark. Q. Those numbers came from where? A. From Ameren. Q. All right. Do off-system sales count as a spinning reserve resource? A. No. Q. All right. Q. You didn't do it. And the reason you didn't 	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 A. I asked him which unit we're showing the greatest disparity between I don't know what they called them let's call them the Ameren staff between the Ameren staff run and the Staff run and he said it was Siou by about 400,000 megawatts. And I don't think we got into any other units. Q. Did you indicate to Mr. Finnell during a conversation that you thought most of the extra megawatt hours were a result of the removal in the Staff model run of the sales limits that AmerenUE had included? A. Clearly they are. The fact that you're selling that much power, that's why they generate more, yes. Q. Is it typical to remove all sales constraints when running a production cost model, to have unlimited sales? A. Let me say that we don't have unlimited sales in RealTime. I up the capacity limit to 8,000 an hour. I just pick that number out of my head. Q. That's a big number.

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		1	Q. Different Sioux fuel blends?
1	not atypical. If you're interested in knowing what's the	12	A. Yes, capacities and fuel blends.
3	maximum you can sell, you clearly want your limit high. If		And right at the end, I made, I think, eight
4	you want to see what happens when you lower your limits -	4	more runs and I increased the forward price curve price by
	as you said, that's what models are for, for what-if tests.	5	a certain percentage and some fuel cost by a certain
5	Q. Effectively by setting it at 8,000 and based		
6	on your model, it never came close to it, that's like there	67	percentage and then had the exact same run for the fuel
	was no limit, right?		cost and forward price curve reduced by the same
8	A. Right. I just didn't want to say I set no	8	percentage.
9	limit on it.	9 10	Q. You've done those pretty recently, right?A. Yes.
	Q. At some point, don't energy markets lack the		
11	depth to accept an unlimited volume of sales?	11	Q. You've been asked to do those since the direct
12	A. I would think so. But I don't know this	12 13	testimony was filed on December 15, right?
13	market, so I don't know.		A. Yes.
	Q. Did you run various scenarios that related to	14	Q. Have you ever done a without Joppa run?
15	the volume of off-system sales produced by your model?	15	A. Without Joppa without sales?
16	A. Say that again.	16	Q. Without Joppa at all?
17	Q. Did you run various scenarios that related to	17	A. Sure.
118	the volume of off-system sales produced by your model?	18	Q. Have you ever done it without Joppa without
19	A. For the Staff run? For any run?	19	sales or without Joppa with sales?
20	Q. Staff run, yeah.	20	A. Yes. Every one of those sets of runs except
21	A. No. From almost Day 1, that was one of the	21	
22	first things they wanted. So I raised the limit to 8,000.	22	Staff run Joppa with sales; let's say the next one was no
23	Q. I believe the work papers that you provided	23	Joppa, sales; no Joppa, no sales. Each one of those things
24	reflected three runs, the benchmark run, the Staff run,	24	there was a no Joppa run, yes.
25	which was Joppa with sales, right?	25	Q. You've provided those runs to Staff?
	Page 135		Page 137
1	A. Yes.	1	A. Correct, yes.
2	Q. And Staff run Joppa with no sales?	2	Q. To your knowledge, has it been provided to the
3	A. Yes.	3	
1			company?
4		4	company? A. Yes. They're all right here. They were on
4	Q. I don't think you discussed that last one in	1	A. Yes. They're all right here. They were on the CDs I submitted.
1	Q. I don't think you discussed that last one in your testimony; is that true?	4	A. Yes. They're all right here. They were on the CDs I submitted.
5	Q. I don't think you discussed that last one in your testimony; is that true?A. That's true. I don't recall discussing it.	4 5	A. Yes. They're all right here. They were on
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5 6 7 8 9 10 11 12 13 14 15 16 17 8 9 21 22	 Q. I don't think you discussed that last one in your testimony; is that true? A. That's true. I don't recall discussing it. Q. Why not? Why wasn't that discussed in your testimony? A. I didn't think it was a deliverable product. I thought that Staff was just curious about it. I have no idea why they requested the run. Q. You don't know why that was done? A. No. Q. What other runs, including draft runs, have you done and let's talk about Staff runs. A. Okay. Q have you done since you were retained for the case? We talked about three. We have a benchmark, Staff run, and Staff run Joppa no sales. What other runs have you done? A. The Staff run was Joppa with sales. I did every combination of that. I did Joppa with no sales; no 	4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 9 20 21 22	 A. Yes. They're all right here. They were on the CDs I submitted. Q. Like last week, that CD? A. Yeah. Q. So they're on there? A. In both RTF form and spreadsheet form. Q. Okay. I think we talked about a correlation between prices and loads before. Do you remember that? A. Yeah. Q. Would you agree that market prices and regional loads will tend to be higher during hot summer weather and lower during cooler summer weather, in a cooler period? A. I have to think about it. Hang on. Q. It's not a trick question. A really hot day, high loads, you're going to have high prices, aren't we? A. Certainly. Q. And we're probably going to have the opposite effect with opposite weather, right?

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1	going to be correlated?	1	Q. Well, you've got a level of sales. Did you	
2	A. Yes.	2	run any checks or do anything to see does that make sense,	Ì
3	Q. All right. So it's hot in the region, it's	3	do those amounts look reasonable?	ľ
4	hot in UE's service territory, UE's load is going to tend	4	A. Other than just visual examination, no, I	
5	to be high and UE is going to have less capacity available	5	guess I didn't.	1000
6	to sell off-system, right?	6	Q. Did you compare hourly off-system sales	
7	A. Yes.	7	volumes to hourly loads?	
8	Q. So when market prices are high, UE's load is	8	A. I made one spreadsheet that had to do with	
9	likely to be high. At the same time, we're probably going	9	cost, but it was 8,700 hours. So I didn't do enough	-
10	to have less off-systems sales during that period, even	10	looking at it to	
11	though we have high energy prices, right?	11	Q. That's really not enough to tell you if those	
12	A. Yes.	3	match up, right?	
13	Q. What happens if load is adjusted down through	13	A. True, yes.	
14	weather normalization; shouldn't prices also be adjusted to	1	Q. I think in response to DR TDF-Staff-17, you	ľ
15	reflect normal weather so we match the loads and the	15	described a variety of analyses performed to confirm that	6
16	prices?	16	the results from RealTime were free from error. Do you	Ł
17	A. Loads and prices should be somewhat	17	remember that?	s s
18	correlated, I would think. So if you were adjusting load	18	A. Yes.	532.1
		19	Q. What made you conclude that the RealTime	î
19	down, yeah, I would adjust price down.	20	• •	Ē
20	Q. So if we adjust load down but we keep prices	21	benchmark costs were within a reasonable margin of AmerenU results?	٩.
21	up at prices that would correspond to higher load levels,	22		5. XII 8
22	we're probably going to overstate off-systems sales	1	A. I didn't conclude it. I gave the results to	:
23	margins, aren't we?	23	Staff and that was up to them to conclude. I mean, I could	ĥ
24	A. Your sales margin would be higher.	24	have I guess they could have asked me to do something	
25	Q. Yeah. Your sales margin would be higher than	25	else in the model, but they didn't. I assume that the one	· ·
	Page 139		Page 141	1
1	it really would be because prices probably came down when	h 1	and a half percent was acceptable to them, but I don't know	ЭM
2	loads came down, right?	2	what they thought.	1.000
3	A. Yes.	3	Q. Now, the load you used, you're sure that you	1.26
4	Q. Have you ever considered the shape of the	4	used the normalized load tab, not the weather normalized	I
5	power prices used in your model are consistent with the	5	load tab. You're not really sure what that normalized loa	d
6	loads used in your model?	6	data reflects though, right?	
7	A. I didn't I might have considered it. But I	7	A. I'm sure I used it, but I don't know	1 Y Y
8	never graphed it visually to confirm anything.	8	Q. You don't know if it's weather normalized or	1
9	Q. You don't know whether the price shapes and	9	not?	
10	load shapes match up because you haven't really analyzed	10	A. That's correct. The tab on the worksheet said	
11	that; is that true?	11		
12	A. I've looked at the few days and you could see	12	Q. You know it's some normalized load	ľ
13	that during the on-peak hours, the price is higher than the	13	corresponding to the test year period though, right, those	
14	off-peak hours. But have I looked at it all year? No, I	14	12 months ending June 30, '06?	
15	have not.	15	A. Right.	5.0.0
16	Q. You didn't really perform any comprehensive	16	Q. They're not load years for calendar year '05?	
17	analyses to confirm that loads and prices were properly	17	A. Right.	4
18	correlated?	18	Q. And they're not loads over a period '03 to	2
19	A. No.	19	'05, right?	
20	Q. Did you perform any kind of analyses to test	20	A. I don't know where they got their loads. They	
21	the reasonableness of the hourly off-system sales volume	21	gave me loads for July 1, '05 through June 30, '06.	
22	that your model generated?	22	Q. Right. Which aren't loads from '03, '04, and	
23	A. What do you mean by reasonableness? Is it	23	'05. They're for that 12-month period, right?	
24	possible to generate that much sales, that level of sales?	24		
25		24	A. Right. But I don't know they might have added those together and divided by three for all I know.	
	1 03.	120	added mose together and divided by three for all I Know.	- E.

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1	I just know where they got the data. I just know what tab	1	(Whereupon there was a short break.)
2	I used.	2	Q. (By Mr. Lowery) Can you demonstrate or show me
3	Q. All right. Would it surprise you if in fact	3	we how we know that your model is using dispatch prices and
4	the price shape that was used in your model reflects	4	not averages prices when making off-system sales? Is it
5	average prices from 2003 to 2005, not a 2005 price shape	25	using the dispatch prices?
6	A. I have no idea where they got those prices	6	A. Yes, it is.
7	from.	7	Q. How can we see that; is there a way we can
8	Q. Well, were you assuming that the price shape	8	verify that?
9	was from particular prices from a particular period when	9	A. You can look at the hourly well, you can
10	you ran your model?	10	look at the results and see that we're using accounting
11	A. I was originally assuming that they were	11	costs in the final results. But you have to look at the
12	giving me price for the 12 months starting July 1	12	hourly output to determine it's using the dispatch cost.
13	Q. The right way to do it would have been to have	13	Q. Is Are there some reports that we could
14	loads for a particular 12-month period and prices from the		look at that would show that? Are those the reports that
15	same 12-month period, correct?	15	you prepared within just the last week or two?
16 17	A. I agree, yes.	17	A. The reports are extremely lengthy and I put them on the CD.
	Q. All right. And if that's not the case, then	18	Q. So that information is on the CD?
18	we've injected potentially a problem in our modeling	19	A. Yeah. You essentially look at the on the
19 20	results, have we not? A. Yes.	20	hourly output, that's all we have is the dispatch cost.
20	Q. In fact, I think you raised a concern about	20	Q. UE's modeling dispatch has the units variable
22	this very issue, didn't you?	22	O & M costs are included in the dispatch price. Is that
23	A. Yes, I did.	23	true in the Staff model run for RealTime?
24	Q. Did you get your concern answered?	24	A. Yes. But they're not included in the
25	A. The Staff instructed me what to do.	25	accounting cost, not included in the final cost of the
	Page 143		Page 145
-	-	-	-
	Q. The Staff said, don't worry about your	1 2	model. Q. Okay. I don't know if you'll be familiar
23	concern, use the loads and use the prices we gave you, right?	3	enough with this and I guess I can show you on the computer
4	A. Yes.	4	if we need to. Do you know whether subfolder 9A in your CD
		r -	If we need to, bo you know whether sublonder by in your CD
15	() So you did discuss with people at Statt the	5	
5	Q. So you did discuss with people at Staff the issue of the consistency of the load share used in your	5	include the results of your sensitivity run where fuel and
6	issue of the consistency of the load shape used in your	6	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage
6 7	issue of the consistency of the load shape used in your model versus the price shape used in your model?	}	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by
6	issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes.	6 7	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor?
6 7 8 9	issue of the consistency of the load shape used in your model versus the price shape used in your model?A. Yes.Q. What did they say? I mean I paraphrased what	6 7 8	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by
6 7 8	issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes.	6 7 8 9	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and
6 7 8 9 10	issue of the consistency of the load shape used in your model versus the price shape used in your model?A. Yes.Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to	6 7 8 9 10	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased.
6 7 8 9 10 11	issue of the consistency of the load shape used in your model versus the price shape used in your model?A. Yes.Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it?	6 7 8 9 10 11	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins
6 7 8 9 10 11 12	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns 	6 7 8 9 10 11 12	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity
6 7 8 9 10 11 12 13 14 15	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. 	6 7 8 9 10 11 12 13 14 15	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by
6 7 8 9 10 11 12 13 14 15 16	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. 	6 7 8 9 10 11 12 13 14 15 16	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors?
6 7 8 9 10 11 12 13 14 15 16 17	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have 	6 7 8 9 10 11 12 13 14 15 16 17	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes.
6 7 9 10 11 12 13 14 15 16 17 18	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. 	6 7 8 9 10 11 12 13 14 15 16 17 18	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform
6 7 9 10 11 12 13 14 15 16 17 18 19	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or 	6 7 8 9 10 11 12 13 14 15 16 17 18 19	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but
6 7 9 10 11 12 13 14 15 16 17 18 19 20	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or give you different data that would have addressed the 	6 7 8 9 10 11 12 13 14 15 16 17 18 9 20	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but coal and off-peak prices remained unchanged?
6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or give you different data that would have addressed the concern, did they? 	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but coal and off-peak prices remained unchanged? A. No. I cannot No. The answer is no.
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or give you different data that would have addressed the concern, did they? A. That's correct. 	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but coal and off-peak prices remained unchanged? A. No. I cannot No. The answer is no. Q. You don't think so.
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or give you different data that would have addressed the concern, did they? A. That's correct. A. That's correct. 	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but coal and off-peak prices remained unchanged? A. No. I cannot No. The answer is no. Q. You don't think so. Were you asked to perform sensitivities for
6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21 22	 issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. Q. What did they say? I mean I paraphrased what they said and you agreed with it, but who did you talk to about it? A. I don't remember who I talked to. My concerns were not their concerns. Q. They didn't share your concern? A. That's correct. Q. Fair enough. A. Actually, I cannot say that. They might have been concerned as all get out. Q. But they didn't ask you to change anything or give you different data that would have addressed the concern, did they? A. That's correct. 	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage factors relative to the Staff run and as requested by Dr. Proctor? A. That's my remembrance. 9A was the reduced and 9B was the increased. Q. For the Joppa run, off-system sales margins were approximately 275 million, do you know? A. I can't remember that. Q. Okay. And subfolder 9B contains sensitivity runs for fuel and electric power prices are increased by certain percentage factors? A. Yes. Q. All right. Were you asked to perform sensitivities for gas and on-peak prices increased, but coal and off-peak prices remained unchanged? A. No. I cannot No. The answer is no. Q. You don't think so.

37 (Pages 142 to 145)

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1	Page 146		Page 148
1	A. No. The only sensitivity I was asked to do	1	A. Yes.
2	are those ones in 9A and 9B.	2	Q. What was that?
3	Q. Okay. Fair enough.	3	A. I only helped with this. It was some years
4	If you look at Pages 19 and 18 of Exhibit 1,	4	ago. I think the company was Putnam, Hayes and Bartlet
5	the sensitivities we just talked about that are	5	something like that. They were a consultant with the Peach
	reflected the results of which are reflected on 9A and	6	Bottom nuclear case when the Peach Bottom units one of
7	9B, those are the sensitivities that were being discussed	7	their units was shut down because of people reading comi
8	on Pages 19 and 18 of Exhibit 1?	8	books and that kind of stuff.
9	A. Correct, yes.	9	The other partners in the PGM interchange
10	Q. Mr. Rahrer, I take it you've never worked for	10	district, they wanted to sue for damages and they wanted
11	a utility?	11	find what was the cost for that unit being out for 18
12	A. Correct.	12	months or whatever and they used RealTime for that.
13	Q. Have you worked for a governmental utility	13	Q. Okay. You didn't testify in that case?
14	regulatory agency?	14	A. No.
15	A. No.	15	Q. Well, I know you weren't deposed; you haven't
16	Q. You're not an engineer?	16	been deposed before today?
17	A. No.	17	A. It was settled.
18	Q. You're a computer science background, right?	18	Q. All right. Have you ever run your RealTime
19	A. Yes.		model for a state regulatory agency before?
20	Q. So you've never actually been involved in	20	A. Only to the extent maybe every once in a
	making decisions about dispatching and actual generating		while, I'll help the Missouri Staff make a run.
	unit or group of units, right?	22	Q. Other than Missouri Staff?
23	A. That's true.	23	A. No.
24	Q. You haven't been involved in planning	24	Q. All right. Was Mr. Bender correct in 2002
25	transmission systems?	25	when he testified in his deposition in that case that no
	Page 147		Page 149
1	A. I have not.	1	other state regulatory agency uses RealTime?
2	Q. In determining the capability of transmission	2	A. That's true.
3	systems or generating units, right?	3	Q. Is that still true?
4	A. No.	4	A. Yes.
5	Q. Have you ever been responsible for model	5	Q. What regulated public utilities use RealTime,
6	production costs for the purpose of a utility or business	6	do you know?
7	actually using those to make business decisions, as oppose	d7	A. I don't know what you mean by regulated.
8	to something like this?		
1 7	to something like this:	8	Aquila. There's a co-op, Lafayette Utility Systems,
9	A. Well, I assume when I make a run for a client,	9	Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i
9	A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision.	9 10	Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of
9 10 11	A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision.Q. Okay. So some of the clients you have ask you	9 10 11	Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated.
9	A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision.Q. Okay. So some of the clients you have ask you to run your model so they can take that information and used as the source of the clients are the source of the s	9 10 11 sel 2	Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed
9 10 11 12 13	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what 	9 10 11 sel 2	Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have?
9 10 11 12 13 14	A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision.Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for?	9 10 11 sel 2 t13 14	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12.
9 10 11 12 13 14 15	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. 	9 10 11 sel 2 t13 14 15	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay.
9 10 11 12 13 14 15 16	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power 	9 10 11 sel 2 t13 14 15 16	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I
9 10 11 12 13 14 15 16 17	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? 	9 10 11 sel 2 t13 14 15 16 17	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my
9 10 11 12 13 14 15 16 17 18	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. 	9 10 11 sd2 t13 14 15 16 17 18	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace.
9 10 11 12 13 14 15 16 17 18 19	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. Q. Can you tell me what you understand security 	9 10 11 sd2 t13 14 15 16 17 18 19	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace. Q. What version of RealTime has versions, I
9 10 11 12 13 14 15 16 17 18 19 20	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. Q. Can you tell me what you understand security constrained economic dispatch to mean? 	9 10 11 sel 2 t13 14 15 16 17 18 19 20	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace. Q. What version of RealTime has versions, I assume, like everything else?
9 10 11 12 13 14 15 16 17 18 19 20 21	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. Q. Can you tell me what you understand security constrained economic dispatch to mean? A. No idea. 	9 10 11 sel 2 t13 14 15 16 17 18 19 20 21	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace. Q. What version of RealTime has versions, I assume, like everything else? A. Yes.
9 10 11 12 13 14 15 16 17 18 19 20 21 22	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. Q. Can you tell me what you understand security constrained economic dispatch to mean? A. No idea. Q. No idea. All right. 	9 10 11 sd2 13 14 15 16 17 18 20 21 22	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace. Q. What version of RealTime has versions, I assume, like everything else?
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9 10 11 12 13 14 15 16 17 18 19 20 21 22	 A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. Q. Okay. So some of the clients you have ask you to run your model so they can take that information and us it and make some decisions from it or you think that's what they're using it for? A. Yes. Q. You never bought or sold energy, been a power trader or marketer or anything like that? A. No. Q. Can you tell me what you understand security constrained economic dispatch to mean? A. No idea. Q. No idea. All right. 	9 10 11 \$cl2 13 14 15 16 17 18 20 21 22 23 24	 Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think i a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. Q. Let me ask this: How many current installed RealTime licenses do you have? A. I think it's 12. Q. Twelve. Okay. A. I gave a list of the cases in the Empire. I think there's a couple since then. So it should be in my testimony someplace. Q. What version of RealTime has versions, I assume, like everything else? A. Yes. Q. And what version did you use in this case?

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Page 152 Page 150 A. Yes, I did. 1 sales. Probably had 20 to 25 total sales. Some companies 1 2 Q. MLR Group, Inc.; where did the name come from? 2 I know don't use it anymore. 3 3 A. My initials; MLR. Q. So you over the years since RealTime's been 4 4 Q. Got you. It's a Florida general business around, you've sold about 20 to 25 licenses? 5 5 A. Yes. corporation, right? 6 6 Q. And about 12 of those are current now? A. Yes. 7 7 Q. You have two employees; is that right? A. Yes. 8 A. Well, my wife is a board member, but I'm the 8 Q. And of those 12, maybe some of them aren't 9 only employee. 9 actively using it? 10 Q. You're the only employee? 10 A. Yes. 11 11 A. Yes. Q. Have you ever run another production cost model besides RealTime? 12 Q. So you run the business out of your home in 12 13 Delray Beach? 13 A. No. 14 A. Yes. 14 Q. Are you familiar with Global Energy Decisions, 15 15 Q. What's the MLR Group's annual gross revenue? that company? A. The adjective or the company? No, I'm not. 16 A. Well, it varies. About \$110,000 in 2006. 16 17 Q. How many products does the MLR Group sell? I 17 Q. You're familiar with the PROSYM model? 18 think you sell some other product besides RealTime, right? 18 A. I've heard of it, yes. 19 A. No. RealTime is the only one I sell that I 19 Q. Do you have familiarity with it other than the 20 own. I maintain some products for some people. There's a 20 fact that Ameren used it in this case? 21 21 product called Ramp-Up which I maintain for PA Consulting, A. No. 22 which has all the hourly information for the generating 22 Q. All right. You don't how many large utilities 23 units in the country. I do some things that don't relate 23 and regulatory commissions use PROSYM? 24 at all to energy. 24 A. No. 25 Q. Within MLR Group? 25 Q. Do you have any criticisms of the PROSYM Page 151 Page 153 1 A. Yes. 1 model? 2 Q. Can you break down your gross revenues by 2 A. It's impossible to criticize unless I know 3 3 RealTime the model itself, whether it's selling the model something about it. I'd like to learn something about it. 4 or selling updates, versus consulting or things like this, 4 Q. All right. Is RealTime capable of accepting 5 5 versus these other things you do like the Ramp-Up or hourly costs for various inputs like fuel cost, emissions 6 whatever else you do? Can you give me a reasonable 6 cost, variable O & M, startup cost? 7 7 breakdown what the average would be on an annual basis? A. Too many questions. Fuel cost, yes, we take 8 hourly cost. Startup cost, no, you can't. What were the A. Last year it was probably 40 percent RealTime. 8 9 And earlier years, it might be a third of the business. 9 other ones? 10 Q. 30, 40 percent is RealTime, and the rest is 10 Q. Emission costs. 11 these other things, in general? 11 A. You can put in a cost of emission allowances 12 A. In general, yes. 12 or penalty for emissions, but you can't put it in on an 13 Q. All right. Over the course of a year, how 13 hourly basis. 14 many hours on average each week do you dedicate to the MLR 14 O. What about variable O & M? 15 Group's business? 15 A. No. You can change it as frequently as daily, 16 A. At least full time. At least 40 hours a week, 16 but that's not often done. 17 Q. So your wife really doesn't --17 Q. Other than fuel costs, are there any other 18 A. No. 18 inputs that RealTime can take on an hourly basis, key 19 Q. -- do anything? 19 inputs that you need to simulate the system? 20 20 She's on the board? A. Sure. Hydro generation, purchase and sales; 21 A. She's on the board, Yeah. 21 the cost of purchase and sales; load, obviously. 22 Q. All right. So for RealTime, you have about 12 22 Q. Other than load data, which we don't know if 23 23 ongoing customers? it was weather normalized or not I guess at this point. It 24 A. I don't know how active they all are. But, 24 was normalized somehow apparently. Did you use any other 25 yes. Over the years, like I said, I wasn't involved in 25 data in your Staff model run as inputs that you considered

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1	to have been normalized?	1	entered correctly.
2	A. Not that I am aware of. Like I said, I don't	2	Q. I take it that of the various inputs that you
3	know where the forward price curve numbers came from.	3	were given from Staff for the Staff model run, you didn't
4	Q. When I use the term normalization, do you have	4	do any independent verification about where they came from,
5	an understanding of what I mean by that or what's your	5	were the data sources accurate, are they the right
6	understanding of that term?	6	information from the right periods, you just used what
7	A. That you've somehow changed it to take things	7	Staff gave you as inputs; is that right?
8	into account so that the variations are limited. But other	8	A. Yes.
9	than that	9	Q. In every instance? Any exceptions to that?
10	Q. You're trying to take particular input and use	10	A. Well, you already asked me about the case of
11	information that would reflect normality for whatever	11	Joppa, how I decided to spread out the Joppa, so in that
12	period, as opposed to something that isn't normal. Is that	12	case, I
13	a fair definition?	13	Q. You made a decision?
14	A. I don't know.	14	Can you think of any other decisions you made
15	Q. That's fine. That's fine.	15	affecting the inputs?
16	Do you know what the phrase known and	16	A. If they gave me input, I used it exactly as
17	measurable means in the context of utility rate making?	17	they gave it to me.
18	A. No.	18	Q. All right. Did you check, for example, unit
19	Q. RealTime is capable of producing the hourly	19	starts that you modeled versus actual unit starts for any
20	output in megawatt hours for each generating unit that's	20	particular period?
21	being modeled, right?	21	A. I think I checked the main units and that's
22	A. Yes.	22	all, the coal units.
23	Q. Now, initially Let me back up.	23	Q. Did you check outage rates? I may have asked
24	In order to do that, I assume, and you can		you some of this before and I apologize if I did.
25		25	A. I may have looked at outage rates. But the
		2.5	
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	that, you can choose to have RealTime produce that		way PROSYM and RealTime do outages, it makes it difficult
2	information, right	2	to compare.
3	A. Correct.		•
		3	Q. What about hot and cold starts?
4	Q from a particular model run or you can	4	Q. What about hot and cold starts?A. For the major units, I did look at those, yes.
5	Q from a particular model run or you can chose not to?	4 5	Q. What about hot and cold starts?A. For the major units, I did look at those, yes.Q. What about hourly unit generation to determine
5 6	Q from a particular model run or you can chose not to?A. Yes.	4 5 6	Q. What about hot and cold starts?A. For the major units, I did look at those, yes.Q. What about hourly unit generation to determine hours at full load?
5 6 7	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a 	4 5 6 7	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that.
5 6 7 8	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a box and it will either do it or it won't, right? 	4 5 6 7 8	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that. Q. Same question regarding to determine hours at
5 6 7 8 9	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a box and it will either do it or it won't, right? A. Yes. 	4 5 7 8 9	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that. Q. Same question regarding to determine hours at minimum loads, didn't look at that?
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5 6 7 8 9 10 11 12	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a box and it will either do it or it won't, right? A. Yes. Q. Is there some reason you didn't check that box initially in this case? A. Yes. It slows the model down and it creates 	4 5 7 8 9 10 11 12	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that. Q. Same question regarding to determine hours at minimum loads, didn't look at that? A. No. Q. Did you look at average heat rates, model versus actual?
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5 6 7 8 9 10 11 12 13 14 15	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a box and it will either do it or it won't, right? A. Yes. Q. Is there some reason you didn't check that box initially in this case? A. Yes. It slows the model down and it creates huge files. Q. I think you said you could do a model run in about 15 minutes once you got it all set up. So how much 	4 5 6 7 8 9 10 11 12 13 14 15	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that. Q. Same question regarding to determine hours at minimum loads, didn't look at that? A. No. Q. Did you look at average heat rates, model versus actual? A. Yes. Q. Did you compare the distribution of forced and partial outages through the year model versus actual?
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5 6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21 22	 Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a box and it will either do it or it won't, right? A. Yes. Q. Is there some reason you didn't check that box initially in this case? A. Yes. It slows the model down and it creates huge files. Q. I think you said you could do a model run in about 15 minutes once you got it all set up. So how much does it slow the model down. A. It probably doubles it. Q. So 30 minutes? A. Yes. But like I said, is creates huge files. Q. When you run simulations for these various clients, do you create those hourly output files more often than not? 	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 Q. What about hot and cold starts? A. For the major units, I did look at those, yes. Q. What about hourly unit generation to determine hours at full load? A. No, I didn't see that. Q. Same question regarding to determine hours at minimum loads, didn't look at that? A. No. Q. Did you look at average heat rates, model versus actual? A. Yes. Q. Did you compare the distribution of forced and partial outages through the year model versus actual? A. No. Q. Did you take a look whether or not for any unit the Staff model run generated more megawatt hours from that unit than the unit ever generated? A. No, I don't know how much the units have ever generated. Q. I think you're going to tell me you do know
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1	know what ramp up and ramp down means?	1	A. Definitely not.
2	A. Yes.	2	Q. Okay. What did the model in the Staff model
3	Q. Does RealTime take that into account?	3	run, what capacities did it run the units at?
4	A. It does.	4	A. Variable capacities. You mean maximum
5	Q. And it took it into account for Callaway for	5	capacities? You're talking generation of maximum capacity
6	example?	6	one's a capacity and one's a generation number. You can't
7	A. It took into account ramp up, but not ramp	7	generate more than the maximum capacity, but you can
8	down. It can ramp down instantaneously. RealTime does	8	generate below it. So you need to ask that again, I guess.
9	have the capability of ramping down; I didn't use it.	9	Sorry. The cold weather is sort of affecting
10	Q. So you assume that units can come down	10	my throat.
11	instantaneously in your model run?	11	Q. It's a shock to our system too and I'm sure it
12	A. Yes.	12	was a shock to yours.
13	Q. Do you know whether in fact that's the case	13	Could there be an equipment problem at a unit
14	with all the generating units?	14	that does not cause an outage so it doesn't show up in
15	A. No, I don't.	15	forced outage rates, but loads are reduced nevertheless?
16	Q. Do you know if there's a difference between	16	A. Sure. But the GADS data should show it,
17	ramp up at Callaway after a refueling outage versus ramp u		should show reduction in maximum capacity.
18	after a forced outage?	18	Q. Did your model model partial outages?
19	A. No, I don't. I didn't see that information in	19	A. Yes.
20	anything that was supplied.	20	Q. Did it model derates?
21	Q. But the model didn't take any such difference	21	A. I consider partial outages a derate, so
22	into account?	22	Q. All right. Did your model take into account
23	A. No.	23	the cost of starting up the unit?
24	Q. Does RealTime model all hydro units the same;	24	A. Yes, it did.
25	pump through, pump storage, run a river, ponded, are they	25	Q. How does it do that?
	Page 159		Page 161
1	modeled the same?	1	A. It has several values for hot and cold. One
2	A. You just asked several questions. You can	2	of them is a labor cost and one of them is a fuel cost and
3	run you can model a hydro unit as either run a river or	3	it adds up the cost and it has a factor called start spread
4	pondage and that's the choice.	4	factor, which it uses to come up with sort of a penalty
5	Q. Did you And of course UE has different	5	which it adds into the normal dispatch cost to keep it from
6	kinds of hydro units, right?	6	being committed unless the next dispatch cost in order is
7	A. Correct.	7	greater than the normal dispatch cost, plus the penalty of
8	Q. Did you model them according to the type of	8	starting up. That's also explained in the user manual.
9	unit they are?	9	Q. Does whether or not a unit is a must-run unit
10	A. Yes. Keokuk was run a river or however you		affect the startup cost?
11	say it. And Osage was pondage.	11	A. No.
12	Q. Does your model take fuel quality load	12	Q. What is a must-run unit?
13		13	A. In RealTime, a must-run unit is a unit that if
14	A. I don't know what you mean by that.	14	it's available, it will run at or above the capacity that's
15	Q. Well, different quality fuels may allow the	15	specified as the must-run capacity.
16	unit to operate higher loads or lower loads. Like lower	16	Q. What units are must-run units in the Staff
17	quality fuel, maybe it's going to operate at a lower load.	17	model run?
18	That's what I mean. So does your model take that into	18	A. I believe all the coal units in Callaway. I
19	account?	19	think that's right.
20	A. It can, but it didn't.	20	Q. Does the model take boiler characteristics
21	Q. It can, but it didn't take that into account?	21	into account?
	A. Right.	22	A. No.
166		ş	
22	O. Your model tends to run each unit at the	23	MR LOWERY' Steve if you could give me find
23	Q. Your model tends to run each unit at the maximum capacity that's input or in fact that is how your	23	MR. LOWERY: Steve, if you could give me five
	Q. Your model tends to run each unit at the maximum capacity that's input or in fact that is how your model modeled the system in this case; is that right?	23 24 25	MR. LOWERY: Steve, if you could give me five or ten minutes, I think I can wrap this up. (Whereupon there was a short break.)

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1	Q. (By Mr. Lowery) Mr. Rahrer, we were talking a	1	M if that was the option to not put the variable O & M in
2	little bit earlier about how you could demonstrate that	2	the final cost. But it was not easy to show the accounting
3	your model was producing dispatch prices and not average	1	cost here, so this is the dispatch cost.
4	prices when making off-system sales, right, and you said i		This number right here is let me get this
5	did? -	5	right this is the amount of primary fuel that it used in
6	A. Yes.	6	MMBTU, 5,792. So you need to take 5,792 times the dispate
7	Q. And that variable O & M were included in the	7	cost, divide it by the current generation, which is 573,
8	dispatch price, right?	8	and that will give you 12,256.
9	A. Yes.	9	I also provided two other hourly files. I
10	Q. Just to help us out, I've got and we can	10	think you requested there was one hourly file showing
11	try to look at this together. I've got your CD pulled up	11	only generation which included sales and purchases. And
12	here on my computer. Could you get us right to the files	12	the other file like it was the cost, the hourly or
13	you were talking about before that we would need look at		dollars per megawatt cost.
14	for that verification. And just feel free to click away.	14	But this particular file has everything. I
15	Which folder did you go into?	15	actually included I think in the table of contents or
16	A. 8A.	16	someplace, I told you what each one of these columns was.
17	Q. 8A. You went into 8A. Then which subfolder	17	Q. All right. Thank you. Just a few more
18	did you go into?	18 19	questions, I think.
19 20	A. Staff run, 8A Staff run.	19 20	Other than things that we've talked about in
	Q. Okay.		this deposition here today or that are talked about in your
21 22	A. On every CD, I put a table of contents. So if you go to the contents file, it will show you where	21 22	direct testimony, were there any other assumptions or
23	everything is. This one right here, all hours, so this is	23	parameters or modeling methods that you used in either the benchmarking or Staff model runs in this case that were
24	all the hourly information that could be produced. Let's	24	outside or different than how you would normally run your
25	look at this one. That's not it; it must be something you		RealTime model?
25		20	
	Page 163	1	
	-		Page 165
1	were looking at. It's big. We don't need to see it all.	1	A. I don't believe The answer is no, I don't
2	were looking at. It's big. We don't need to see it all. MR. BENDER: You might want to turn off the	2	A. I don't believe The answer is no, I don't believe so. I tried to take every most manila assumptions
2 3	were looking at. It's big. We don't need to see it all. MR. BENDER: You might want to turn off the calculations now. Oh, I can't speak here.	2 3	A. I don't believe The answer is no, I don't believe so. I tried to take every most manila assumptions that I could for the model and I used all the
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1/16/2007 MICHAEL RAHRER

Page 168 Page 166 1 to Mr. Finnell? 1 the question. 2 A. I don't have -- I don't know what Ameren's 2 A. I believe twice. 3 Q. And have we recounted the sum and substance of 3 production costs should be. I don't have any opinion of 4 those conversations today or were there other things 4 it, whether it's right or wrong. 5 5 Q. (By Mr. Lowery) Without telling me what discussed we haven't talked about, if you recall? 6 A. I don't recall. The first conversation was 6 opinions you may intend to give, given Mr. Dottheim's 7 7 objection -- which for the record, I think again is about Sioux, I believe that's right, the way they run the 8 units. The second conversation, he called me and was 8 invalid, but I'm not going to take it up with the judge --9 asking some generic questions about the model. And we also 9 have you been asked to give other opinions by the Staff in 10 got into the fact that the RealTime Sioux generation, that 10 this case at this point in time? 11 was the largest disparity between his staff run and the 11 A. About? 12 Staff run. The conversation was longer than that, but I 12 Q. Anything about the case. 13 don't remember what else was discussed. 13 A. No. Q. Do you have any documents from Ameren other MR. LOWERY: All right. I don't have anything 14 14 15 than filed testimony and work papers that were supplied to 15 else. I think Mr. Dottheim is going to do some redirect. 16you in connection with this case? 16 Before I forget about it, waive presentment 17 A. No. 17 but read and sign? 18 Q. Or data request responses that maybe the Staff 18 MR. DOTTHEIM: Yes. 19 has sent to you that the company gave to Staff? 19 MR. LOWERY: Thank you, Mr. Rahrer. Unless 20 A. Do I have anything other --20 Mr. Dottheim asks a question that prompts me to ask a 21 O. Other than those things? question, those are all my questions today. 21 22 A. Definitely no. 22 (Whereupon there was a short break.) 23 Q. Do you have any other opinions other than 23 [EXAMINATION] 24 those expressed in your direct testimony or that we've 24 QUESTIONS BY MR. DOTTHEIM: 25 talked about here today about the appropriate level of 25 Q. Mr. Rahrer, I've just got a very few number of Page 167 Page 169 questions for you based upon Mr. Lowery's questions earlier 1 variable production costs for AmerenUE that should be used 1 2 in this case? 2 this morning. 3 A. Ask it again. 3 I'd like to show you what's been marked 4 Q. Do you have any opinions other than those 4 Exhibit 2, Rahrer, for purposes of the deposition. 5 expressed in your direct testimony or that we've talked 5 Mr. Rahrer, can you identify that document? 6 here today about what the appropriate level of variable 6 A. No, I can't. 7 production costs should be for AmerenUE in this case or how 7 Q. Okay. You haven't seen that document 8 modeling a variable production cost should be done? previously? 8 9 9 A. The first answer to your question is A. Not before today. Not until today. 10 definitely no. We've never discussed what the proper level 10 Q. Mr. Lowery asked you a number of questions 11 should be for Ameren. earlier this morning about the existence of actual data for 11 12 Q. Don't have any opinion at all about that? benchmarking. Do you know whether actual data exists for 12 13 A. No opinion at all. 13 benchmarking? 14 Q. And in terms of the propriety of AmerenUE's 14 A. No, I don't know whether it exists. From 15 modeling versus Staff's modeling versus the benchmark 15 Mr. Finnell's testimony, he said he made a benchmark model. 16 modeling, any opinions that aren't expressed in your So I don't know what he used for that. But I can assume --16 17 testimony or that we've talked about today, any other 17 one might assume he's got something, but I have no 18 opinions? knowledge of it. 18 19 A. Concerning the production --19 Q. As a consequence, do you know whether the data 20 MR. DOTTHEIM: Excuse me. As far as any 20 that Mr. Finnell used included data respecting the joint 21 rebuttal testimony that Mr. Rahrer is planning to submit, I 21 dispatch agreement? 22 would object to him going into any discussion as I've 22 A. I do not know that. 23 previously done in any discussion of rebuttal testimony as 23 Q. Mr. Lowery asked you a number of questions 24 being inappropriate. 24 about your provision of hourly output data. A couple of 25 weeks ago, you provided, did you not, hourly output data 25 So, otherwise, I would instruct you to answer 43 (Pages 166 to 169)

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	Page 170		Page 172	7
1	respecting the Staff's model run?	1	CERTIFICATE OF REPORTER	
2	A. Several weeks ago?	2	I, Sheryl A. Pautler, Certified Shorthand	
3	Q. Yes, approximately. Data hourly output	3	Reporter, Notary Public within and for the State of	
4	data that you generated over the January 9th/10th weekend		Missouri, do hereby certify that the witness whose	ĺ
5	A. That's for this. I mean I don't have the time	5	testimony appears in the foregoing deposition was duly	
6	frame exactly right. I did generate hourly output at the	6	sworn by me; the testimony of said witness was taken by r	n
7	request of Staff for the Staff run.	7	to the best of my ability and thereafter reduced to	T
8	Q. Which was provided to the company, do you	8	typewriting under my direction; that I am neither counsel	
9	know?	9	for, related to, nor employed by any of the parties to the	
10	A. Are they the company?	10	action in which this deposition was taken, and further that	
11	Q. Yes. I'm sorry. To AmerenUE.	11	I am not a relative or employee of any attorney or counsel	
12	A. Yes, it has been provided to AmerenUE.	12	employed by the parties thereto, nor financially or	
13	Q. And that hourly output data, that involved 16	13	otherwise interested in the outcome of the action.	
14	iterations?	14		ľ
15	A. Yes.	15		
16	Q. And, again, it was hourly output data for the	16	Notary Public within and for	
17	Staff model run?	17	the State of Missouri	
18	A. Correct.	18	My commission expires April 10, 2009.	
19	Q. And did you provide a conversion for the 16	19	1 1 1 1	
20	iterations?	20		ľ
21	A. I don't know what you mean by conversion.	21		
22	Q. Did you have to translate that data in some	22		
23	format for the company?	23		
24	A. Yes. I had to make Yes, I did.	24		
25	Q. Again, when I say the company, I'm referring	25		

	Page 171		Page 173	
1	Page 171	1	Page 173	
1	to AmerenUE.	1 2	I, MICHAEL RAHRER, do hereby certify:	
2	to AmerenUE. Could you indicate how many hours you spent	1 2 3	I, MICHAEL RAHRER, do hereby certify: That I have read the foregoing deposition;	
2 3	to AmerenUE. Could you indicate how many hours you spent generating that hourly output data and translating that	2	I, MICHAEL RAHRER, do hereby certify: That I have read the foregoing deposition; That I have made such changes in form and/or	
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2 3 4 5	to AmerenUE. Could you indicate how many hours you spent generating that hourly output data and translating that data for the Staff model run? A. Probably between four and five hours.	2 3 4 5 6	I, MICHAEL RAHRER, do hereby certify: That I have read the foregoing deposition; That I have made such changes in form and/or substance to the within deposition as might be necessary to render the same true and correct; That having made such changes thereon, I	
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Page 174	
 Errata Sheet Witness: Michael Rahrer In Re: In the Matter of Union Electric Company d/b/a AmerenUE for Authority to file Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area 	
Upon reading the deposition and before subscribing thereto, 6 the deponent indicated the following changes should be made: 7	
Page Line Should read: 8 Reason assigned for change : 9 Page Line Should read: Reason assigned for change :	
10 Page Line Should read: 11 Reason assigned for change : 12 Page Line Should read: Reason assigned for change :	
 Page Line Should read: 14 Reason assigned for change : 15 Page Line Should read: Reason assigned for change : 16 	
Page Line Should read: 17 Reason assigned for change: 18 Page Line Should read: Reason assigned for change: 19	
Page Line Should read: 20 Reason assigned for change : 21 Page Line Should read: Reason assigned for change : 22	
Page Line Should read: 23 Reason assigned for change : 24 Reporter: Sheryl A. Pautler 25	
Page 175	
1 Midwest Litigation Services 711 North Eleventh Street 2 St. Louis, Missouri 63101 3 Phone (314) 644-2191 + Fax (314) 644-1334 4 January 17, 2007 5 Mr. Steven Dottheim Public Service Commission State of Missouri 6 200 Madison Street, Suite 800 Jefferson City, Missouri 65102-0360	
 7 8 In Re: In the Matter of Union Electric Company d/b/a AmerenUE for Authority to file Tariffs Increasing Rates for 9 Electric Service Provided to Customers in the Company's Missouri Service Area 	
 10 11 Dear Mr. Dottheim: 12 Please find enclosed your copy of the deposition of Michael Rahrer, taken on January 16, 2007 in the 13 above-referenced case. Also enclosed is the original signature page and errata sheets. 	
 Please have the witness read your copy of the transcript, indicate any changes and/or corrections desired on the errata sheets, and sign the signature page before a notary public. 	
 Please return the errata sheets and notarized signature page to Mr. James B. Lowery for filing prior to trial date. Thank you for your attention to this matter. 	
19 Sincerely, 20 21	
22 Sheryl Pautler	
CC: Mr. James B. Lowery	
23 24 25	
a sanahaya saya saya sana kasana ya yaya sanaha kasana ya ya sanaha kasana ya ya sanaha kasana ya sanaha kasana	45 (Pages 174 to 175)

45 (Pages 174 to 175)

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ERRATA SHEET

Deposition of:	Michael Rahrer
Case Caption:	ER-2007-0002
Date Taken:	1/16/2007

6

Page			Reason
11	1	know if it was going to happen or not. It may have been Leon	typographic
19	21	I know that you guys are asking for a rate	Typographic/transcription
25	12	model. We're talking maybe 30 minutes to an hour. The	typographic
26	2	There were four people. John Cassidy, Greg	Typographic/misspoke
28	16	dispatch price. RealTime generates internally the	transcription
30	2	production cost should be. But, yes, to the first part of the question again.	Transcription/typographic
54	5	No. I wrote a small program to randomly place the Callaway outages throughout the year. With three caveats, one is that no outages were placed in the summer months (June through August), two is that no outage can be within 24 hours of another Callaway outage and three, that one specific outage occur starting on a Friday for the whole weekend. Staff only supplied me with outage durations and the reduced capacity during the outage.	I made an error in my original answer. At the time, I thought I remembered Staff giving me the outage dates, but when I reviewed my notes while going over my deposition, I realized I had made a mistake.
55	20	No, I didn't. I believe the previous 2004 Callaway outage was in the spring.	To complete my answer.
69	19	I guess if they wanted to, but I don't know	Transcription
75;	12	Correct. But going into the future, you can't	Transcription or I misspoke. There cannot be actual dates for forced outages in the future as their occurrence is unknown

101	17	Your statement. We're talking about RealTime. Probably due to	Transcription or I misspoke
127	11	Yes and no. Staff gave me the outage durations and I wrote a program to assign the outages randomly throughout the year, but not in the summer months.	I made a mistake in my answer. Please refer to previous explanation regarding my review of my notes.
130	6	How much spinning reserve was used in your	transcription
133	20	In RealTime. I upped the capacity limit to 8,000 an hour. I	Transcription
142	1	I just know where I got the data. I just know what tab	Transcription or I misspoke
148	9	The other partners in the PJM interchange	typographic
161	18	I believe all the coal units and Callaway. I	Typographic
165	2	believe so. I tried to take every most vanilla assumptions	transcription

/s/ Michael Rahrer Signature

STATE OF MISSOURI

COUNTY OF COLE

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.

Missouri Public Service Commission Case no. ER-2007-0002

I. MICHNER RAHRER . do hereby certify:

That I have read the foregoing deposition;

That I have made such changes in form and/or substance to the within deposition as might be necessary to render the same true and correct;

That having made such changes thereon, I hereby subscribe my name to the deposition.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 9 day of M HRCLA 2007.

Notary Public

mate

My commission Expires:

MASHALLAH C. IZADI Notary Public - State of Florida Ay Commission Baptres Jan 2, 2008 Commission # DD247149 Bonded By National Notary Assn