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

12

	Page 2	·	Page 4
1	QUESTIONS BY: PAGE NO.	1	APPEARANCES For the Staff of Missouri Public Service
2	Mr. Lowery 5	-	Commission:
3	Mr. Dottheim 168	3	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.	67	573-751-7489
	1 Drietout of a maile 22	,	For the Union Electric Company d/b/a AmerenUE:
8 9	2 Work 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 65705-0918
12	5 String of e-mails and documents. 90	11	573-443-3141
173	(whereupon the exhibits were attached to the original and	+2	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
$\left \begin{array}{c} 1 \\ 1 \\ 0 \end{array} \right $	×	16	
19		18	Mr. John Cassidy
20		19	Mr. Tim Finnell Mr. David Queenson
21		20	Mr. Brian Collins Mr. Leon Bender
22		21	
23		23	
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
	In the MATTER OF UNION FLECTRIC	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	to CUSTOMERS in the COMPANY'S	10 7	reserved.
5	MISSOURI SERVICE AREA,)	, Я	MICHAEL RAHRER
6		9	of lawful age, being produced, sworn and examined
8	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	Lowery. I'm an attorney representing AmerenUE and I'll be
14	now pending before the Public Service Commission in the	16	Have you ever been deposed before?
116	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
20		20	smoothly since you haven't been deposed before in
21		21	particular.
22		22	Obviously there's a court reporter here.
23		21	She is be taking down all my questions and all of your
25		24 25	Answers. So no nousing your nead or shaking your nead.
<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	O. 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	O. No other reason that you know of that would	15	O. 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	1
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	vou knew?	ŀ
19	O. Okay. It's certainly possible I may ask you a	19	A. That's right.	1
20	ouestion that you don't understand. And if I do, please	20	O. 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 about	22	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	it and try to can communicate so we can get through the	25	she contact you by phone?	1
	Dama 7			11111
_	Page /		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.
	the one that's actually used for the basis of your direct		A. She wanted to know if I was interested in	
Ø	testimony. Do you understand that?	8	doing the runs for a rate case.	Ē
	A YPS	* 4		٩.,
9	And when I any Staff medal me. Ill he	10	Q. Have you ever been asked to run a production	1
9 10	Q. And when I say Staff model run, I'll be	10	Q. Have you ever been asked to run a production cost model for the purpose of filing testimony in a utility	- m -
9 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	Q. Have you ever been asked to run a production cost model for the purpose of filing testimony in a utility rate case before?	
9 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. Okaw?	10 11 el2	 Q. Have you ever been asked to run a production 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 grue that did come testimony in a case in News Section and Section and Section 2010. 	101 - 11 - 11 - 101 T
9 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 e12 13	 Q. Have you ever been asked to run a production 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 mode some for him but I don't some the state of the source for him but I don't source f	The second se
9 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. Q. New the principal sphiret aforem direct 	10 11 e12 13 14	 Q. Have you ever been asked to run a production 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 	
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9 10 11 12 13 14 15 16 17 18	 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 your context of her the Staff's testing. 	10 11 el2 13 14 15 16 17 18	 Q. Have you ever been asked to run a production 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? 	
9 10 11 12 13 14 15 16 17 18 19	 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 having a this case? 	10 11 12 13 14 15 16 17 18 19	 Q. Have you ever been asked to run a production 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? 	
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9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 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. Q. September or October of '06? 	10 11 12 13 14 15 16 17 18 20 21 22 23	 Q. Have you ever been asked to run a production 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 i running the production cost model for this rate case? 	
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1 because I had to see how if fit in with the rest of my she contacted me and we got a contract to do the work. Jull she contacted me and we got a contract to do the work. Jull due. Q. All right. So you were contacted by maybe she contacted me and we got a contract to do the work. Jull you discuss parameters, information about the case, those due. 6 Q. So you were willing to do the work as long as if fit into your schedule? So you were willing to do the work as long as if fit into your schedule? N. Hold them Ineeded the data and they sent me - as soon as we had signed the contract and signed the confidentially thing, they started sending me data, I 10 Une other than what was the schedule, what are the due I dates? N. What questions did you have for her at that I dates? 11 Q. What questions did you have for her at that I dates? Nees, soon as we had signed the contract and signed the confidentially thing, they started sending me data, I 12 A. A that time, I don't think I had any questions for her. I appes from Tim Finnell of Ameren. 13 questions for her. I as bastance of your initial contracts and alon contracts from Tim Finnell of Ameren. 14 Q. What was - when was your next contact with I B what nee? Did you specify to Staff, I need A, B, C, and I 15 they have were ther on that CD. But, yes, I told them I nearly I Did you specify to Staff, I need A, B, C, and I 16 O. There weak or so. So I didn't even I Did you specify t		Page 10		Page -12
2 shedule. That was essentially it. And a few weeks later. 2 3 she contacted me and we got a contract to do the work. Built 4 3 she contacted me and we got a contract to do the work. Built 4 4 at the time, all I was really interested in is when it was 4 5 due. 6 Q. So you were willing to do the work as long as 7 if if time your schedule? A. Yes. 9 Q. What questions did you have for her at that 10 10 dets? A. Itoid them I needed the data and they sent 11 asson as we had signed the contract and signed the cont	1	because I had to see how it fit in with the rest of my	1	anv
 sine contracted me and we got a contract to do the work. Bat. sine contracted me and we got a contract to do the work. at the time, all twas really interested in is when it was fault the time, all twas really interested in is when it was fault. Q. So you were willing to do the work as long as it fit into your schedule? A. Yes. Q. What questions did you have for her at that 10 time other than what was the schedule, what are the due 11 dates? A. At that time, I don't think I had any 12 questions for her. Q. What doy ou charge for your work? A. At that time, I don't think I had any 13 questions for her. Q. What doy ou charge for your work? A. At that time, I don't think I had any 13 questions for her. Q. What doy ou charge for your work? A. Yes. A lot of them. So I assume thar's where they came from 11 Finnell of Ameren. G. Did you specify to Staff, I need A, B, C, and 12 portide out. D. or did you just say I need the data necessary to run the 20 model, or how did they know what to serrot you? Yes. /ul>	2	schedule. That was essentially it. And a few weeks later.	2	O. All right. So you were contacted by maybe
4 at the time, all I was really interested in is when it was 4 contract finalized. You were hired to do the vork. Did 5 due. you discuss parameters, information about the case, those 6 Q. So you were willing to do the work as long as if if into your schedule? 7 A. Yes.	2	she contacted me and we got a contract to do the work B	nt3	Mr. Bender, maybe Ms. Mantle was involved. You got the
5 due. you discuss parameters, information about the case, those 6 Q. So you were willing to do the work as long as 5 7 A. Itold them I needed the data and they sent 8 A. Yes. 6 9 Q. What questions did you have for her at that 6 10 time other than what was the schedule, what are the due 7 11 due. A. At that time, I don't think I had any 12 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. Stas an hour. It's a bargain. 16 There was a CD and - I think most by the testing in the was a CD that 1 17 Have you essentially - have you told me the 18 substance of your initial contacts work? 19 Na. Manle? 20 A. Yes. 21 Q. When was - when was your next contact with 23 with Ma Shapeer or not. It may have been Lecon 1 24 A. Once again, I don't remember, but at the - 25 they told me - it had been a week or so. Or iddn't eve 26 Q. What was cond the contact all for yout od? </td <td>4</td> <td>at the time all I was really interested in is when it was</td> <td>4</td> <td>contract finalized. You were hired to do the work. Did</td>	4	at the time all I was really interested in is when it was	4	contract finalized. You were hired to do the work. Did
Q. So you were willing to do the work as long as in time to your schedule? 7 if if into your schedule? A. Nes. 9 Q. What questions did you have for her at that ime other tham what was the schedule, what are the deal 11 dates? A. A that time, I don't think I had any 12 dates? Q. What do you charge for your work? 13 questions for her. Q. What do you charge for your work? 14 A. YS. A to that is a bargain. 10 think from Tim. 16 M. Mantle? A. Yes. 17 Have you essentially have you told me the 14 A. Yes. A to of them had the letters DR in 18 usbtance of your initial contacts and conversations with 18 Q. Did you specify to Staff, I need A, B, C, and 19 Q. When was when was your next contact with a last white? 10 thick you specify to Staff, I need A, B, C, and 19 With a contract with a last of things that white? 21 A. Well, they set me everything, I think, that 21 A. Once again, I don't remember, but at the 24 they have, hydro generation. 22 they told me it had been a week or so. So I didn't even 25 23 no if it was going to happen or not. It may have been Leon 1 about the case, Ameren 24 they have, hydro generation. 22 An that so the ony batt would be done, dealy the didney core grow that so things. 34 und	5	due	5	you discuss parameters, information about the case, those
7 it fit into your schedule? 7 A. Yes. 8 A. Yes. 7 A. Yes. 9 Q. What questions di you have for her at that 10 time other than what was the schedule, what are the due 10 time other than what was the schedule, what are the due 10 time other than what was the schedule, what are the due 11 time other than what was the schedule, what are the due 10 time other than what was the schedule, what are the due 11 time other than what was the schedule, what are the due 11 0 When you say data from Tim., you're talking 12 about, I guess, data request responses and perhaps work 12 about, I guess, data request responses and perhaps work 13 papers from Tim. Finnell of Ameren. 14 A. Yes. 15 front of them. So I assume that's where they came from. 14 Bustance of your initial contact you hal 16 There was a CD and - I think mostly it was a CD that I 15 front of them. So I assume that's where they came from. 16 D. or did you you secify to Staff, I need A, B, C, and 14 M. Mantle? Q. When was when was your next contat ithin all mintial contact you hal in think indont exectly. A. Well, they sent me everything. I think, that	6	O So you were willing to do the work as long as	6	kinds of things at that time?
 a max Yes. b M. Yes. c M. Yes. c M. Yes. c M. A that time, I don't hink I had any d dess? d datas? d M. Katation, I don't hink I had any d dess? d M. Katation, I don't hink I had any d dess? d M. Mat do you charge for your work? d M. Mat do you charge for your work? d M. Yes. d M. Yes. d M. Mantle? d M. Yes. d M. When was when was your next contact with d M. Mantle? d M. Yes. d M. Yes. d M. Mantle? d M. Wen was when was your next contact with a stand thing that initial contact you had the ext was tors os. So I didn't even 2 d M. With whom beyond that initial contact wou had the ext was tors os. We came up the have, hydro generation. d M. With was diff the machle? d M. With was diff things that would be done, deposition if necessary, you understand the date stand got me on a conference call with 2 d M. Wast was that? d M. Wast was that? d M. Wast was that? d A. Yes. To make all the runs that the Staff the aronny the receff to support their case. And to provide, you know, an	ž	it fit into your schedule?	7	A. I told them I needed the data and they sent
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 A. Yes. Q. When was when was your next contact with Staff and with whom beyond that initial contact you had Staff and with whom beyond that initial contact you had with Ms. Mantle? A. Once again, I don't remember, but at the they told me it had been a week or so. So I didn't even That called me back and got me on a conference call with a confarct with a list of things that would be done, deposition, testimony, the running of the models, those with a contract with a list of things that would be done, deposition, testimony, the running of the models, those with a contract with a list of things that would be done, deposition, testimony, the running of the models, those kind of things. Q. What does the contract call for you to do? What's the scope of the work? Do you understand what 1 A. Yes. To make all the runs that the Staff needed to support their case. And to provide, you know, q. And just all on, if I can use this phrase, on simoly eved. Q. So you sort of gave them a lump estimate as involved. Q. What was that? Q. What was that? A. Yes. Q. What was that? A. 280 hours, which I think when you use your cakel day is it is how it will work? A. 280 hours, which I think when you use your cakel day is it is how it will work? A. 280 hours, which I think when you use your cakel day is it is how it will work? A. 280 hours, which I think when you use your cakel day it is the staff had one of the exprese if cakel day it is the staff had one os me modeling related to thing. cakel day it is the staff had one some modeling related to think ten some the express if cake day and the staff had it is the staff had had your it is pour it was bar? A. No. Q. So you sort	19	Ms. Mantle?	19	D, or did you just say I need the data necessary to run the
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4 (Pages 10 to 13)

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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
_		1	A No I did not
1	Q. Do you know what an independent system	2	Ω Do you know at what point and over what period
2	operator 15?	2	any rates that are set as a result of this case would be in
3	A. No.	7	affort?
4	Q. Or a regional transmission organization?	5	A No I don't I heard on the news this morning
5	A. NO.	5	that you haven't had a rate increase for 20 years but
6	Q. Do you know what LIVIP stands for?	7	that's all I know
/	A. LMP, no.	, 8	Ω I take it you don't have any knowledge about
8	Q. Do you know what congestion charges are:	٥ ۵	the effect that rates that may be set in this case might
9	A. No, I don't. I can take a guess, but I don't.	+10	have on the company's earnings, its stock price, its
10	Q. Can you describe for the in your own words what	11	ability to provide service to the customers?
11	the purpose of a production cost model is?	12	A No I don't
12	A. You can use it for many unings. In this case,	13	Ω No knowledge or opinion about any of that?
13	we re using it to come up with fuel costs. It determines	14	A Correct
14	the method of running your generating assets of an your	15	Ω I think you said you first did excuse me
10	assets so that you can minimize your cost.	16	you first did a benchmarking run in late October?
	Q. When you say we're coming up whill fuel costs,	17	
10	are you taking about you re essentially if ying to conce	18	Ω How many benchmarking runs did you do? I
10 10	up with what you believe tilter a certain set of conditions	19	mean you're doing benchmarking runs in October you get to
20	this case Ameren UE right?	20	filing direct testimony on December 15. In between there
20	A That's correct	21	you had to obviously be doing some work. Did you do
$2 \downarrow$	Ω And that's fuel it's purchased power it's	22	multiple benchmarking runs in that period?
22	marging from off-systems sales as an offset to that to	23	A After I finished the benchmark run which I
24	lower the production cost correct?	24	think it was October 26 something like that maybe a few
25	A Ves	25	days later. I didn't run the benchmark run anymore at all
	Page 19		Page 21
1	Q. Any other elements that come into play Let	1	I was finished with it. In fact, I think these results
2	me back up. When you use the term fuel cost, you were	1 2	still here are the same results I reported in that October
2		2	
	using that synonymously with variable production cost; is	3	date.
4	using that synonymously with variable production cost; is that fair?	2 3 4	date. Q. When did you do the Staff model run that was
4 5	using that synonymously with variable production cost; is that fair? A. Generally, yes, that's fair.	2 3 4 5	date. Q. When did you do the Staff model run that was used in your testimony?
4 5 6	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	2 3 4 5 6	 date. Q. When did you do the Staff model run that was used in your testimony? A. I started that it was a few weeks later. I
4 5 6 7	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	2 3 4 5 6 7	 date. Q. When did you do the Staff model run that was used in your testimony? A. I started that it was a few weeks later. I don't know exactly how long, but I think that we got the
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6 (Pages 18 to 21)

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		1	When the Staff started making the run, they wanted to run
1	Q. Now you're changing inputs and assumptions	2	it from July 1 '05 to June 30, '06.
2	based upon the parameters that Starr is giving you,	2	O Now when you're talking about these changes
3	correct?	4	that we're making are these changes from what was in the
4	A. Changing some inputs and assumptions, yes.	5	benchmark run or are these changes between your various,
5	Q. Okay. These various you said you don't	-16	I'll call them iterations or versions of the Staff model
6	remember now many exactly, but mese various Start mod	7	nin or both?
6	to the final or however many it was what changes in input	ts 8	A. I started the Staff run by making an identical
	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
	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
25	about fuel cost, are we talking dispatch cost or accounting	25	were thinking there might be another part of that question
		Į –	
	Page 25		Page 25
1	cost?	1	such as what, setting up the model?
1 2	cost? A. Both cost; dispatch and accounting.	1 2	such as what, setting up the model? A. Right.
1 2 3	cost?A. Both cost; dispatch and accounting.Q. You said forward price curve. The energy	1 2 3	such as what, setting up the model? A. Right. Q. Once you had the benchmark run done and then
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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	O. Tell me the principal inputs that you used and
2	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	O And Lena Mantle?	5	because the whole purpose of the model is to serve load.
ŝ	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
Ŕ	Ω Okay She was kind of involved in the	8	efficiency or heat rate curve and the variable cost.
ă	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	Δ As far as I'm concerned ves	11	unit is going to cost to run and we want to know how much
12	O 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	O. You need to know dispatch prices, right?
14	fuel modeling	14	A Only if you want to have a nurchase nower
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	116	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	18	and the variable costs which are fuel and variable O & M
19	and report back to him.	19	could be emission cost.
20	O. So in terms of these changes you weren't	20	O 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	n2.2	Do you need to know about planned outages?
23	Staff saving Mr. Rahrer here's some data make this	23	A Ob definitely yes
24	change and you did it is that right?	24	O Forced outages?
25	A Fractly ves	25	A Vec
	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	what you were doing in effect; is that how you viewed them	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	17	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?
·	 • • • • • • • • • • • • • • • • • • •	ne aite farfam.	8 (Pages 26 to 29)

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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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1 Q. All right. Let me direct your attention to 1 Q. Well, I think you said a moment age	(#
2. But 2 of Furthing 1 that up to marked to day. And take a 2 montion was made the load was too bigh or t	o that some
-7 Page 7 of exhibit 1 that we ve marked logay. And take $a = 1.4$ -included was made the load was loo high of the	oo 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	ne weather
5 top of the page. And right below that, it looks like 5 normalized run, I think the load was around 4	40 million and
6 there's an exchange of e-mails between you and Mr. Cassidy 6 the other tab was 39-point something million	1. There was 🛛 🛔
7 regarding the loads. Is that what that deals with? 7 definitely a difference in the total load from t	those two
8 A. Yes, it is. 8 tabs.	ê
9 Q. Now, a moment ago, you told me there were 9 Q. The normalized tab, do you have an	L -
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	s 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 w	hat they
14 tab, the weather normal tab, or the actual tab, right? 14 tried to do. They were trying to make a study	y that looks
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 v	winter, and
1/ your question?	ey can project
18 A. I believe he told me to use the weather 18 more carefully into the future.	X
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 now they do it.	1
21 testified that you did not use the weather normalized tab. 21 Q. when they say normalized, when in	tey nave a
22 You used the normalized tab. which is accurate? 22 normalized tab versus a weather normalized tab	tao, do you know
2.3 A. They ie both accurate. What I said a few [2.5] what the difference is between mose two in a 2.4 minutes ago is that I began by using the weather normalized 2.4, they get to those two numbers?	erms or now
25 tab but I made a mistake. I don't know if I misunderstood 25 A Do I know? No I don't	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
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 oppo	osed to abnormal
3 load was either too high of too low, and they came back and 3 weather?	
4 toid me to use the normal tab. 4 A. No, I don't.	× 1 .1
5 Q. Tapologize. After this December 8 e-mail 5 Q. They just told you now they fill for the work of the more lined to be right?	irst told you
o from Mr. Cassidy terming you to use the weather normalized to to use the weather normalized tab, right?	
7 tab, you ran the Real I ime model using the weather 7 A. Yes.	
o normalized tab data for foad?	rong; you need
10 And that produced results right?	 . :
10 Q. And mar produced results, right: 11 A Yes 11 O So you did it?	
12 O. And you sent them to Mr. Cassidy, Mr. Meyer 12 A Yes	1
13 both?	at did it
14 A. I usually e-mailed them both. If the 14 right?	
15 attachment was large, I would just send them to one person 15 A. Yes.	2
16 Q. And you received a call, e-mail, some 16 Q. So the Staff model run that under	erlies vour
17 communication from somebody about those results, correct 17 direct testimony used the normalized tab	for the load data
18 A. I believe it was a phone call. 18 in the model run; is that correct?	
19 Q. From whom? 19 A. Yes.	
A. I don't remember. It was either Greg or John. 20 Q. Not the weather normalized?	
21 Q. And they told you what? 21 A. Correct.	ŀ
A. They told me that I should be using the normal 22 Q. Let me direct your attention to P	Page 6 of
23 tab. 23 Exhibit 1. About a third of the way down	n in the middle of
24 Q. And their explanation for that was what? 24 that first e-mail, do you see the line that s	starts: What
25 A. I don't think they gave me one. 25 we need is the run to reflect all the 16 point	ts?

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	Page 42		Page 44
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?		A. Okay.
12	A. Yes, I do.	12	Q. Now, you didn't include cost in your
⊥3 1≬	Q. You don't have any particular recollection of	113	production modeling related to Joppa, right?
14	now those differ perhaps?	14	A. Correct.
10	A. NO, I don't. O I think you mention that see $C \in C$ is 1.1		Q. And Joppa was modeled as a purchase power
17 17	Q. I think you mention that your Statt model run	10	contract in effect?
1/	did Let me back up. Did the Staff model run that you	11/	A. Yes.
10	uid, did it include any cost associated with I'm going	10	Q. You've done other Real Time simulations for
19	to say EEInc or Joppa and use those terms interchangeably'	19	chents over the years, right?
20	Do you understand that those are the same thing?	20	A. Yes.
	A. Yes.		Q. You mentioned a few of those in your DR
22	Q. Did your Stall model run include any costs	22	responses to the company's data request, right?
23	associated with Joppa?	23	A. Correct.
24	A. NO.	24	Q. In other simulations that you do for other
1 1	Q. In your response to DK IDF-Statt-008, you	123	chemis, if you include a resource, a generating unit, a

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	Page 46		Page 48	- Inc. 1994 -
1	nurchase power agreement, typically you include the cost	1	the power would be taken by UE from the Joppa plant?	
2	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	O. It's unusual to model a resource, but not	4	me that the maximum capacity of the unit, I think, was 405	5
5	include 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	į.
7	frequently put in at zero cost.	7	non-peak, off peak. The other 18 hours of the day are on	1
8	Q. But Joppa is not a hydro plant, right?	8	peak.	2
9	A. Right.	9	So I assigned 405 to all the on-peak hours.	2
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	2
12	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	
13	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	1
15	unit run in a production cost model without associating	15	the load shape reflected in there I guess we don't know	
16	cost with it, right?	16	they're normalized or weather normalized, but whatever lo	ađ
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. A. A.
19	do that?	19	Q. What is the basis for the assumptions of	معناده
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	
21	And they said they would handle it off model or somethin	g21	remainder to that low shape. How did you decide that's ho	γ¥
22	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?	10 N.
24	nandle it off model of now they would handle it off model	24	A. I think that was my decision to do it that	144 · 34
25	A. How and why are two separate questions.	23	way	-
	Page 47		Page 49	1
1	Q. Well, let's go one at a time. Did they give	1	Q. Why?	
2	you any information about how they were going to handle i	t 2	A. I don't know. It just seemed like a good	5
3	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	number of hours in the month. I knew the thing could run	ĭ
5	to me once about fuel cost or something. But, anyway, 1	5	at 405 and it didn't seem like it made sense to run it at	(n. 14 er
6	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	1.116.27
	they never told me anything about how, except that they	1	purchase power contract. So I just assumed that they would	d
8	would do it outside the model.	8	run it more during the peak hours.	€<
2	Q. What was the why that they gave you?	9	Q. That was an assumption that you made?	
	A. I just said I don't really remember. It was	10	A. That's correct.	1
1 1 2	O All right Do you have an understand in the	11	Q. Dion't have any operating data, history,	
1 2	y. All right. Do you have an understanding that	12	information that backed up or didn't back up that	ŀ
11	and up assigning those energy costs to interchange 1 -	13	assumption; is that fair?	ŀ
15	as opposed to load a native load?	15	A. That's correct, yes.	
16	A No I don't know anything about it	12	Q. Did you discuss that assumption with Mr.	Ę
17	Ω All right Ω f course for the API or	17 17	A I might have told there that I did is a di	
18	Entergy I forget you know what I'm talking shout the	1 P	A. I might have told them that I did it after the	
19	APL contract that is modeled in your model?	10	subject	ľ
20	A Yes	20	O Don't recall them commenting on that are service	- XX
21	 You did include costs associated with that 	20	Q. Don recan mem commenting on that one way	f
$\frac{1}{22}$	correct?	22	Δ Correct	ŀ
23	A. Correct	22	Ω . Let's as back and talk shout some of these 14	1.1.1
24	O. What assumptions were made when you did the	24	assumptions that we have I guess a nortical list for Car	1
	Staff model run including the Jonne plant in terms of other	25	ussumptions that we have, I guess, a pathal list for. Can	ŀ
25	- JIGH HIUUCI INH HICIUUMY INC JOHNA HIAIH III JERMS OF SIMPH	- <u> </u>	Voll explain the change that you made reporting the User	

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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. 7 7 possible. 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 Q. 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. YMarch, July, and November, right? 14 A. That's my impression yes. YMarch, July, and November, right? 15 are freeling outage, right? November? 16 Q. Veril look at them in a minute. YMarch, July and November? 17 A. Carrect. YMarch, July and November? 18 A. Yes.		Page 54		Page 56
2 someplace. I don't recall they specified the date they a. A Yes. They told me the month. I think it was 3 wated it to be in. A. Yes. They told me the month. I think it was 4 Q. But they gave you the month? A. That's my impression, yes. A. The's. They told me the month. I think it was 5 A. That's my impression, yes. B. November? Q. All right. And the duration of the planned 6 A. Ses. I. In this month, and this month. They didn't B. A Yes. 11 in this month, and this month. They didn't I. A. Yes. 12 tell you March 10 to 12; you just picked sometime in March. P. A Rat's my recollection. And all the outages 16 Q. We'll look at them in a minute. Now we're talking abouta In planned outage, a refuiling outage, right? 17 A. Correct. Q. Do you have experience with that? Do you know Page 55 1 A. No. Yes. Q. Now, I think you mentioned something about 18 browed durage in the spring the next time. If you Q. Now, I think you mentioned something about 20 A. Correct. Q. Do you know that Q. Now, I think you mentioned something about 21	1	And so Liust I put the outage in March	1	as to what they meant by fall, in terms of what period?
wanted it to be in. November. November. Q. But they gave you he month? A. That's my impression, yes. Q. Alt right. And the duration of the planned G. So if we look at your RealTime information, your outputs, and we see a forced outage in March - I'. Q. Alt right. And the duration of the planned March, July, and November. Let's say there were there 0 A. The staff told you, we want forced outage of X hours in 10 them, The Staff told you, we want forced outage of X hours in a stand, this mouth, and this month, They didn't A. Yes. 12 tell you March 10 to 12; you just picked sometime in March, 12 could you fit the whole planned outage in the month of 13 but they gave you the month, is that right? Nowember? 14 A. That's my impression, yes. Q. Mag iven the duration the Staff gave you, and the outage in the month of 15 bot they gave you the month, is that right? Nowember? 16 Q. Well look at them in a minute. Nowember? 17 A. Correct. Q. Do you have experience with that? Do you know 18 been buik. If's had a planned outage every 18 months? A. No. 2 Q. Did you know for example since Callaway has Go you soul ave experience with mer's going to right? 2 Q. You did't know that' bar wit always worked if A. Yes. 2 Q. Did you know for example sin	2	somenlace I don't recall they specified the date they	2	A. Yes. They told me the month. I think it was
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1	mum it at 050. They did that and we removed those and we	1	A You asked me if I benchmarked and I just said
⊥ 2	changed the maximum monthly canacity of the unit to sort	ne2	no. I didn't benchmark.
∠ २	other numbers	3	O. You didn't benchmark at all?
4	O Right And you understood that AmerenUE	4	A. Not in those cases.
5	modeled it that way that was their way of simulating	5	Q. All right. When you have benchmarked or
6	forced outages throughout the year, correct?	6	calibrated your model for clients, and I assume well,
7	A. That's what I was told, correct.	7	yeah, for clients, what percentage of the time would you
8	Q. You were told that by Staff or?	8	say that you benchmark it or calibrate it against actual,
9	A. Mr. Finnell.	9	as opposed to benchmarking or calibrating against somebody
10	Q. Okay. Do you have an understanding why	10	else's model run?
11	AmerenUE modeled it that way?	11	A. I don't recall I've ever calibrated against
12	A. No.	12	somebody's model run.
13	Q. Did you ask Mr. Finnell what the rationale	13	Q. Until this case?
14	was?	14	A. Inat's correct.
15	A. I don't remember whether I did or not, but	10	Q. This is the first time you've ever done that.
10	Q. You don't know it that was, for example, based	17	why didn't you canorate your model against
10	on actual operating history of Canaway over a period of	18	A Well the actual data wasn't provided We
19	A No But that doesn't seem likely, but	19	were trying to benchmark it against the Ameren benchmark
20	A. No. Dut that doesn't seem fixery, but O Before you getting involved in this case, you	20	nin
21	didn't know anything about the Callaway unit: is that	21	O. Did somebody tell you to benchmark your model
22	correct?	22	against UE's model, as opposed to benchmarking or
23	A. Correct.	23	calibrating against actual data?
24	Q. And do you have any particular experience with	24	A. One of the bullets in my contract was to run a
25	operating nuclear facilities in general?	25	benchmark model against the Ameren benchmark model.
	Page 59		Page 61
		-	
2	A. NO. — Have you regularly modeled utilities that have	1 2	Q. So Stall actually prescribed in your scope of
3	Q. Have you regularly modeled dumies that have	2	Ameren's model right?
4	A Yes I think several of the ones I do have	4	A Ves correct
5	nuclear units in it.	5	O. And something you've never done before?
6	O. Have you ever done any studies or analyses	6	A. Not that I recall.
7	about typical forced outage rates at a nuclear plant?	7	O. Did you find it unusual that Staff wanted you
8	A. Not that I can recall.	8	to benchmark your model against another model run, as
9	Q. All right. Pages 11 and 12 of your testimony,	9	opposed to actuals like you'd always done before?
10	you say that you normally benchmark the RealTime mode	110	A. I asked them about it and they explained that
11	against actual data. That's how you normally do it, right?	11	with interchanges and other factors, it just wasn't that
12	A. Correct, yes.	12	easy to do, to get the data that we needed.
13	Q. All right. And in response to DR	13	Q. Tell me as specifically as you can recall what
14	1DF-Staff-001, you identified a few different Real lime	14	their explanation was.
15	model runs that you've done for various clients. For any	15	A. Well, it was yesterday and my memory is not
17	of those chemis, did you benchmark or calibrate II I	17	that good even from yesterday. It was because of the
18	interchangeably: does that make some to you?	10	interchange sales between CIPS and Ameren, something of
19	A Yes	10	Ω They gave you this exploration vector dev ⁰
20	O. All right. Did you calibrate the model to	20	A Veah because Lasked them about it again
21	actual data before making those runs for those clients?	21	vesterday.
22	A. In those studies that I mentioned in the DR.	22	O. Well, you state in your testimony on Pages 11
23	no, I did not.	23	and 12 Do you have a copy of your testimony with you
24	Q. Did you calibrate the model at all before	24	A. Yes, I do.
25	making those studies that you mention in the DR?	25	Q. I want to make sure I'm reading this
i	n	ร้าง	alan miner sin and an alan and an alan an a
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ı	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 heing used	2	So that is not benchmarking against actual.
2	by RealTime has already been processed and synthesized by	3	The actual data on January 1, hour 14 last year, there was
7	Amoren IE and can no longer be compared against an unbiased	4	an actual forward price curve value and I was not given
4 E	Amerenone and can no longer be compared against an unbiasce	н т Б	that value. So you can't model it if you're not given the
ວ ເ	objection.	6	ualue. So you can't model it if you te not given the
0 7	A Vez it in	7	O Well Ameren IE's model run that underlies
0	A. 105, 1115.		Q. Wen, American S model fun that undernes
0	Q. Did somebody discuss with you this concept of	å	model actual conditions, was it?
9	A Well I must have beend from commutation I	10	A No it warn't
10	A, well, I must have heard from somewhere. I	11	A. No, it wash to O I mean production cost model one of the
	tooked at their I tooked at their I mean for example,	12	Q. Thean, production cost model is we've got
12	the Callaway unit, I just figured that it could not full at	12	reasons you use a production cost model is we ve got
13	that derating level. I looked at another data set that I	11	conditions that differ from actual, we want to model mose
14	maintain and I saw that Canaway did indeed have forced	14	so we can see what we think the results will be, confect?
15	outages in 2005. So I knew immediately that their	10	A. I don't know why you guys fun them.
10	O Wall vosterday you're asking them again	17	Q. We don't need a production cost modeling in
11/	Q. wen, yesterday you're asking them again,	10	what the potual results in a given 12 month period ware de
	you're asking them to give you some evaluation as to why	10	what the actual results in a given 12-month period were, do
20	they wanted you to benchmark your model against Americal P	20	ww: A No not if the period has passed you don't
20	model. And you testified that one of the reasons they gave	21	A. No, not if the period has passed, you don't.
22	you there's something about interchange cales between	22	We know how many mergawatt hours were generated we know
22	Ameren CIPS and Ameren IF right: that was your testimony?	22	what the prices were we know what the margins were we
20	A No. I actually asked them vectorday. I said	23	know what the fuel costs wore, we know that information
25	we should have benchmarked this thing against our actuals	25	without running a model, correct?
	we should have benchmarked this thing against our actuals.	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	testify that to the reasons for why you benchmarked it	10	A. I don't know what he was doing.
11	against AmerenUE's model. So where did you get those	11	Q. Well, does that make sense; that he was
12	reasons?	12	modeling something other than actual conditions? You
13	A. I don't understand that question.	13	just
14	Q. Well, were these reasons a product of your	14	MR. DOTTHEIM: I object, Mr. Lowery.
15	independent thought or did somebody suggest these reasons	\$15	Mr. Rahrer has answered your question.
16	to you on Pages 11 and 12?	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	model. These reasons at the bottom that you just read?	18	THE WITNESS: Sorry. Can I call you Tim; is
19	Q. Yeah.	19	that all right?
20	A. Let's read the next one on the top of the	20	MR. FINNELL: Yes.
21	page. The market price curve was created from data	21	A. When you benchmark a model against reality,
22	aggregate from the last three years.	22	it's not to find out the number. Let's say the magic
23	That's synthesized and processed to me. The	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 a second
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1	that your model is working correctly.	1	know whether he used actual hourly load or he had some kind
2	O (By Mr Lowery) That's right	2	of predictive algorithim for what the hourly load would be.
4	A That's why you would do that	3	O. Well, doesn't Mr. Finnell say that on Line 3,
Δ	O Did you read Mr. Finnell's direct testimony	4	that he compared that he ran his model which compared
ד ב	where he discussed the calibration work he has done to	5	actual 2005, actual 2005 generation to model results?
6	calibrate AmerenIIE's production cost model?	6	A. Uh-huh.
7	A There was several pieces of it. I know I read	7	O. Wouldn't that indicate to you he was using
8	the first piece of testimony that he sent out. I don't	8	actual generation, not normalized generation?
ğ	think I read the follow-up.	9	A. I'm talking about load. What did he use for
10	O. Testimony from back in July of 2006	10	load? I mean a typical costing model will come within one
11	A. That's correct.	11	or two megawatts of load. And he says he comes within a
12	O he discussed in that testimony calibration	12	half percent. So a half percent of 40 million is I
13	work he has done, correct?	13	don't know what he did. It clearly does say he compared
14	A. I believe so, yes.	14	some results against actual.
15	Q. And you read that?	15	Q. Which is what you would normally do?
16	A. Yes.	16	A. Yes. If the data were available and I was
17	Q. Did you examine Schedule TDF 1-1 to that	17	asked to do it.
18	July 2006 testimony?	18	Q. You don't know if the data was available or
19	A. If it was attached to it, I'm sure I did.	19	not, do you?
20	Q. Did you ask did you have any occasion or	20	A. I do not.
21	did you ask Staff to get for you any of the data underlying	21	Q. You didn't ask for the data?
22	Mr. Finnell's calibration runs that he discussed in his	22	A. I don't recall asking for the data. They
23	testimony?	23	wanted me to benchmark against the run that was submitted
24	A. I don't recall.	24	that had results from the units, you know, that was
25	Q. You testified yourself that the normal way	25	provided to us.
	Page 67	ł	Page 69
1	that you calibrate RealTime is to check it against actual	1	Q. But had you indicated before, I believe,
2	real world data. Isn't that what Mr. Finnell did, as	2	that you thought the right way to calibrate a model was to
3	discussed in his testimony filed in July 2006; he	3	do it against actuals. Had Staff agreed with you, you
4	calibrated his testimony based on real world data?	4	would have asked Staff to get you the data, the actual
5	A. Do you have his testimony there? I don't	5	data, for whatever period we're talking about from the
6	recall that. I know there was two places, once he was	6	company, wouldn't you?
7	talking about the benchmark run. And another place, he wa	c 7	
	8 F F F F F		MR. DOTTHEIM: I object, Mr. Lowery. I think
8	talking about the reality for an 11-month period. But I	8	MR. DOTTHEIM: I object, Mr. Lowery. I think you're testifying on behalf of Mr. Rahrer.
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18 (Pages 66 to 69)

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	Page 70		Page 72	
1	O You don't have any reason to believe or any	1	utility?	1
2	evidence to suggest that had Staff asked for that	2	A. Yes.	ļ
ے ح	information it would not have been available: is that	3	Q. I mean for example if AmerenUE's model	Sec. 41
4	fair?	4	produces biassed fuel burn projections, AmerenUE may buy	25
5	A L 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?	ľ
7	O You don't have any evidence it would not be	7	A. Yes, it could.	L
8	available right?	8	Q. Do you have any evidence that AmerenUE's fuel	Ŀ
ğ	A That is true	9	burn projections that have been made using the PROSYM mode	Ŀ
10	O You don't have any particular reason to	10	produced biased results?	2.0
11	believe it would not be available correct?	11	A. I don't have any evidence, but I haven't seen	1
12	A That is true	12	any of them.	ŀ
113	O You don't know for sure if it was available.	13	Q. You don't have any evidence, right?	ľ
14	but you don't have any evidence that it was not available.	14	A. That's correct.	ĺ,
15	correct?	15	Q. Do you have any evidence of any kind that	2
16	A. That is correct.	16	AmerenUE's production cost model produced biassed results	ŝ
17	O. I take it because you didn't seem to express a	17	in any of these important areas?	1
18	lot of familiarity with the calibration work that	18	A. I have no evidence to that effect.	114
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	í
22	calibration other than this paragraph.	22	we're trying to model, correct?	é
23	Q. And based upon that paragraph or a prior	23	A. Correct, yes.	2.
24	review you make of Mr. Finnell's testimony filed in July of	f24	Q. Changes sometimes take place during a	1
25	'06, do you have any criticisms of his calibration work?	25	particular period. For example, let's say the test year in	
	Page 71		Page 73	1.14
1	A It's impossible to have aritician or project	1	this area, sharped movitalis place in an anti-	17 mm
$\frac{1}{2}$	with only that paragraph. I mean a half percent sounds a	2	nurshase nower contracts that are not available. Those	3
3	I'm not supposed to volunteer information A half percent	3	changes may take effect that we know are going to be	
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	O You haven't examined his calibration results	5	year so we can use those results to try to predict what may	
6	or asked for any of the underlying data in order to	6	be a production cost level in the future, we need to model	Nu. 11.
7	evaluate it: is that fair?	7	those changes right?	1
8	A I haven't seen any of it and I haven't asked	8	A When you model the future yes	¥.
. 9	for it: that's correct	9	Ω And that's really why we have models so we	ľ
10	O. You were aware it existed because you read the	10	can make changes to actual data and determine what we think	2.4-1
11	testimony: is that correct?	11	the results are going to be based upon those modeling	
12	A. Yes. Yes.	12	results. right?	Ì.
13	Q. Okay. Do you know for what purposes AmerenUI	213	A. Yes.	
14	used it's PROSYM modeling, production cost model?	14	O. We can have a major new customer added that	in.
15	A. Rate cases, I guess. I don't know what else.	15	changes loads for example?	. N. 1. 2
16	Fuel budgets.	16	A. Yes.	Sec. A.
17	O. Do you know if they use it for business	17	O. We could have a joint dispatch agreement go	
18	planning purposes?	18	away: that would be something we could model. We could	
19	A. No.	19	model the absence of the joint dispatch agreement, right?	
20	Q. Do you recall reading Mr. Finnell's testimony	20	A. Yes.	:
21	on Page 3, Line 16 to 20? And this is part of Exhibit 3.	21	Q. We could model new purchase power contracts or	ŝ.
22	A. I do remember reading this, yes; preparation	22	purchase power contracts that went away, right?	
23	of monthly/annual fuel budgets.	23	A. Yes.	ŀ
24	Q. Would you agree that the purposes Mr. Finnell	24	Q. New units coming on, right?	ŀ
25	talks about there are important in the operation of a	25	A. Yes.	ł
				-

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?	2	A Ves but for the future. When you're dealing
2	A. ICS. O Models are designed to accept those kinds of	3	with the nast year, you don't have to process or synthesize
2	Q. Models are designed to accept those kinds of	4	anything. You've got the invoices.
4	designed to produce reasonably accurate results even based	5.	O. You do understand that rates to be set in this
5	on those changes, right?	6	case will be in effect in the future, right?
7	A They should ves	7	A. Yes.
à	O They should I mean that's the point of	8	O. We're not trying to figure out what the
q	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	O. 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	a weather normalized load. There's a lot of management	1	On that's the imment of what you said Is
2	that went on to come to that weather normalized load	2	that a fair characterization of what you said?
3	correct?	2	A Correct yes
4	A Yes	4	O Have you been involved with any utilities
5	O. 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	7	where they told me they got their data from heat rate test
8	general, was a six-year average of GADS data, right?	8	O. Do you know anything about the frequency of
9	A. Right.	9	those heat rate tests how they do them?
10	O. I mean, that's not actual data; that's an	10	A. No. I don't.
11	average that's been calculated, right?	11	O. 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.
			$20 (P_{2}, q_{2}, q_{3}, q_{4}, q_{7}, q$

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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.
3	A.	No, I don't.	3	MR. LOWERY: I think he's answered my
4	Q.	At minimum and maximum loads, do you know	4	question.
5	Â.	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	А.	I don't know.	7	on redirect, you can ask him a question on redirect.
8	Q.	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. Ranrer, which is what I think
10	air and	water temperatures of the time of the test,	10	you were doing.
11	whenev	er it is they do the test?	12	MR. LOWERT: I mought he had completed ins
12	A.	I don't know.	13	MR DOTTHEIM: No. I don't think he had
13	Q.	what parameters impact the unit's heat rate,	10	wirk. DOT ITTEINI. No, I don't tillik he had
14		No. Lavora Laon't	15	Mr. Rahrer had you completed your answer?
10	A.	No, 1 guess 1 don t. Dogs air temperature affect it?	16	A I was going to say that using those three
17	Q.	That I believe it does yes	17	coefficients to come up with the heat rate curve is
18	A. O	Water temperatures?	18	probably a good generic way to do it. But with a few heat
19	Q. A	I believe so ves	19	rate tests you could probably get come closer to the
$\frac{1}{20}$	0	Quality of the coal?	20	right answer.
21	A.	Limagine.	21	O. (By Mr. Lowery) Mr. Rahrer, you don't know how
22	0.	How the equipment is performing?	22	many heat rate tests or the frequency of those heat rate
23	À.	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 tests does that affect	1	A I have no idea
$\frac{1}{2}$	it7	at the time of the heat fate test, does that affect	2	A. Thave no idea? O You have no idea?
3	п. Д	I don't know	3	A That's correct
4	0.	To the extent that all those kinds of items	4	0. So when you say a few heat rate tests might
5	affect th	he heat rate, do you think a single test is going	5	come to a closer answer, you don't whether AmerenUE maybe
6	to provi	de a sufficient heat rate information to actually	6	has done, in your words, a few heat rate tests, do you?
7	rely upo	on in your production cost model?	7	A. That's correct. I do not.
8	Å.	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.
11	each of	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	exactly	the same thing, but the product that I looked at	14	heat rate test heat rate curves, do you?
15	used gr	oss heat rate sorry gross capacity. So I	15	A. I have no evidence.
	couldn'i	t exactly tell. But it looked like to me in some	16	Q. And your testimony where you talk about the
	cases th	ere were some variances, but I don't have anything	g17	heat rate curves is really based upon some comments that
10	written	down.	18	you received from other utilities that, hey, we use heat
20	Q.	I ou really don't know anything about how	179	rate test, as opposed to a heat rate curve; is that the
20	Amerer	I do not	20	substance of your testimony?
22	A. 0	Tuo not. Vou really don't have any avidence that their	21	A. Assuming they were telling me the truth, yes,
22	Lest rat	e curves are inaccurate in any work is that fair?	22	Litat S
24		No I mess I don't But there's	20	Q. And you don't know anything about what they
1 <u>~</u> "	л.	ito, i guess i dont. Dut mere S	24	uo, uo you?
25	\cap	All right	25	A It's been explained to main the next Dut

21 (Pages 78 to 81)

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	Page 82		Page 84	è.
1	I didn't as monitor the test	1	A That's true, but I thought they were included	1 11 1
1 2	O But in effect you were criticizing Ameren IF's	2	here	·
2	Q. But in effect, you were entitizing Ameren's you?	ĩ	Ω Just assume that they're not included. If	w a the
2	A Vac Lwas	4	that's the case, they were not included and you included	
ч 5	A. 105, 1 was.	5	them the outage hours would go up, correct?	Sec. Sec.
5	is that fair?	6	A Ves	- 440 M
7	A I didn't have -1 don't know if -1	7	O And if the outages are greater, then the	1
Ŕ	Ω You don't have any evidence that there was	8	equivalent availability is going to be less in each of	1
à	problems with the heat rate curve?	9	those units, correct?	×.
10	l anologize for interrupting. I thought you	10	A. Hours are greater?	
11	were done	11	Ω . Outage hours are greater.	
12	A A sk the question again	12	A. Yes, that's right.	10.1.11
13	Ω You didn't have any evidence that there were	13	O Now for the RealTime outage hours outage	10.1
14	problems with Ameren UE's heat rate curves but you	14	hours Real Time, which would be the fourth column on	1 - 1 - 1 - 1
15	criticized the use of those heat rate curves in your	15	Schedule 3 are you with me?	
16	tectimony?	16	A Yes	
17	A Yes I did	17	O. How did you calculate those numbers?	
18	O. Could you please take a look at Schedule 3 to	18	A. Those are from the equivalent availability of	ŀ.
19	your testimony. Can you tell me how the numbers in the	19	the unit.	
20	Ameren the outage hours Ameren column were determined?	20	O Let's take a look at Labadie 1 in the outage	10202
21	A. It might have been from the GADS worksheet	21	hours Real Time. You're showing Labadie out 2.307 hour	k
22	that was provided to me. There was a list of actual	22	right?	Ē
23	outages and outage hours were summed up or I summed up the	23	A. Yes.	
24	hours. This was definitely from Ameren input to me.	24	MR. LOWERY: I'm going to show you I guess	
25	O. Do you know if it was 8.760 hours minus the	25	we can go ahead and mark this too.	
	02		D	
	Fage 65		Page 85	and read
1	hours connected to load for each of those units?	1	(Whereupon the reporter marked Exhibit No. 4	· madan
2	A. No, I do not know that.	2	for identification.)	÷.
3	Q. Are you familiar with your work paper	3	Q. (By Mr. Lowery) I'm going to hand you what's	ł
4	RT_AMB_Outages.xls?	4	been marked Exhibit 4, Rahrer, for this deposition. Do you	
5	A. I think that's where I got this information	5	recognize this?	ĺ.
6	from.	6	A. Yes.	
	Q. Is that spreadsheet the source of your	/	Q. And this is these are the results of your	A
8	calculations in the column we're talking about?	8	Real time 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		A. Yes. $(A + A + A + A + A + A + A + A + A + A +$	F
11	In this column, they do not include derates?		Q. All right. And I'm going to direct your	ŀ
12	A. I mought mey aid include derates.	12	attention to a page that at the top, it says, Ameren	1000
11	Q. So it they don't include derates, you were not		the left it easy have service to 1 = 10.	ņ
14	aware or mai, in fact, you made the opposite assumption?	14	A Non	;
16	A. I mought most work what I call equivalent	16	A. ICS. O Voutro familiar with this misled. This is	
17	equivalently out if it was on full force outgoes all the	17	Q. I OUTE familiar with this, right? This is	· · · · · ·
1 2	time. That was my assumption	10	A Vec	· · × · ·
10	Ω If that assumption was wrong and deretes were	10	A. Its. O For Labadia Liftwa na awar hara ta tha tarat	¢
20	y. If that assumption was wrong and derates were	20	Q. FOI LADAUE 1, H WE go OVER HETE TO THE TOTAL	÷
20	outage numbers would go up wouldn't they? Wald be	20	A Th-hub	Į.
22	more if we include derates as opposed to not include	22	All right On Schodula 2 yearling and I all all	ľ
22	derates, correct?	22	Q. All fight. On Schedule 3, you've got Labadie	ĵ,
20	Δ If they're not included here?	23		ř
25	$\bigcirc Yes$	25	Ω . And if you sum those two together, we get	ľ
2.5	Y . I WO.		Q. And it you sum mose two togethet, we get	Ĩ

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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-	Page 90		Page 92	141
1	O. 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?	1.1
3	Q. Now, after you use that external module, you	3	A. Yes.	1
4	had to do some further manual adjustments; is that correct?	4	Q. Doesn't that reflect that you're making some	ľ
5	A. No. The module actually gives me the tables	5	manual adjustments after this external module had	ŀ
6	that I imported directly into RealTime.	6	calculated equivalent availability numbers?	4
7	Q. Do you recall back in December, I believe it	7	A. Yes. I did that for the Rush Island units, as	
8	was, there were some bullets that had been sent that we had	8	I've already said.	
9	sent to the company, the company sent to Staff, and Staff	9	Q. So you're talking about the adjustments you	
10	had provided to you in terms of looking for other work	10	made in the benchmarking run for the Rush Island unit;	
11	papers. Do you recall that?	11	that's what this is referring to?	100
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	ľ
15	cases.	15	aside. When you did the Staff model run, were the	
	MR. LOWERY: Let me snow you and maybe it will	10	equivalent availabilities that you used by unit, by	
11/	refresh your reconection.	10	generating unit, were they exactly the same as the	
	(Whateversen the reporter marked Fighthist No. 5	10	equivalent availabilities that Amereno E used in its	ľ
20	(whereupon the reporter marked Exhibit No. 5	20	A Equivalent availabilities are not an input to	ĺ
20	$O_{\rm c}$ (By Mr. Lowery). I'm going to hand you what's	21	RealTime Equivalent availabilities are an output from	1
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	Ω Let's ask it this way then: Did the	1.00 A.00
24	from me to some folks at Ameren forwarding on some	24	equivalent availabilities that came out of RealTime for al	ł
25	information	25	those non-Callaway units and the Staff model run did th	ļ
			mode non oundwity unto and the built model fun, de in	ľ
	Page 91		Page 93	
11	But you see that we have an e-mail from	1	match the equivalent availabilities from UE's modeling?	ľ
2	somebody at the Missouri Staff to myself and other folks,	2	A. I did not look at them.	ľ
3	with the subject line ER-2007-0002. That's this case,	3	Q. You don't know.	
	right?	4	lake a look at Exhibit 1. I think it's	
6	A. UI-IUI. O. Staff witness Rebrar work manage many to	6	Exhibit 1. Yean. It's the e-mails, your e-mails. Take a	
	Q. Start whiless Kalifer work papers more to		dork high vourd at Page 45. And look between the two	4
Ŕ	those?	8	A Apparently I did	1.11
l q	A Lib-hub	q	Ω Vou looked at exactly what we were just	
110	Ω I'll represent to you that the file	10	talking about didn't you?	1
111	attachments attached to this Exhibit 5 are correspond to	11	A. I guess I did	1.4.4.1
12	Bullet 1, Bullet 2, and Bullet 3. Do you recognize these	12	O. That's fine 1 don't expect you to remember	
13	documents that are attached to this e-mail?	13	everything you've done in the last six months	1
14	A. Yes, I do.	14	A. I don't remember where I got the equivalent	5
15	O. You prepared these, right?	15	outage hours to compare, but apparently I did. It might	
16		16	have been from one of the inputs. But, yes, clearly I did.	1
117	A. Y CS, I ala.			ŀ
1 ± 1	Q. And if we take a look at one page of these.	17	Q. So the question I asked you before was whether	ĥ
18	A. res, 1 old. 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	17 18	Q. So the question I asked you before was whether or not the equivalent availability in Staff's model run for	2 11 2
18 19	A. res, rold. 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	17 18 19	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	
18 19 20	A. res, rud. 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?	17 18 19 20	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	
18 19 20 21	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.	17 18 19 20 21	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?	
18 19 20 21 22	 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 	17 18 19 20 21 22	 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 	
18 19 20 21 22 23	 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 and I'll let you look at this yourself. After the initial 	17 18 19 20 21 22 23	 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 again. 	
18 19 20 21 22 23 24	 A. res, red. 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 and I'll let you look at this yourself. After the initial run of the model, an attempt was made to adjust the 	17 18 19 20 21 22 23 24	 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 again. Q. I think I asked you before whether or not the 	

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	Page 94		Page 96
٦	model run matched the equivalent availability from	1	A. The benchmark numbers? Is that what you're
2	Amerent IE's modeling on a per unit basis again excluding	2	saving? Are you back to talking about the benchmark model?
2	Callaway And before you said I didn't look at it I'm	3	O. Yes.
4	not cure. But this e-mail on Page 45 of Exhibit 1	4	A The only thing we're off on is, of course, the
ת ב	indicates you did look at it night?	5	cost RealTime came within nine megawatts of meeting
5	A Veah Annarently the Schedule C comes from	6	Ameren's load
7	that comparison Like I said I don't remember it You	7	O But we're off on the cost?
у. 8	acked me where I came up with the numbers on Schedule 3 for	8	A One and a half nercent on the cost RealTime
q	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	Ω 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	• RealTime annarently in certain units must have	12	A L can't you can't tell until you do it.
13	higher equivalent availability correct in the Staff model	13	O 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	O. 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	O. Right. Because the equivalent availability is	18	iterations. I always like to set and don't ask me
19^{-1}	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	O. 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		
	Fage 55		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
2	say that. It's an unknown. You don't know when the forced	3	that.
4 E	outage is going to occur. So to say that the Real lime	4 r	Q. Okay. You'll have to help me a little with
5	versus the PROSTM are maccurate, we d have to wait for the	5	statistics maybe. A confidence level of 99 and a sampling
7	period to be finished before we can determine that, the	5	error of one?
Q	time frame you want to study. Not to split hairs. This is	0	A. Yes. O All whether T-ll man. Description is both
G	don't know	0	Q. All right. Tell me Put that in eighth
10	Ω If in fact the equivalent availabilities from	2 10	grade Elightin for me.
11	RealTime were higher than they should be and I said if	1 U 1 1	A. That's probably belief than most polls they
12	I'm not asking you to agree that they are. But if they	10	manual that avalaging it. Lyng this thing called a T toot
12	were and it allows the units to generate more manageret	10	for small complex. If you for formula for dates it
14	hours the direction of that difference between AmerenIIF	14	O Does it mean that at least based upon
15	and Real Time is going to be more megawatt hours	15	y. Does it mean that at least based upon statistical analyses, that you believe that your model
16	availability more off-system sales more margins and a	16	you're 09 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 was
18	A. That's correct ves	1.9	you tell me
19	O. You mentioned something about 70 760 of the	19	A You could be stating it right. It's comething
20	megawatts relating to Callaway changes. Are those changes	20	like that yes
21	no more, no less the changes we talked about before that	20	0 But you're not completely ours yoursalf?
22	you made to modeling regarding Callaway?	22	A No I'm using a statistical test that
23	A. That's correct ves	22	somebody else gave me What it does is it gives you to
24	0. 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
~~	Excloser to randomon 5 numbers:	27	me results might come close to reflecting reality.

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1 Q. Now, you said something about, I think, some 1 benchmark run. 2 clients set an absolute number of model iterations or 3 3 something like that. Were you given any direction by the 4 Missouri Staff on how many iterations to run? A. No. 5 A. No. An the iterations or un? 6 Q. How did you arrive at 16? A. The model stopped at 16 because the results 7 A. The model stopped at 16 because the results Cive me that number again. 9 Q. You'd agree if you run RealTime once based on O. Give me that number again. 11 error? Cive rest as ampling error, right? That's the units, not purchase or sales. 14 othe family structure in the final cost, which was whatever these three numb Percent and a half off, we've got a 39 million divergene 15 A. Correct. 10 Q. You're looking at Schedule 4? 16 Q. I think you even discussed this with. 10 A. This was obviously early. I don't know what 16 A. This was obviously early. I don't know what 10 Q. We're taking about the benchmark run was about 302 million. 22 A. This was obviously early. I don't know what 20 A. On this benchmark run was abou		Page 98		Page 100	100 m
2 chemiss set an absolute number of model iterations or 3 something like that. Were you given any direction by the 4 Q Q On the benchmark run. And total production costs, using rough 4 And total production costs, using rough 5 And total production costs, using rough 5 5 A. No. An total production costs, using rough 5 And total production costs, using rough 5 6 Q. How did you arrive at 16? A. The workel ato one percent. A. The workel ato one percent. 9 Q. You'd agree if you run RealTime once based on 10 a particular set of inputs, the results may have sampling error, "gint? A. The model atopped at 16 because the results. 12 A. If is not going to reflect reality very well. A. The model stopped at 16 because the results. 13 Q. And multiple iterations, you're trying to discussing this very issue, are you not? Take a look at 14 A. No. Itook that one and a half percent based 14 14 reduce that sampling error, right? A. No. Itook that one and a half percent based 14 15 A. Correct. B. All is not going to reflect reality very well. 16 Q. I think you even discussed this with 17 A. No. Itook that one and a half percent based 14 16 M. The model iterations over that. Q. All right. Maybe we ought to just add them 19 17 A. The model iterations, you're atope the mode	1	O Now you said something about. I think, some	1	benchmark run.	
3 something like that. Were you given any direction by the 4 Missouri Staff on how many iterations to run? 3 And total production costs, using rough 4 4 Missouri Staff on how many iterations to run? 4 4 4 6 Q. How did you arrive at 16? 4 memerulE? 6 7 A. The model stopped at 16 because the results 8 converged on that 99 and one percent. 6 A. The variable costs were, 1 think, 596,868,000. 10 a particular set of inputs, the results may have sampling 11 6 A. The variable costs were, 1 think, 596,868,000. 11 generon? 7 Missouri Staff on how many iterations, you're trying to 12 6 A. The variable costs were, 1 think, 596,868,000. 12 a particular set of inputs, the results may have sampling 14 reduce that sampling error, ngit? 13 A. No. I took that one and a half percent based 14 13 A. Correct. 16 Q. You're looking at Schedule 4? 17 14 rduce this is, but it san early phase of the model 22 and I on't remember, was about 302 million iters the usit, not sot supped to put the sampling error dwith 23 0. Wa're supped to put the sampling error dwith 24 0. We're talking about the benchmark 24 0. A Tou wa	2	clients set an absolute number of model iterations or	2	O. On the benchmark run.	1
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2run.2A. Yes. The bottom line number on the RealTime3Q. If you look down about 80 percent of the way44down that page, I see a 10/20/2006 date. I don't know if55that's associated with the e-mail that we were just looking66at.67A. These are in order.78Q. So we're in that October 20 time frame99probably?710A. Yes.11Q. And you're indicating that you're going to try111230 iterations to try to get the sampling error down to13one percent?14A. Right.15Q. You're trying to get that 99 percent, one16percent confidence level we were talking about?17A. Right.18Q. Did you ever run 30 iterations?19A. I don't think I did. I think I ran 25. Then20something was changed in the model, which I can't tell you?21what it was but obviously an outage unit outage table21what it was but obviously an outage unit outage table21what it was but obviously an outage unit outage table	[1	A. Hang on a second. Yes, it is the benchmark	1	Q. 596, 31, and the negative 325?	- the
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17A. Right.17your statement. We're starting RealTime. Probably due18Q. Did you ever run 30 iterations?18forced outages, RealTime is coming in one and a half19A. I don't think I did. I think I ran 25. Then19percent less than your cost. So RealTime outages are20something was changed in the model, which I can't tell you20probably going to keep it at one and a half percent.21what it was but obviously an outage ra unit outage table21	16	percent confidence level we were talking about?	16	A. It's based on just Okay. Let's go back to	
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20 something was changed in the model, which I can't tell you 20 probably going to keep it at one and a half percent.	119	A. I don't think I did. I think I ran 25. Then	19	percent less than your cost. So RealTime outages are	
121 what it was but obviously an outage - unit outage table 121 . That's a reasonable assumption to make	20	something was changed in the model, which I can't tell yo	u20	probably going to keep it at one and a half percent.	ľ
a think it was, our obtiously an outage - and outage table 21 That's a reasonable assumption to make.	21	what it was, but obviously an outage unit outage table	21	That's a reasonable assumption to make.	1
22 someplace that made this thing converge at 16 iterations. 22 Q. All right. So our starting point right off	22	someplace that made this thing converge at 16 iterations.	22	Q. All right. So our starting point right off	
$\begin{bmatrix} 23 \\ 2 \end{bmatrix}$ Q. Now, on costs, you're one and a half percent $\begin{bmatrix} 23 \\ 2 \end{bmatrix}$ the bat is that the variable production costs that Staff is	23	Q. Now, on costs, you're one and a half percent	23	the bat is that the variable production costs that Staff is	
24 apart? 24 going to be using are going to be in that one and a half	24	apart?	24	going to be using are going to be in that one and a half	
25 A. 1.55, something or other, yes. On the 25 percent range lower than AmerenUE's cost, right?	25	A. 1.55, something or other, yes. On the	25	percent range lower than AmerenUE's cost, right?	J

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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	O So - I'm sorry Go ahead	2	company does actually operate it in the fashion that
2	Δ it didn't model think the first four	3	Mr. Finnell has expressed to you and in the fashion that
Δ	hours of the day, they reduced the capacity to 428 I	4	they modeled it. You made some calculation that not
7	think that's right. And they changed the fuel mix	5	modeling it in that fashion in effect lowered the company's
5	Initik that's right. And they changed the fuel hits.	6	production cost by more than \$10 million right?
7	Q. So to the extent that Amerenous actually rail	7	A Line to read this Hang on a second You
1	the units in that fashion, then in the benchmark run, the	;+0	A. Thave to read this. Trang on a second. Tou
g	correct way to have modeled it would have been to model	110	nave to ask that question again.
9	the way they ran the units, right?	2	Q. The calculations that are reflected in your
10	A. Yes. $(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,$	11	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?		Q. Where right underneath Greg's name it says: 1
13	A. We had several discussions on it. I can't	13	put the Sloux 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	116	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	O. 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	O. 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	O. 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	O. 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	O. 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	O 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	You asked that question more or less asked that question	17	e-mail above and below it?
18	several times?	18	
19	Δ Vec	10	(1 + 5).
20	Λ And each time Staff stuck with the position	20	Q. It's a couple weeks before your testimony is
21	that no we're not going to model that ways we're going to	20	
21	model it the way we want to model it with	21	A. YES.
22	Thet's my understanding and	22	Q. On the next page, Page 40, Mr. Meyer responds
23	A. I hat's my understanding, yes.	23	to your e-mail, it appears; is that right? Is he
∠4 2⊑	Q. You did some calculations on Page 39 of	24	responding, does it appear to you?
20	Exhibit 1 that indicated to you that not modeling it the	172	A. I would say so.
			28 (Pages 106 to 109)

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	Page 110		Page 112
1	O He's saving. 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	O. 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	O. 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	11	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		118	we're getting later into December, right, directionally?
1 7 8	upon this particular coal blend, for example, or during		
19	upon this particular coal blend, for example, or during these particular hours of the day. I want you to assume	19	A. What page?
19 19 20	upon this particular coal blend, for example, or during these particular hours of the day. I want you to assume that it can be run this way. And the way that Staff was	19 20	 A. What page? Q. Page 45, we're at December 5 and 6, and Page
19 19 20 21	upon this particular coal blend, for example, or during 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 20 21	 A. What page? 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	upon this particular coal blend, for example, or during 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	 A. What page? 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
19 20 21 22 23	upon this particular coal blend, for example, or during 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	 A. What page? 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 about before?
19 20 21 22 23 24	upon this particular coal blend, for example, or during 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 generate more profit from Sioux. However, the explanation	19 20 21 22 23 24	 A. What page? 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 about before? A. Yes.

29 (Pages 110 to 113)

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	Page 114		Page 116
1	me and correct me if I'm characterizing this	1	the unit down at midnight, right? Right?
2	inaccurately. It appears to me you're sort of verifying	2	A. I guess.
3	with John Cassidy that you got all the assumptions right	3	Q. That's probably how it worked?
4	according to those 14 assumptions, correct?	4	MR. DOTTHEIM: I think Mr. Rahrer has answere
5	A. Yes. And this the best list of the 14	5	your question.
6	assumptions that I've seen.	6	Q. (By Mr. Lowery) And Mr. Finnell explained to
7	Q. So this was maybe the one you were looking for	7	you there was economic reasons for why the company was
8	before?	8	doing what it was doing, correct?
9	A. Yeah.	9	A. Mr. Finnell said the company could make more
10	Q. And I'm not sure why you get down to the	10	profit if they did that. Yes.
11	bottom of that e-mail and you sign it Michael. We're on	11	Q. Did you have an understanding that it had to
12	Page 44 right before the dark black line that's horizontal	12	do with higher costs of using more Illinois coal?
13	on the page. I'm not sure why you have No. 9 out of order.	13	A. Yes.
14	But in that No. 9, despite the fact that a few days	14	Q. And so that's on I don't know. You're
15	earlier, Greg Meyers essentially, it appears, told you do	15	raising the issue again because of your concerns around the
16	Sloux 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
17	do all these other things first, make some runs, and then	17	of Exhibit 1, at the bottom of that page, you're telling
18	play with the Sioux capacity reduction scenario. So you're	18	John and Greg despite the fact that the decision had
19	bringing the Sloux issue up again, right?	19	already been made by Stall, that you're going ahead and
20	A. Yes, I am.	20	working on and looking at the Sloux reduction, right?
21	Q. why are you bringing it up again?	21	A. You're talking about the one that says, John,
22	A. This e-mail was in response to making sure	22	dispaten
23	that I m doing the assumptions again. I think obviously	23	Q. I'm taiking about the bottom of Page 4/, the
24	assumption No. 9 must have had something to do with Sloux	24	the that says, I'm starting to work on the Sloux reduction
	30 I said mere, see below, which is why it's out of order.	2.5	now.
	Page 115		Page 117
1	I think the decision had been made that we	1	A. I think I had told him earlier I would make
2	were going to use the capacity that the Staff wanted to	2	some runs. We were trying to get out the Staff model and
3	use. I think I was volunteering to say we would make son	ne3	everything. I didn't have time to work on the Sioux runs.
	Sioux runs later to see what would happen if we did redud		
4	the serve site	e 4	so I guess I was telling them I was going to start on some
4 5	the capacity.	e 4 5	so I guess I was telling them I was going to start on some testing.
4 5 6 7	the capacity. Q. Because you still have questions in your mind	e 4 5 6	so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above
4 5 6 7	the capacity. Q. Because you still have questions in your mind whether running Sioux the way Staff is asking you to run	e 4 5 it 7	so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling
4 5 6 7 8 9	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?	e 4 5 it 7	so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per
4 5 6 7 8 9	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 and the unit.	e 4 5 it 7 9	so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct?
4 5 6 7 8 9 10	 biola rank factor to see what would happen it we did reduce 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? 	e 4 5 6 it 7 9 10	 so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct? A. Correct. Q. Which means the unit is going to be dispetch.
4 5 6 7 8 9 10 11 12	 biola fails later to see what would happen if we did fedde 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? 	e 4 5 6 it 7 9 10 11	 so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct? A. Correct. Q. Which means the unit is going to be dispatch less a dispatch cost is going to be higher?
4 5 6 7 8 9 10 11 12	 bit the table to be what would happen it we did reduce 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 	e 4 5 6 17 9 10 11 12	 so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct? A. Correct. Q. Which means the unit is going to be dispatch less dispatch cost is going to be higher? A. That's not a true statement. If you're
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4 5 6 7 9 10 11 12 13 14 15 16 17	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	e 4 5 6 1 7 9 10 11 12 13 14 15 16 17	 so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct? A. Correct. Q. Which means the unit is going to be dispatch less dispatch cost is going to be higher? A. That's not a true statement. If you're talking about meeting domestic load, sure. But if you're talking about making sales, false. Q. Well, at least if you're talking about making sales the margin on those sales is going to be smaller.
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4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25	 bit 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. Q. Well, you had some questions in your mind about whether or not the economics at Sioux would really support the way Staff wanted you to model it? A. I had questions. Q. You had some questions. And Mr. Finnell had explained to you there were economic reasons for why the Staff it wasn't a troll, but probably somebody in a control room that turned 	e 4 5 6 7 8 9 10 11 12 13 14 15 16 17 20 21 22 23 24 25	 so I guess I was telling them I was going to start on some testing. Q. And you point out to them on Page 47 above that, that if you use the blend that the company is telling you, they would be using dispatch costs or 77 cents per MMBTU higher, correct? A. Correct. Q. Which means the unit is going to be dispatch less dispatch cost is going to be higher? A. That's not a true statement. If you're talking about meeting domestic load, sure. But if you're talking about making sales, false. Q. Well, at least if you're talking about making sales, the margin on those sales is going to be smaller, correct? A. That's correct, yes. Q. And it may be that you're also going to make less sales? A. That is true also. Q. Can you explain the numbers that Mr it appears that Mr. Cassidy is giving you at the bottom of Page 48, top of Page 49 in Exhibit 1? I say it appears to

30 (Pages 114 to 117)

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1be Mr. Cassidy because whoever signed this e-mail is John1in an off-peak part of the year. You would2on the top of Page 49.23A. I think I asked him the question what coal34split Sioux are you simulating. That was for the Staff35model.46Q. Okay.67A. He had given me one price for Sioux coal68dispatch cost and one accounting cost for Sioux. So I99wanted to know what percentage that was what he was910simulating the percentage was.1011Q. These are the numbers that are used in the1112Staff model run for Sioux then, it would appear, on the top1213of Page 49.1314A. That looks right, yes.1415Q. Okay. On Page 14, Lines 4 to 5 of your1516testimony, you indicate that within the Staff model run,1717you change capacities of coal units from the capacities1718used in the benchmark run to use the unit's actual monthly1819capacity. Am I accurately understanding what you said?1914A. MI accurately understanding what you said?1915C. Divide II don't have any km16the planned outages. But I don't have any km19capacity. Am I accurately understanding what you said?19	not want it to e are priority ve any outages? reflected
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18 used in the benchmark run to use the unit's actual monthly 18 A. Of course. But I don't have any kr 19 capacity. Am I accurately understanding what you said? 19 that.	
19 capacity. Am I accurately understanding what you said? 19 that.	nowledge of
20 A. What line is that? 20 Q. Right. I'm just asking if those are	things
21 Q. Four and five on Page 14. 21 you probably ought to be thinking about wh	nen you decide
22 A. Yeah. That's Yes. 22 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 pers	sonnel you need
25 thing to do. 25 are going be to available; do you have enou	ign of them to do
Page 119	Page 121
1 Q. Why would it be the right thing to do? 1 all the planned outages you want to do at a	a particular
2 A. Because that's the real capacity of the unit. 2 time, right?	-
3 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	t 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 o	outages to repair
6 or replace the things you're going to work	on, so you need
Q. which is going to cause your model to reflect / to make sure you've got all those things, ri	.ght?
\circ a higher level of generation from the UE units than the 8 A. Yes.	
10^{-5} Q. All fight, it's normal to spread of 10^{-5} Q. All fight, it's normal to spread of 10^{-5} A Ves. That's assuming that they went up 10^{-5} among different major upits between the s	utages
10 All of all of anong units of the maximum and the maximum and the source of the scheduling all major units	pring and me
12 canacity wouldn't the maximum canacities have to be 12 number of your major units in one or the c	other right?
13 higher than the average as a matter of mathematics? I'm 13 A. I would think so ves	
14 not a great math whiz, but 14 0. Now. you moved the Callaway n	lanned 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 Novembe	er?
18 Then we changed those monthly capacities when we went to 18 A. Yes.	
19 the Staff model. I'm not sure where I got those monthly 19 Q. And I forget, and I'm sorry if you	u asked you
$\begin{bmatrix} 20 \\ 0 \end{bmatrix}$ maximums either, but I got them from somewhere in the data 20 this, but you were told to move it my who	m, 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 when the reliable relevant to a start of the second seco	tions. I
2.3 when determining when to schedule planned outages for a 2.3 think it was the very first or second assume 2.4 denotes the very first or second assume 2	ption, and I
24 generating unit? 25 A Sure I would think load your hourly demand 25 Cross or John	vas either
20 A. Sure. I would mill load, your nourly demand 125 Greg of John.	

31 (Pages 118 to 121)

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	Page 122		Page 124	1
1	O. That was an assumption given to you pretty	1	Callaway outage, you didn't move any of those coal outages	1. The second
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?	1
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	į
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	× X
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	y.
10	I was given these things. When I first started the list	10	from some other unit outage.	5
11	of 14 things came out later. That was more of a checklist	11	Q. Well, take a look at Page 43 of Exhibit 1.	
12	to make sure I had done the things that they had requested	12	A. Okay.	
13	earlier.	13	Q. Look at Item 2. Isn't it a fact that you were	1454.044
14	Q. Did you raise any concerns at all at any point	14	not able to avoid the coincidence with some other major	7¥ 8.
15	in time with the Staff about moving that outage to the	15	unit planned outages in November?	į
16	fall?	16	A. That's correct. I wasn't totally able to do	
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	18	in November. And I put it as far as I could into the month	h 101 a
19	UE's actual schedule called for?	19	to limit the coincident outages with those Labadie units,	1.81
20	A. No, I didn't.	20	Labadie 1 and Sioux 1.	1 . 2
21	Q. And I think you testified before you didn't	21	Q. But Labadie 1 and Sioux 1 are going to go all	the former
22	know that the prior outage had been in the fall?	22	the way into early December, right?	
23	A. That's right.	23	A. That's what it says.	3
24	Q. And that outages occur every 18 months; you	24	Q. So you've got Labadie 1, Sioux 1 and Callaway	
25	didn't know that, right?	25	all out at the same time in your modeling, right?	÷
	Page 123		Page 125	- J.J.
1	Page 123 A. That's correct.	1	Page 125 A. That's what it looks like, yes, All the	e shiyahaya is .
1 2	Page 123 A. That's correct. Q. Do you know whether the energy prices that you	1 2	Page 125 A. That's what it looks like, yes. All the planned outages are also in this stuff.	و د د میشینی او
1 2 3	Page 123 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	1 2 3	Page 125 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?	وي الحري الحريم المراجع الم
1 2 3 4	Page 123 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 months when UE had scheduled the Callaway outages, than	1 2 3 4	Page 125 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? A. For what?	ن −وچین بناندین
1 2 3 4 5	Page 123 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 months when UE had scheduled the Callaway outages, than they were in the fall when Staff wanted you to schedule the	1 2 3 4 5	Page 125 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? A. For what? Q. Planned outages.	ین در میکند. به معروفت به میکند. مالیکی و این مورفت و این مالیکند.
1 2 3 4 5 6	Page 123 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 months when UE had scheduled the Callaway outages, than they were in the fall when Staff wanted you to schedule the outage or Staff had you in fact schedule the outage?	1 2 3 4 5 6	Page 125 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? A. For what? Q. Planned outages. A. I didn't change any of the UE except for	a server of the
1 2 3 4 5 6 7	Page 123 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 months when UE had scheduled the Callaway outages, than they were in the fall when Staff wanted you to schedule the outage or Staff had you in fact schedule the outage? A. No, I never looked.	1 2 3 4 5 6 7	Page 125 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? A. For what? Q. Planned outages. A. I didn't change any of the UE except for Callaway. They were scattered in the spring and the fall,	ی در می میلید میلید و استوانید میلید.
1 2 3 4 5 6 7 8	Page 123 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 months when UE had scheduled the Callaway outages, than they were in the fall when Staff wanted you to schedule the outage or Staff had you in fact schedule the outage? A. No, I never looked. Q. Now, you moved the Callaway outage to the fall	1 2 3 4 5 6 7 8	Page 125 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? A. For what? Q. Planned outages. A. I didn't change any of the UE except for Callaway. They were scattered in the spring and the fall, like you said.	ن ۱۹۰۵ ر <u>و دورون م</u> من مورها ما ماسیستانی م
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	Page 126		Page 128	a state
1	O You don't know what the load levels were	1	A If you're doing a benchmark run, it is. If	k
2	whether or not the load levels would allow that number of	2	you're modeling the future it is usually not	
2	outages all at one time; you don't know that right?	3	O That's what we're doing here right?	and and
1	A The model did not under generate so I can	4	A For the benchmark run no	10.04
ч ц	A. The model during inder generate so I can	5	O Well for Staff model run we are aren't we?	ŝ
5	O You don't know if there were contractors and	6	A Veah As you said before it's synthesized or	· · · · ·
7	other maintenance percential evolution and all those	7	processed best mess of how this unit will perform in the	1.14
0	outer maintenance personner available to handle an those	R	future	4
0	outages?	a	O Well you design RealTime to randomly select	i i
10	A. Of course not.	410	the forced outages: that's normally how it's done is it	
11	Q. And whether there were materials and equipmen	111	net forced bulages, that's normality now it's done, is it	2
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10	what a model does. Tou can do innigs that don't happen t		outage as a forced outage. That's the way you handbmark	
14	reflect reality. That's what you can do in a model.	15	outage as a forced outage. That's the way you benchmark	Ľ.
10	Q. But of course if you know before you model	16	2005. Lyound have asked for a list of all the actual	? (* j
17	something that something's not reasible, then you don't	17	2005, I would have asked for a list of all the actual	1. N. W. W.
1/	want to model that way it you ve got that information,	1 1 0	outages for the units and I could then put them as planned	÷
10	ngni?	10	O De trou have any knowledge shout what the	Ľ
7.2	A. That's generally the case.	20	Q. Do you have any knowledge about what the	5
20	Q. And if there is a fair question raised about	20	these ments when Staff had you used in Staff model runs in	
21	whether of not perhaps something may of may not leasible		those months when Statt had you force outages at Callaway?	a
22	you might want to ask some questions or seek some	22	A. No.	8
23	information about whether it is feasible before you just go	23	Q. You're aware Callaway is the company's largest	
24	ahead and model it; wouldn't that be fair?	24	generating unit, right?	Ť.
25	A. I did, yes.	25	A. Yes.	÷.
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·	Page 127		Page 129	
1	Page 127 Q. Well, you did. You just asked Staff their	1	Page 129 Q. You're aware, I believe you indicated before,	an a
1 2	Page 127 Q. Well, you did. You just asked Staff their opinion. But you don't know if Staff did any due diligence	1 2	Page 129 Q. You're aware, I believe you indicated before, that the company, based upon its actual operating	a star a star and a star and a second
1 2 3	Page 127 Q. Well, you did. You just asked Staff their opinion. But you don't know if Staff did any due diligence on that issue at all, do you?	1 2 3	Page 129 Q. You're aware, I believe you indicated before, that the company, based upon its actual operating experience at Callaway, essentially used a 94.5 percent	ALT DATA SPECIA SPECIAL MALE AND
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	Page 130		Page 132
1	Ameren direction	1	A. It's up to the kind of contract how you're
2	O But for the Staff model run, which actually	2	selling power.
3	reflects the production cost that Staff's using in this	3	O. 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	O How much spending reserve was used in your	6	A. No.
7	model?	7	O Would transmission constraints reduce the
8	A 101 megawatts an hour	8	megawatt hours available to sell off-system if they exist?
ğ	0 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	1 1 1	Callaway you know one mile away maybe not. If it's on
12	So it had to be on-line. For example, I shadie 1 has a	12	the other side of the state maybe it would
13	So it had to be on-line. To example, Labadie T has a	13	O But if there are some transmission constraints
11	mann of control to reserve of 20 of some odd	14	that don't allow you to get the power from the generator to
15 15	megawatts. So Labatte I would be fulfilling, let's say, 20	15	the market where it needs to be sold then those
16	megawatts below its maximum capacity to be contributing	116	approximate or at some point going to reduce the measurett
17	O Are eninning recented held constant each hour?	17	constraints are at some point going to reduce the megawait
יב סר	Q. Are spinning reserves new constant each nour	19	A Ves
10	A. 165. O De sninning recomise increase with load	10	A. 105. And your model didn't consider that?
20	Q. Do spinning reserves increase with load	20	Q. And your model and t consider that?
20	A Thomas hat I did not me delit that must I	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	Mir. Finnell why there exists such a disparity between the
23	Q. And the reason you chose That's a choice	23	megawall hours your model generated from OE'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.
2	A. I just saw somewhere in the Ameren	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
4	see anything by hour or load or by daily peak or monthly	4	greatest disparity between I don't know what they calle
5	peak or anything like that.	1 -	
		15	them let's call them the Ameren staff between the
6	Q. Which units are assigned a spinning reserve?	56	them let's call them the Ameren staff between the Ameren staff run and the Staff run and he said it was Siou
ю 7	Q. Which units are assigned a spinning reserve?A. I don't know. They're all coal units, but not	5 6 7	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
ь 7 8	Q. Which units are assigned a spinning reserve?A. I don't know. They're all coal units, but not all the coal units.	5 6 7 8	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.
6 7 8 9	 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 o 	5 6 7 8 9	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. O. Did you indicate to Mr. Finnell during a
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	Page 134		Page 136
1	not atypical. If you're interested in knowing what's the	1	O. Different Sigux fuel blends?
2	maximum you can sell, you clearly want your limit high. If	2	A. Yes, capacities and fuel blends.
3	you want to see what happens when you lower your limits -		And right at the end. I made I think eight
Δ	as you said that's what models are for for what if tests	4	more runs and Lincreased the forward price curve price by
5	O Effectively by setting it at 8 000 and based	5	a certain percentage and some fuel cost by a certain
1 Å	on your model it never came close to it that's like there	6	percentage and then had the exact same run for the fuel
	was no limit right?	7	cost and forward price curve reduced by the same
	A Dight Livet didn't want to say I set no	, R	nercentage
a	A. Right. I just didit t want to say I set no	a	Ω Vou've done those pretty recently right?
	At some point don't energy markets lack the	10	A Vec
111	depth to accept an unlimited volume of coles?	11	A. Its. O Voulue been asked to do those since the direct
	A Lyould think so. But I don't know this	12	Q. Touve been asked to do those since the direct
112	A. I would time so. But I don't know this	12	A Vec
	Did you min viewous seenaries that related to	14	A. Its. $($
	Q. Did you fun various scenarios that related to	14	Q. Have you ever done a without Joppa run?
	the volume of off-system sales produced by your model?	15	A. Without Joppa without sales?
110	A. Say that again.		Q. Without Joppa at all?
	Q. Did you run various scenarios that related to	11/	A. Sure.
118	the volume of off-system sales produced by your model?	18	Q. Have you ever done it without Joppa without
119	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 I, that was one of the	21	for the Sloux runs had two runs without Joppa. We had the
22	first things they wanted. So I raised the limit to 8,000.	22	Statt 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		
	1890 100		Page 137
1	A. Yes.	1	Page 137 A. Correct. yes.
1	A. Yes. Q. And Staff run Joppa with no sales?	1 2	Page 137 A. Correct, yes. Q. To your knowledge, has it been provided to the
1 2 3	A. Yes.Q. And Staff run Joppa with no sales?A. Yes.	1 2 3	Page 137 A. Correct, yes. Q. To your knowledge, has it been provided to the company?
1 2 3 4	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. O. I don't think you discussed that last one in 	1 2 3 4	Page 137 A. Correct, yes. Q. To your knowledge, has it been provided to the company? A. Yes. They're all right here. They were on
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1 2 3 4 5 6	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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. 	1 2 3 4 5 6	Page 137 A. Correct, yes. Q. To your knowledge, has it been provided to the company? A. Yes. They're all right here. They were on the CDs I submitted. Q. Like last week, that CD?
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1 2 3 4 5 6 7 8 9 10 11	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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? 	1 2 3 4 5 6 7 8 9 10 11	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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. 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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?
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 7 8	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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? 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 9 20	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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. Cartainly
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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? 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 9 20	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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. O. And wa're probably going to have high prices, aren't we?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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 policy and sales. 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 19 20 21 22	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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 affact with opposite weather right?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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 Joppa no sales. The staff. 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 19 20 21 22 22	A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 3 2	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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 Joppa, sales; no Joppa, no sales. That's of the Staff 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 20 21 22 23	 A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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? A. Unless you had a transmission line to South America that's prices.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	 A. Yes. Q. And Staff run Joppa with no sales? A. Yes. 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 Joppa, sales; no Joppa, no sales. That's of the Staff variation. Then I ran five runs for the Sioux fuel blend about short was runs that was the sale of the same runs of the sioux fuel blend about short was runs for the Sioux fuel blend 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 8 20 21 22 23 22 23 22	 A. Correct, yes. Q. To your knowledge, has it been provided to the company? 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? A. Unless you had a transmission line to South America, that's probably true.

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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	O. 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	O. 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	O. That's really not enough to tell you if those	
12	A. Yes.	12	match up, right?	
13	O What happens if load is adjusted down through	13	A. True, ves.	
14	weather normalization: shouldn't prices also be adjusted to	14	O. 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	nices?	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	Δ Vec	C
10	down weah Lwould adjust price down	19	O What made you conclude that the RealTime	î
20	O So if we adjust load down but we keep price	20	benchmark costs were within a resconship mergin of Ameren II	Ē
20	Q. So if we adjust road down but we keep prices	20	regulto?	٦
21	up at prices that would correspond to higher load levels,	22	A I didn't conclude it. I coue the regults to	. Vide of
22	we re probably going to overstate on-systems sales	22	A. I that we up to them to conclude Lincon Locald	:
23	margins, aren't we?	23	Stall and that was up to them to conclude. I mean, I could	ĥ
	A. Your sales margin would be higher.	24	have I guess they could have asked me to do something	
25	Q. Yean. Your sales margin would be higher than	25	eise in the model, but they didn't. I assume that the one	цŤ.
	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	ЪŴ
2	loads came down, right?	2	what they thought.	10,000
3	A. Yes.	3	Q. Now, the load you used, you're sure that you	1.00
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	A. 4.
8	never graphed it visually to confirm anything.	8	Q. You don't know if it's weather normalized or	Ĩ
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	something like normal.	
12	A. I've looked at the few days and you could see	12	Q. You know it's some normalized load	
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?	- N - 0
15	have not.	15	A. Right.	
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.	Î
18	correlated?	18	Q. And they're not loads over a period '03 to	1
19	A. No.	19	'05, right?	1
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.	2
22	that your model generated?	22	O. Right. Which aren't loads from '03, '04 and	ľ
23	A. What do you mean by reasonableness? Is it	23	'05. They're for that 12-month period, right?	ł
24	possible to generate that much sales, that level of sales?	24	A. Right. But I don't know they might have	2
1				Ē
25	Yes.	25	added those together and divided by three for all I know	

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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	14	look at that would show that? Are those the reports that
115	same 12-month period, correct?	120	you prepared within just the last week or two?
10	A. I agree, yes.	17	A. The reports are extremely lengthy and I put
110	Q. All right. And it that's not the case, then	110	Ω So that information is on the CD?
	we ve injected potentially a problem in our modeling	10	A Veeh Vou acceptially look at the on the
20		20	hourly output that's all we have is the dispatch cost
20	A. 105. O In fact I think you reised a concern about	20	Ω LIE's modeling dispatch has the units variable
21	this very issue didn't you?	22	$\Omega \&$ M costs are included in the dispatch price. Is that
22	A Ves I did	23	true in the Staff model run for RealTime?
23	Ω Did you get your concern answered?	24	A Ves 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
-		-	rage 145
	Q. The Start said, don't worry about your	1 2	Model.
2	right?	2	enough with this and I guess I can show you on the computer
		4	if we need to Do you know whether subfolder 94 in your CD
		r -	If we need to, bo you know whether sublonder by in your CD
15	() No you did discuss with people at Statt the	5	include the results of your sensitivity run where fuel and
5	Q. So you did discuss with people at Staff the issue of the consistency of the load shape used in your	5	include the results of your sensitivity run where fuel and electric power prices are reduced by certain percentage
5 6 7	Q. So you did discuss with people at Staff the issue of the consistency of the load shape used in your model versus the price shape used in your model?	5 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
5678	Q. So you did discuss with people at Staff the issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes.	5 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 Dr. Proctor?
5 6 7 8 9	 Q. So you did discuss with people at Staff the issue of the consistency of the load shape used in your model versus the price shape used in your model? A. Yes. O. What did they say? I mean I paraphrased what 	5 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
5 6 7 8 9 10	 Q. So you did discuss with people at Staff the 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 	5 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.
5 6 7 8 9 10	 Q. So you did discuss with people at Staff the 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? 	5 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
5 6 7 8 9 10 11 12	 Q. So you did discuss with people at Staff the 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 	5 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?
5 6 7 8 9 10 11 12 13	 Q. So you did discuss with people at Staff the 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. 	5 6 7 8 9 10 11 12 13	 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.
5 6 7 8 9 10 11 12 13 14	 Q. So you did discuss with people at Staff the 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? 	5 6 7 8 9 10 11 12 13 14	 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
5 6 7 8 9 10 11 12 13 14 15	 Q. So you did discuss with people at Staff the 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. 	5 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
5 6 7 8 9 10 11 12 13 14 15 16	 Q. So you did discuss with people at Staff the 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. 	5 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?
5 6 7 8 9 10 11 12 13 14 15 16 17	 Q. So you did discuss with people at Staff the 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 	5 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.
5 6 7 8 9 10 11 12 13 14 15 16 17 18	 Q. So you did discuss with people at Staff the 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. 	5 6 7 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
5 6 7 8 9 10 11 12 13 14 15 16 17 18	 Q. So you did discuss with people at Staff the 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 	5 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 sensitivities for gas and on-peak prices increased, but
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	 Q. So you did discuss with people at Staff the 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 	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 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?
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	 Q. So you did discuss with people at Staff the 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? 	5 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.
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22	 Q. So you did discuss with people at Staff the 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. 	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 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.
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	 Q. So you did discuss with people at Staff the 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. 	5 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.
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	 Q. So you did discuss with people at Staff the 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. 	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	 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 coal and off-peak prices increased, but gas and on-peak

37 (Pages 142 to 145)

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	Page 146		Page 148	1000
1	A No. The only sensitivity I was asked to do	1	A. Yes.	interne E
2	are those ones in 9A and 9B	2	O What was that?	1.11
3	O Okay Fair enough	3	A Lonly helped with this. It was some years	A
Δ	If you look at Pages 19 and 18 of Exhibit 1	4	ago I think the company was Putnam. Haves and Bartlet	- north Volume
л 5,	the sensitivities we just talked about that are	5	something like that They were a consultant with the Peach	9
6	reflected as the results of which are reflected on 9A and	ิด	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 com	č
, 8	on Pages 19 and 18 of Exhibit 1?	8	books and that kind of stuff.	i.
q	A Correct ves	g	The other partners in the PGM interchange	1
10	O Mr. Rahrer. I take it you've never worked for	10	district they wanted to sue for damages and they wanted	
ĩĩ	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.	والمردية المراجع
13	O Have you worked for a governmental utility	13	O. Okay. You didn't testify in that case?	97092
14	regulatory agency?	14	A. No.	4.360
15	A. No.	15	O. Well, I know you weren't deposed; you haven't	A
16	O. 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.	19	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	
21	making decisions about dispatching and actual generating	21	while, I'll help the Missouri Staff make a run.	1
22	unit or group of units, right?	22	Q. Other than Missouri Staff?	96. s val
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	· Å * * * * *
25	transmission systems?	25	when he testified in his deposition in that case that no	2.44
	Page 147		Page 149	The of the second
1	A. I have not.	n	other state regulatory agancy uses PeolTime?	۰.
		-	other state regulatory agency uses real rine:	
2	Q. In determining the capability of transmission	2	A. That's true.	
23	Q. In determining the capability of transmission systems or generating units, right?	23	A. That's true. Q. Is that still true?	and the second second
234	Q. In determining the capability of transmission systems or generating units, right?A. No.	2 3 4	A. That's true. Q. Is that still true? A. Yes.	and the second
2 3 4 5	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model 	2 3 4 5	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, 	we can be a set of the
23456	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business 	123456	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? 	The second se
2 3 4 5 6 7	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose 	2 3 4 5 6 d7	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 	man statute and the second
2 3 4 5 6 7 8	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 	2 3 4 5 6 7 8	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. Aquila. There's a co-op, Lafayette Utility Systems, 	and the set of the set
2 3 4 5 6 7 8 9	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? A. Well, I assume when I make a run for a client, 	2 3 4 5 6 7 8 9	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think is 	U
2 3 4 5 6 7 8 9 10	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? A. Well, I assume when I make a run for a client, that's what they want to do, for a business decision. 	2 3 4 5 6 d7 8 9 10	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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 	The second se
2 3 4 5 6 7 8 9 10 11	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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 	2 3 4 5 6 7 8 9 10 11	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. Aquila. There's a co-op, Lafayette Utility Systems, Lafayette, Louisiana. There's Holy Cross, which I think is a co-op in Colorado somewhere. There's the Staff. Of course, they're not regulated. 	The second se
2 3 4 5 6 7 8 9 10 11 12	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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 up. 	2 3 4 5 6 d7 8 9 10 11 sd2	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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 	Contraction and the second se Second second se Second second s
2 3 4 5 6 7 8 9 10 11 12 13	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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 	2 3 4 5 6 7 8 9 10 11 8 4 2 3 4 5 6 7 8 9 10 11 8 4 2 3 4 5 6 7 8 9 10	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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? 	and a start of the second s
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2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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 	234 567 890 112 112 1415 156	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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 	and the second
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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? 	2 3 4 5 6 7 8 9 10 11 11 15 16 17 17	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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 	And the second
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	 Q. In determining the capability of transmission systems or generating units, right? A. No. Q. Have you ever been responsible for model production costs for the purpose of a utility or business actually using those to make business decisions, as oppose to something like this? 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. 	2 3 4 5 6 7 8 9 10 11 11 12 14 15 16 17 18	 A. That's true. Q. Is that still true? A. Yes. Q. What regulated public utilities use RealTime, do you know? A. I don't know what you mean by regulated. 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. 	and the second
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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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	Page 154		Page 156
1	to have been normalized?	1	entered correctly.
2	A. Not that I am aware of. Like I said, I don't	2	O. 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	O. 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	O. In every instance? Any exceptions to that?
10	O. 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	24	you some of this before and I apologize if I did.
25	tell me if I'm wrong, but I assume that in order to do	25	A. I may have looked at outage rates. But the
	Page 155		Page 157
1 1	that, you can choose to have RealTime produce that	1	way PROSYM and RealTime do outages, it makes it difficult
12	that, you can choose to have RealTime produce that information, right	1 2	way PROSYM and RealTime do outages, it makes it difficult to compare.
1 2 3	that, you can choose to have RealTime produce that information, right A. Correct.	1 2 3	way PROSYM and RealTime do outages, it makes it difficult to compare. O. What about hot and cold starts?
1 2 3 4	 that, you can choose to have RealTime produce that information, right A. Correct. O from a particular model run or you can 	1 2 3 4	 way PROSYM and RealTime do outages, it makes it difficult to compare. Q. What about hot and cold starts? A. For the major units, I did look at those, yes.
1 2 3 4 5	 that, you can choose to have RealTime produce that information, right A. Correct. Q from a particular model run or you can chose not to? 	1 2 3 4 5	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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
1 2 3 4 5 6	 that, you can choose to have RealTime produce that information, right A. Correct. Q from a particular model run or you can chose not to? A. Yes. 	1 2 3 4 5 6	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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?
1 2 3 4 5 6 7	 that, you can choose to have RealTime produce that information, right A. Correct. Q from a particular model run or you can chose not to? A. Yes. Q. Click a mouse or something probably or check a 	1 2 3 4 5 6 7	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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.
1 2 3 4 5 6 7 8	 that, you can choose to have RealTime produce that information, right A. Correct. 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? 	1 2 3 4 5 6 7 8	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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
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1 2 3 4 5 6 7 8 9 10 11 12	 that, you can choose to have RealTime produce that information, right A. Correct. 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 	1 2 3 4 5 6 7 8 9 10 11 12	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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?
1 2 3 4 5 6 7 8 9 10 11 12 13	 that, you can choose to have RealTime produce that information, right A. Correct. 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. 	1 2 3 4 5 6 7 8 9 10 11 12 13	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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.
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	 that, you can choose to have RealTime produce that information, right A. Correct. 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. 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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.
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 9 20 21 22 23 24	 that, you can choose to have RealTime produce that information, right A. Correct. 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? A. When I'm first creating the data set, I create them for some limited period of time just to check to see 	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24	 way PROSYM and RealTime do outages, it makes it difficult to compare. 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? 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 what coast up and ramp down means? A. I know what ramp up is and ramp down.

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	Page 158		Page 160
1	know what ramp up and ramp down means?	1	A. Definitely not.
2	A. Yes.	2	O. Okay. What did the model in the Staff model
3	O. 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	O. 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 canacity, 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.
ğ	have the canability of ramping down: I didn't use it	9	Sorry The cold weather is sort of affecting
10	O So you assume that units can come down	10	my throat
11	instantaneously in your model run?	11	O It's a shock to our system too and I'm sure it
12	A Yes	12	was a shock to yours
13	Ω 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	Δ No I don't	15	forced outage rates but loads are reduced nevertheless?
16	O Do you know if there's a difference between	16	A Sure But the GADS data should show it
17	ramp up at Calloway after a refueling outage versus ramp up	17	should show reduction in maximum canacity
	after a forced outage?	18	O Did your model model partial outages?
19	A No I don't I didn't see that information in	19	A Ves
20	anything that was supplied	20	O Did it model derates?
21	O But the model didn't take any such difference	21	A L consider nartial outages a derate so
22	into account?	22	All right Did your model take into account
23		22	the cost of starting up the unit?
24	A. No. O Does PeolTime model all hydro units the same:	21	A Ven it did
25	Q. Does Rearrine model an invertounds the same,	25	Ω How does it do that?
	punp mough, punp storage, run a river, pondeu, are dieg	23	
	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	10	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	reductions into account?	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?
<u> ا</u>		^	
22	A. Right.	22	A. NO.
22	A. Right.Q. Your model tends to run each unit at the	22 23	A. No. MR. LOWERY: Steve, if you could give me five
22 23 24	 A. Right. Q. Your model tends to run each unit at the maximum capacity that's input or in fact that is how your 	22 23 24	A. No. MR. LOWERY: Steve, if you could give me five or ten minutes, I think I can wrap this up.

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Page 162	Page 164
1 O (By Mr Lowery) Mr Rahrer we were talking a 1 M if that was the o	ption 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 3 cost here, so this is	the dispatch cost.
4 prices when making off-system sales, right, and you said it 4 This numb	er right here is let me get this
5 did? - 5 right this is the a	mount of primary fuel that it used in
6 A. Yes. 6 MMBTU, 5,792. S	So you need to take 5,792 times the dispatch
7 O. And that variable O & M were included in the 7 cost, divide it by th	he current generation, which is 573,
8 dispatch price, right? 8 and that will give y	/ou 12,256.
9 A. Yes. 9 I also prov	ided two other hourly files. I
10 Q. Just to help us out, I've got and we can 10 think you requester	d there was one hourly file showing
11 try to look at this together. I've got your CD pulled up 11 only generation wh	nich included sales and purchases. And
12 here on my computer. Could you get us right to the files 12 the other file like it	t was the cost, the hourly or
13 you were talking about before that we would need look at 13 dollars per megawa	att cost.
14 for that verification. And just feel free to click away. 14 But this pa	rticular 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 y	ou 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 questions, I think.	
19 A. Staff run, 8A Staff run. 19 Other than	things that we've talked about in
20 Q. Okay. 20 this deposition here	e today or that are talked about in your
A. On every CD, I put a table of contents. So if 21 direct testimony, w	ere there any other assumptions or
22 you go to the contents file, it will show you where 22 parameters or mod	eling methods that you used in either the
23 everything is. This one right here, all hours, so this is 23 benchmarking or S	taff model runs in this case that were
24 all the hourly information that could be produced. Let's 24 outside or different	t than how you would normally run your
25 look at this one. That's not it; it must be something you 25 RealTime model?	
Page 163	Page 165
were looking at It's big We don't need to see it all 1 A I don't bel	ieve The answer is no. I don't
2 MR. BENDER: You might want to turn off the 2 believe so. I tried to	to take every most manila assumptions
3 calculations now. Oh. J can't speak here. 3 that I could for the	model and I used all the
4 A. Looking at the first hour is not the best in 4 assumptions were t	the same I'm not talking about data
5 the world, so I'm going to go down and look at the second 5 assumptions. I mer	an the way the model was run was the same
6 hour. 6 from the benchmar	k to the Staff π un.
7 O. (By Mr. Lowery) Just as an example, we're 7 O. All right.	We benchmarked to a UE model run
8 looking at the ALLHR01.cvs file? 8 which was differen	t than normal. And you had forced
9 A. It stands for all hours. This is all hourly 9 outages at Callawa	v. that was different than how you would
10 data, iteration number one. I'm not an Excel expert. 10 normally do that.	Those were two particular areas that
11 Let's make these columns a little bigger. 11 were different. An	ything else like that?
12 Okay. This is for the second hour of the year 12 A. That I wo	uld normally run?
13 July 1. You purchased 160 megawatts from this APL 13 O. A differer	at way of handling inputs or
14 contract. That's standard. 384 megawatts from the Joppa 14 assumptions or a d	ifferent way of running the model that we
15 unit. This particular hour, we sold 2,044 megawatts. Got 15 haven't talked about	it?
16 102 from Keokuk, 1,197 from Callaway. Here's the Labadie 16 A. That we h	aven't talked about. That's a very
17 1. So I think we can do the calculations with Labadie 1 if 17 broad question. No	one to my recollection.
18 you'd like to. 18 Q. To the bes	st of your recollection, you can't
19 I'll scroll down just a little bit. The 19 think of any?	
20 this number is the fuel dispatch cost, but it does not have 20 A. Yeah.	
21 the variable O & M in it, even though I am definitely 21 O. Fair enough	gh. Have you spoken with any Ameren
22 dispatching the variable O & M. 22 employees or repre	sentatives other than Mr. Finnell
23 On this particular report, which was made 23 regarding this case	?
24 originally essentially sort of looking at the internals 24 A. No.	

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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
1	respecting the Staff's model run?	1	CERTIFICATE OF REPORTER
2	A Several weeks ago?	2	I. Shervl A. Pautler, Certified Shorthand
3	O 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	4	Missouri do hereby certify that the witness whose
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 n
7	request of Staff for the Staff run	7	to the best of my ability and thereafter reduced to
8	O Which was provided to the company do you	8	tynewriting under my direction: that I am neither counsel
9	know?	9	for related to not 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	O 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	O. And that hourly output data, that involved 16	13	otherwise interested in the outcome of the action.
14	iterations?	14	
15	A. Yes.	15	
16	O. 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	O. And did you provide a conversion for the 16	19	1 I I I I I I I I I I I I I I I I I I I
20	iterations?	20	
21	A. I don't know what you mean by conversion.	21	
22	O. 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	to Ameren I IF	1	I MICHAEL DAHRER do berehv certify
2	Could you indicate how many hours you spent	2	That I have read the foregoing deposition:
3	generating that hourly output data and translating that	3	That I have made such changes in form and/or
4	data for the Staff model run?	4	substance to the within deposition as might be necessary to
5	A Probably between four and five hours	5	render the same true and correct;
6	MR DOTTHEIM: Okay One moment please	6	That having made such changes thereon, I
7	That's all I have	7	hereby subscribe my name to the deposition.
0	That's all Thave.	, ,	
5	MR LOWERY Nothing for me	8	I declare under penalty of perjury that the
9	MR. LOWERY: Nothing for me. (Whereupon signature was reserved)	9	I declare under penalty of perjury that the foregoing is true and correct.
9 10	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	9 10	I declare under penalty of perjury that the foregoing is true and correct.
9 10 11	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of,
9 10 11 12	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	9 10 11 12 13	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at
9 10 11 12 13	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at
9 10 11 12 13 14	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at MICHAEL RAHRER
9 10 11 12 13 14	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at MICHAEL RAHRER
9 10 11 12 13 14 15 16	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at MICHAEL RAHRER My Commission Expires:
9 10 11 12 13 14 15 16 17	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at MICHAEL RAHRER My Commission Expires: Notary Public:
9 10 11 12 13 14 15 16 17 18	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at MICHAEL RAHRER My Commission Expires: Notary Public:
9 10 11 12 13 14 15 16 17 18 19	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires: Notary Public: SP/Michael Rahrer In the Matter of Union Electric Company d/b/a AmerenUE for Authority to fully Tariffa Increasing Datas for Florence
9 10 11 12 13 14 15 16 17 18 19 20	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires:, Notary Public: SP/Michael Rahrer In the Matter of Union Electric Company d/b/a AmerenUE for Authority to file Tariffs Increasing Rates for Electric Service Browided to Customers in the Company's Misservice
9 10 11 12 13 14 15 16 17 18 19 20 21	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20 21	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires:, Notary Public: SP/Michael Rahrer 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
9 10 11 12 13 14 15 16 17 18 19 20 21 22	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires:, Notary Public: SP/Michael Rahrer 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
<pre> 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23</pre>	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires:, Notary Public: SP/Michael Rahrer 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
<pre>9 10 11 12 13 14 15 16 17 18 19 20 21 23 24</pre>	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at, MICHAEL RAHRER My Commission Expires:
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	MR. LOWERY: Nothing for me. (Whereupon signature was reserved.)	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	I declare under penalty of perjury that the foregoing is true and correct. Executed the day of, 20, at

44 (Pages 170 to 173)

MIDWEST LITIGATION SERVICES

www.midwestlitigation.com Phone: 1.800.280.DEPO(3376)

Fax: 314.644.1334

Page 174	
1 Errata Sheet	
2 Witness: Michael Rahrer 3 In Part in the Michael Rahrer	
AmerenUE for Authority to file Tariffs Increasing Rates for	
4 Electric Service Provided to Customers in the Company's Missouri Service Area	
5 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 :	
Reason assigned for change :	
Page Line Should read:	
12 Page Line Should read:	
Reason assigned for change : 13	
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	
2 St. Louis, Missouri 63101 3 Phone (214) 644 (210)	
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	
11 Dear Mr. Dottheim: 12 Please find enclosed your conv of the denosition of	
Michael Rahrer, taken on January 16, 2007 in the	
signature page and errata sheets.	
Please have the witness read your copy of the	
desired on the errata sheets, and sign the signature	
10 page before a notary public. 17 Please return the errate sheets and notarized signature	
page to wir, James D. Lowery for hing prior to filal date.	
1 nank you for your attention to this matter.	
Sincerely, 20	
Sheryl Pautler	
CC: Mr. James B. Lowery	
23 24	
25	

45 (Pages 174 to 175)

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Fax: 314.644.1334 749589e5-f12c-4981-8973-9b9190146055

ERRATA SHEET

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

6

Page	Line	Correction	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	Transcription or I
		RealTime. Probably due to	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