

THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

TRANSCRIPT OF PROCEEDINGS

Evidentiary Hearing

February 11, 2016

Jefferson City, Missouri

Volume 2

In the Matter of the Application)
Of KCP&L Greater Missouri)
Operations Company for Permission)
And Approval of a Certificate of) Case No. EA-2015-0256
Public Convenience and Necessity)
Authorizing it to Construct,)
Install, Own, Operate, Maintain)
and Otherwise Control and Manage)
Solar Generation Facilities in)
Western Missouri)

MORRIS L. WOODRUFF, Presiding
CHIEF REGULATORY LAW JUDGE.

DANIEL Y. HALL, Chairman,
STEPHEN M. STOLL,
WILLIAM P. KENNEY,
MAIDA COLEMAN,
SCOTT T. RUPP,
COMMISSIONERS

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FOR: Staff of the Missouri Public Service Commission

1 JUDGE WOODRUFF: Good morning, everyone.
2 Let's come to order, please. We're here for a hearing in
3 Case Number EA-2015-0256 which concerns the application
4 of KCP&L Greater Missouri Operations Company for a
5 Certificate of Convenience and Necessity to operate a
6 solar generation facility in Rural Jackson County.

7 We'll start today by taking entries of
8 appearance, beginning with GMO.

9 MR. FISCHER: Thank you, Judge.

10 Let the record reflect the appearance of
11 Roger W. Steiner and James M. Fischer on behalf of
12 Applicant, KCPL Greater Missouri Operations Company. Our
13 contact information is on the written form.

14 JUDGE WOODRUFF: Thank you.

15 And for the Staff?

16 MS. MUETH: For the Staff of Missouri Public
17 Service Commission, Marcella Mueth and Jacob Westen,
18 PO Box 316, Jefferson City, Missouri 65102.

19 JUDGE WOODRUFF: Thank you.

20 Public Counsel.

21 MR. OPITZ: Thank you, Judge. For the Office
22 of the Public Counsel, Tim Opitz and Steven Kretzer,
23 PO Box 2230, Jefferson City, Missouri 65102.

24 JUDGE WOODRUFF: And for the Division of
25 Energy.

1 MR. ANTAL: Good morning, Judge. Alex Antal
2 with the Missouri Division of Energy, 301 West High
3 Street, Jefferson City, Missouri 65102.

4 JUDGE WOODRUFF: Renew Missouri is a party,
5 and I just got an email a few minutes ago from Andrew
6 Linhares indicating that he would not be able to be
7 here today. Actually, his car broke down on the way
8 down. But he indicated his client did not have any
9 cross-examination questions, so we'll proceed without
10 him.

11 For Brightergy.

12 MR. ZELLERS: Your Honor, Andrew J. Zellers
13 for Brightergy, 1712 Main Street, Kansas City, Missouri
14 64108. At this time I'd like to ask leave of the
15 Commission. I don't plan on staying the entire -- for
16 the entire proceeding today.

17 JUDGE WOODRUFF: You certainly have
18 permission to proceed as you wish. Of course you're
19 waiving any crosses for the witnesses that you're not
20 here to see.

21 MR. ZELLER: That's fine.

22 JUDGE WOODRUFF: For United for Missouri.

23 MR. LINTON: Good morning, Your Honor.
24 David C. Linton on behalf of United for Missouri,
25 314 Romaine Spring View, Fenton, Missouri.

1 JUDGE WOODRUFF: Thank you.

2 I believe that's all the parties.

3 We have a couple of pending motions.

4 Division of Energy and Renew Missouri both filed motions
5 to late file their statements of position. I assume
6 there's no objections to those. I will grant both
7 motions.

8 All right. Then we're ready to move on to
9 opening statements.

10 MR. OPITZ: Judge, I have one matter I'd like
11 to bring up --

12 JUDGE WOODRUFF: Go ahead, Mr. Opitz.

13 MR. OPITZ: Public Counsel respectfully
14 objects to the procedural schedule and hearing in this
15 case. The procedural schedule, including this hearing
16 today, in this case is unlawful because it does not
17 provide the parties in this case, in particular the
18 Office of Public Counsel, to conduct meaningful
19 discovery, explore contested issues, and prepare for
20 hearing.

21 The Commission may be aware that Public
22 Counsel sought a writ of mandamus seeking a procedural
23 schedule that would provide the parties, Public Counsel
24 included, the procedural due process due them under the
25 law. That petition was denied.

1 Now, at the hearing, Public Counsel reasserts
2 its objection to the procedural schedule and this
3 hearing. I fully expect that -- the Commission to
4 overrule this objection today. However, to ensure that
5 Public Counsel is not deemed to have waived its objection
6 by its participation in this hearing, I ask that the
7 Commission recognize my objection as a continuing
8 objection.

9 JUDGE WOODRUFF: Thank you. We will
10 certainly recognize that.

11 Anyone -- any other party wish to be heard on
12 that motion?

13 All right. As you anticipated, I will deny
14 your motion. And I believe you have reserved your
15 objection for the record.

16 MR. OPITZ: Thank you, Judge.

17 JUDGE WOODRUFF: All right. Begin with
18 opening statements then for GMO.

19 MR. FISCHER: May it please the Commission.
20 Good morning, Judge Woodruff, and good morning, Chairman
21 Hall. We're glad you're here. As you know, my name's
22 Jim Fischer. And today Roger Steiner and I will be
23 representing the Company, the Applicant in this case,
24 KCPL Greater Missouri Operations Company.

25 For the court reporter, I'll often refer to

1 the Company as GMO, G-M-O.

2 This case involves GMO's request for a
3 Certificate of Convenience and Necessity to build a new
4 utility-scale solar facility near Greenwood, Missouri.
5 The Company greatly appreciates the Commission's
6 willingness to hear this case on an expedited basis.

7 We will be presenting three witnesses to
8 explain the Company's request and answer your questions.
9 Emeka Anyanwu will explain the engineering aspects of the
10 process. Paul Ling will explain the uncertainties of the
11 Clean Power Plan, its expected impacts on the Company,
12 and the reasons why it makes sense to proceed with this
13 project at this time, in light of the uncertainties
14 associated with the Clean Power Plan. And then, finally,
15 Darin Ives, KCPL's vice president for regulatory
16 affairs, will address the Company's strategy for
17 addressing solar issues. He'll talk about regulatory
18 issues and explain why this company meets the
19 requirements for a CCN in this case.

20 The solar facility will be built on farmland
21 just north of the Company's existing combustion turbines
22 at the Greenwood Energy Center. It will cover
23 approximately 12 acres that's already owned by the
24 Company. The total plant capacity is 3 megawatts, which
25 is enough capacity to serve approximately 440 homes. The

1 construction's planned to be completed by the end of
2 July 2016. The total cost of the plant is considered
3 proprietary, but you can see that number on page 3 of the
4 application.

5 The Company desires to build this facility to
6 obtain experience with a utility-scale solar facility.
7 The completion of a solar -- of a utility-scale solar
8 facility has been part of the Company's preferred
9 Integrated Resource Plan filed with the Commission on
10 April 1st, 2015 in Case Number E0-20- -- or 2015-0252.
11 The Commission found that this GMO IRP complied with the
12 Chapter 22 IRP rules. Now the Company wants to follow
13 through with its plan and build a utility-scale solar
14 facility, as contemplated by the IRP.

15 There's a great deal of information that the
16 Company can glean from this project. Some of the
17 important areas that the Company hopes to better
18 understand include better knowledge around the design and
19 construction of solar facilities. Are there benefits to
20 locating solar facilities near existing power plants?
21 Can existing employees for natural gas and coal plants be
22 trained successfully to operate solar facilities and do
23 the required maintenance on them? What is the impact of
24 a facility like this one on the existing electrical grid
25 network? From a grid perspective, is it better to

1 maximize kilowatt hour production or production during
2 peak hours? What is the real cost and maintenance
3 profile of a utility-scale solar facility? Can we design
4 a cost competitive and otherwise acceptable community
5 solar program for some or all of the installations like
6 the one proposed at the Greenwood Energy Center?

7 As I mentioned, Emeka Anyanwu is the
8 Company's witness that best explains the benefits
9 associated with this facility from an engineering
10 perspective.

11 There are myriad of other benefits as well.
12 First, it will continue to diversify the Company's
13 generation portfolio to a more sustainable generation
14 mix. This is something that the customers have indicated
15 that they have a definite interest in. The Clean Power
16 Plan will require the Company to change its generation
17 mix probably by 2022. The Company can't wait that long,
18 though, to test solar to see if it can provide a good
19 option for the Company.

20 Paul Ling is our witness that's going to talk
21 about the Clean Power Plan and its impact on the Company.

22 Second, this solar facility will support
23 local jobs in an emerging clean tech industry.

24 Third, by doing a utility-scale solar
25 facility, it will help the Company gain experience with

1 the design, the construction, and the operation of solar
2 facilities. This will help inform future renewable
3 decisions and allow the Company to more cheaply integrate
4 facilities and make resource decisions in the future.

5 Now, as I understand the position of
6 parties -- position statements of other parties, the
7 Division of Energy, Renew Missouri, and Brightergy are
8 supporting the Company's request for permission to build
9 this solar facility. These entities recognize that solar
10 has a definite place in our energy future, and it would
11 be desirable if public utilities had more experience with
12 this renewable technology.

13 Staff and Public Counsel, however, have
14 raised concerns about granting a CCN at this time. Staff
15 and Public Counsel have argued that the project is not
16 needed, since the Company has already met the renewable
17 energy requirements under the Renewable Energy Standard.
18 In addition, these parties believe that, since the solar
19 facility is not the least-cost technology, it's therefore
20 not economically feasible.

21 None of these concerns should keep the
22 Commission from moving forward to devote a more
23 environmentally-friendly technology and give the Company
24 immediate experience with utility-scale solar facilities.

25 The need standard should not be interpreted

1 narrowly as needed only to comply with the current
2 Renewable Energy Standard. As I've explained, the need
3 is much broader than that statutory mandate for renewable
4 energy portfolios. The Company needs the ability to meet
5 its future needs with a technology that's environmentally
6 sustainable, and we need the experience to construct and
7 operate a utility-scale facility.

8 Public Counsel and Staff are also
9 misinterpreting the economically-feasible standard.
10 Economically feasible does not mean least-cost
11 alternative. In this case the Company has used an RFP to
12 determine the level of reasonable costs for the solar
13 facility. The Company's also taking advantage of tax
14 credits that are available. The Company believes that
15 the project is technically feasible, and the overall
16 costs of the plant are clearly worth the benefits to be
17 produced.

18 In the past the Commission has reserved
19 ratemaking determinations for future ratemaking
20 proceedings and not announcing ratemaking as a part of
21 the grant of the CCN. Now, when we filed the
22 application, the Company, they expected the Commission
23 would do that again and it would leave those ratemaking
24 and prudence decisions for GMO's next rate case.
25 However, given the positions of the Staff and the Public

1 Counsel in this case, the Company now believes that
2 decisional prudence needs to be addressed by the
3 Commission. If the Commission believes that the
4 Company's decision to move forward with this project is
5 somehow imprudent or unreasonable, based on what we know
6 today, then the Company needs to know that. We need to
7 know that before they proceed to make the investment in
8 this facility.

9 Public Counsel or Staff may also argue that
10 it would be better to wait until there is price parity
11 with other technologies or wait until the price of solar
12 facilities is less than today's price. Now, we don't
13 agree with that approach. The Company wants to be in a
14 position to make informed policy decisions at a
15 legislative and a regulatory level before there's a large
16 interest group of impacted people. If we wait for price
17 parity to obtain additional knowledge regarding the
18 best-performing solar resources and their operational
19 cost impacts, it will be more expensive and harder to
20 adapt the grid and shape incentives to get the most
21 valuable solar resources on the Company's system.

22 With the knowledge that the Company is
23 expected to get from this project, the Company will be in
24 a position to start planning for, building, and
25 calculating the costs of having distributed and

1 intermittent resources like solar facilities on the
2 Company's grid.

3 In previous cases for certificates of
4 convenience and necessity, the Commission's looked at
5 some of the following factors.

6 The needs for a project. I've already
7 explained the need to move forward with this project at
8 this time. It's not a question of a need for more
9 megawatts of capacity, but there is an obvious need to
10 position the Company and its customers for a more
11 environmentally-sustainable future. The Company needs to
12 develop the knowledge and the experience with a
13 utility-scale solar facility now and not wait until the
14 solar horse has left the barn, so to speak, which is
15 likely to occur in the very near future.

16 Qualifications of the Company. Obviously GMO
17 has been operating generation facilities, including coal,
18 gas, and wind generation, for many years. It has the
19 experience with small-scale solar facilities. There's no
20 question that GMO's qualified to construct and operate a
21 3-megawatt solar facility.

22 Third, GMO certainly has the financial
23 capability to construct and operate the proposed
24 3-megawatt solar facility, which is quite small compared
25 to GMO's total existing generation in our fleet.

1 While solar technology is not currently the
2 least-expensive generation technology available, the
3 costs are declining, and the Company anticipates solar
4 will reach price parity in our service territory with
5 other technologies by 2020, and perhaps earlier than
6 that, assuming that federal tax credits and other tax
7 incentives remain in place.

8 Continued price decreases for solar
9 installations, both utility-scale and distributed,
10 coupled with the Clean Power Plan and other federal and
11 state environmental policies, has led the Company to the
12 conclusion that solar energy is going to play a
13 significant role over the next 10 to 20 years in energy
14 policy and resource considerations.

15 Finally, both customer research and -- with
16 residential customers, as well as conversations with
17 commercial and industrial customers, indicate that the
18 Company's customers are interested in solar energy for a
19 variety of reasons; the project is needed; it's
20 economically feasible; and the Company has the
21 qualifications, the ability, and financial wherewithal to
22 complete the project.

23 The State of Missouri has been encouraging
24 the development of renewable resources, including solar
25 development. And we believe it's time now to move

1 forward to a new era that includes the development of
2 utility-scale solar facilities in Missouri.

3 For all of those reasons, the proposed plant
4 is clearly in the public interest. The Company requests,
5 therefore, that the Commission grant it an opportunity to
6 build this 3-megawatt solar facility at this time.

7 Thank you for your attention today. Thank
8 you for being here.

9 I'd be happy to try to answer your questions,
10 as will my witnesses that are to follow.

11 JUDGE WOODRUFF: Any questions?

12 CHAIRMAN HALL: Yes. Good morning,
13 Mr. Fischer.

14 MR. FISCHER: Good morning.

15 CHAIR HALL: Make sure I understand. GMO is
16 now encouraging the Commission to make a determination of
17 what I believe you called decisional prudence?

18 MR. FISCHER: Yes.

19 CHAIR HALL: Can you elaborate?

20 MR. FISCHER: Yes. Decisional prudence is a
21 concept that is -- does it make sense at this point to
22 make the decision that the Company is making based on
23 what the facts are today? Obviously -- we call that
24 decisional prudence.

25 Obviously the construction of it, how much

1 the costs are, whether they've done a good job building
2 it; implementing the plan, that would be determined in a
3 future rate proceeding, and there would be questions
4 about -- might be questions about that.

5 But if -- what we were asking for is, if you
6 think that based on what you hear today it is not in the
7 public interest or is not a prudent decision for the
8 Company to make this investment, we need to know that
9 now. Some of the Staff and Public Counsel position seem
10 to be, well, if you leave that for the future, disallow
11 -- announce in this case that you're going to disallow
12 all of the costs or announce that you're going to
13 disallow all the costs above the least-cost technology.
14 If that's your feeling in this case, we would like to
15 know that now.

16 CHAIR HALL: And you believe that it would be
17 appropriate for us to make that determination now?

18 MR. FISCHER: Yes. We think that's inherent
19 in the concept of the statutory determination that it's
20 convenient and necessary to build.

21 CHAIR HALL: Are you aware of other instances
22 where -- where the Commission granted an application for
23 a CCN with a condition being that the cost does not
24 exceed the least-cost option for any kind of generation?

25 MR. FISCHER: I am not aware of that, no.

1 CHAIR HALL: But that's, in essence, what
2 you're asking us for. If -- if that -- if we believe
3 that that -- if the Commission were to believe that that
4 was an appropriate ratemaking determination, you're
5 asking that we include that as a condition for the CCN?

6 MR. FISCHER: The Staff, as I understand
7 their position, has two different conditions that they're
8 proposing in the area of economic conditions. The first
9 is just announce that this is on the Company's dime and
10 you're going to disallow the cost in the next rate case.
11 Or, alternatively, announce that you'll disallow
12 everything above the least-cost technology cost, which
13 might be wind or some other. And if -- we would like to
14 know, if that's -- if that's the Commission's
15 determination, we need to know that up front so we don't
16 make the investment.

17 So what I'm asking, I guess, Mr. Chairman, is
18 we would ask for a determination of decisional prudence:
19 Based on what you have in the record today and what the
20 Company knows, all the facts we know, is it reasonable
21 for us to proceed with this kind of investment; is that
22 decision prudent? And we recognize that if we go way
23 over on costs or anything else, if there are other
24 problems with actually implementing the plan, clearly
25 that's subject to a prudence disallowance in the future,

1 and that would be done in a rate case. And we're
2 expecting that the rates themselves won't change, of
3 course, in this case, but that that would be reviewed in
4 the next rate case.

5 CHAIR HALL: Do you know or do any of your
6 witnesses know how this facility compares to Ameren's
7 utility-scale solar facility?

8 MR. FISCHER: I have a feeling the Staff
9 witness, Mr. Beck, may have the most knowledge about the
10 Ameren facility. But I encourage you to ask my
11 engineering witness or Mr. Ives what he knows about that.

12 CHAIR HALL: Okay.

13 MR. FISCHER: I intend to probably ask
14 Mr. Beck about that facility.

15 CHAIR HALL: Okay. The PowerPoint
16 presentation that you gave a moment ago, could I get a
17 hard copy of that?

18 MR. FISCHER: Sure.

19 CHAIR HALL: Okay. I don't need it at this
20 exact second, but --

21 MR. FISCHER: I've got one right here.

22 CHAIR HALL: Oh. I guess generally for
23 attorneys in the room, I always appreciate, when there
24 are PowerPoints, actually getting a hard copy of the
25 presentation. It's very helpful for me personally.

1 You noted a number of -- well, you called
2 them reasons to build, and there was information that you
3 were hoping to gain -- that the Company was hoping to
4 gain --

5 MR. FISCHER: Yes.

6 CHAIR HALL: -- from this project. Is there
7 no research already out there to answer any of these
8 questions?

9 MR. FISCHER: Well, certainly there are other
10 examples of utility-scale facilities. But I think if you
11 ask our engineering witness that question, he's going to
12 tell you that the hands-on experience for us, how it's
13 going to affect our -- the KCPL or GMO grid, that's what
14 we're really interested in, getting hands-on experience
15 themselves. You can call somebody and ask what's your
16 experience, but that's not the same as having real
17 experience with your company.

18 CHAIR HALL: Are you aware of any other
19 examples in Missouri where a CCN was granted by the
20 Commission and one of the reasons for a particular
21 project was to gain information or experience with a
22 particular type of generation?

23 MR. FISCHER: I think the Smart Grid project
24 that KCPL entered into. I'm not sure there's a formal
25 CCN granted, but that was granted as a part of the

1 regulatory plan, and that would be an example of a
2 similar situation, I think.

3 CHAIR HALL: Okay. I have no further
4 questions. Thank you.

5 MR. FISCHER: Thank you.

6 JUDGE WOODRUFF: And opening for Division of
7 Energy.

8 MR. ANTAL: May it please the Commission. My
9 name is Alex Antal. I'm here today representing the
10 Missouri Division of Energy.

11 We have a case before us today on whether or
12 not the Commission should approve a 3-megawatt solar farm
13 for KCPL Greater Missouri Operations. But in Division of
14 Energy's perspective, this case is much more than just an
15 application for a CCN for the solar facility. This is a
16 question about what direction Missouri's going to take in
17 our energy future. Are we going to diversify our energy
18 supply or are we going to rely on the same resources that
19 we have relied on for decades past?

20 I think there are a lot of technical and
21 legal arguments that will be made throughout this
22 proceeding today, but I think they can be summed up in
23 one quote that I've provided here. Thomas Jefferson, our
24 third president of the United States and namesake of our
25 city has -- has said: Never put off until tomorrow what

1 you can do today. That's basically what this case is
2 about. We know that in the future there are going to be
3 solar facilities. Nobody here today is arguing that.
4 The question is do we embrace them today or do we push
5 them off? Division of Energy, along with the Company and
6 other parties, believe that we should embrace the future
7 today. We should not put it off.

8 Now, the recommendation of OPC and Staff is
9 the antithesis of what Jefferson told us to do. Say
10 delay, wait till tomorrow. We don't think that that is a
11 wise choice for the Commission to make.

12 Now, getting to the legal substance. All the
13 parties in this case have mentioned the Tartan criteria
14 that were stated by the Commission in In Re Tartan Energy
15 case. Now, everyone cites to them. Everyone says that
16 that is the standard that the Commission has used in the
17 past. But not everyone, in our opinion, applied those
18 legal standards appropriately.

19 Now, other parties have also cited to the
20 Intercon Gas case. In the -- the Missouri Court of
21 Appeals in 1993 stated, The term necessity does not mean
22 essential or absolutely indispensable, but that
23 additional service would be an improvement justifying its
24 costs. Now, what does this mean? It means that need
25 does not mean that it has to be absolutely needed. It's

1 not essentially needed, but there is some need.

2 To give some examples that quotes from the
3 Court of Appeals cited State Ex Rel. Beaufort's Transfer
4 Company. And it's an interesting case. I was reviewing
5 it just the other day. In Beaufort the Commission was
6 determining -- was determining a complaint case. Back in
7 the 1960s the Commission regulated trucking in the state
8 of Missouri, and the Beaufort case was particularly about
9 a trucking company that was complaining that the
10 Commission had granted a CCN to a competitor to service
11 meat products to ten communities in the state of Missouri
12 that Beaufort had previously had an exclusive right to
13 serve. Now, based off the Commission's order in that
14 case, nobody was starving in those communities, nobody
15 was malnourished, but a need was not being met. There
16 was a demand. There was a desire for more meat products
17 in those communities than that one sole provider could
18 provide. That's the type of need that we're talking
19 about. We're talking about a desire, a wanting, not an
20 absolute necessity.

21 As I said, everyone cites to the Tartan
22 criteria. But, to date, we haven't had much discussion
23 about the actual facts of Tartan. What did the
24 Commission consider in its evidence in ultimately
25 granting Tartan Energy a CCN? Tartan Energy was a gas

1 company that wanted to build a gas distribution --
2 natural gas distribution facility in south central
3 Missouri. And, again, there wasn't an absolute need for
4 this service. This area of the state was, you know,
5 being served by propane dealers. You know, there wasn't
6 an absolute need. What the Commission was determining
7 was was there a desire for this alternative service, for
8 heating and other sources of energy. The propane
9 industry opposed it. They didn't want Tartan Energy
10 coming into their territory where they had an exclusive
11 right to provide a similar service. They were going to
12 be -- this would allow competition. That's the type of
13 need we're talking about. Not an absolute need, but a
14 desire, a wanting.

15 Now, the actual evidence that the Commission
16 cited or, you know, conclusions that they made were that
17 natural gas provided energy alternatives and would
18 promote economic development. When I read that, it
19 sounded like a passage that -- straight out of the
20 Comprehensive State Energy Plan, alternative energy
21 sources promoting economic development.

22 The Commission in Tartan also noted that they
23 had a general policy in recent years to look favorable
24 upon applications designed to spread the availability of
25 natural gas throughout the state of Missouri wherever it

1 was feasible to do. We believe the Commission should
2 have a similar policy towards solar and other renewable
3 energy sources.

4 Now, going to the need that is proposed in
5 this case. Opponents in their position statements and
6 will likely testify today that this service isn't needed,
7 one, because it's not needed to meet the minimum
8 requirements of Missouri's Renewable Energy Standard and
9 it won't materially affect GMO's capacity needs.

10 However, the proponents of this project state that this
11 will help the future potential environmental compliance
12 costs, future Renewable Energy Standard compliance,
13 diversify state's in-state resources of energy, and
14 provide the Company with hands-on knowledge and
15 experience.

16 Now, the Chairman mentioned just earlier
17 about comparisons with Ameren's O'Fallon solar farm.
18 There will likely be testimony today from parties that
19 these two projects are different. However, as I intend
20 to explain, there are far more similarities between these
21 two projects than there are differences. In the Ameren
22 case Staff cited that the O'Fallon project would
23 diversify the company's renewable energy portfolio, would
24 create an in-state solar resource, provide Renewable
25 Energy Standard compliance, and provide hands-on

1 operational and maintenance skills to the company.

2 Sounds a little similar to what proponents have said in
3 this case.

4 Moving on to the Applicant's qualifications.
5 In the Tartan case the Commission stated that it's
6 confident that Tartan possesses the necessary knowledge
7 of the natural gas utility industry, including the
8 industry as it has developed in the state of Missouri, as
9 well as all the requisite technical requirements
10 regarding engineering, safety, and so forth, and so
11 finds.

12 KCPL isn't a fly-by-night company. They've
13 been around for a long time. They know the electric
14 industry in this state. They are more than qualified to
15 provide this type of service. However, opponents say
16 that GMO -- if GMO requires practice with the
17 utility-scale solar, then it is unqualified or, in the
18 alternative, if GMO does not require practice with
19 utility-scale solar, then the service is not necessary.

20 If this is the standard that we're going to
21 measure an applicant's qualifications, then a utility --
22 an incumbent utility will never have the opportunity to
23 gain knowledge on emerging or new technologies. I don't
24 think that's what -- the standard that the Commission
25 wants to set.

1 The industry is always going to be changing,
2 and we have to give our utility companies the benefit of
3 the doubt that their past experience with other
4 technologies, incumbent technologies, will give them the
5 opportunity to safely and reliably gain experience with
6 new ones.

7 Proponents argue that GMO manages a number of
8 nonsolar plants that require more involvement from
9 operators and maintenance technicians than a solar plant
10 of this size. Additionally, GMO has experience with
11 rooftop solar that is interconnected to its system.

12 Going back to the Ameren O'Fallon project, in
13 Staff's testimony in that case it stated, Ameren owns
14 many types of generation, including coal, nuclear,
15 natural gas, and hydropower facilities. The operation of
16 these other facilities is more difficult than the
17 operation of a solar facility, and Ameren has experience
18 with small-scale solar on its office building.

19 Again, very similar to the type of experience
20 and credentials that GMO has in this case.

21 Turning now to the Applicant's financial
22 ability. In the Tartan case the Commission stated that,
23 The evidence indicates that Tartan is owned by Torch
24 Energy Advisors, Incorporated, a company which is in the
25 business of energy investment. It is clear that with

1 Torch Energy Advisors, Inc. backing Tartan, Tartan has
2 the financial ability to provide the proposed service.

3 Opponents in this case say that it's
4 uncertain whether GMO has the financial ability to
5 provide this project and that ratepayers will ultimately
6 have to pay for the solar project and that ratepayers
7 will not receive the full benefit of any tax credits
8 attributable to the solar facility. These are all
9 considerations that, while are important, are more
10 appropriately determined in a rate proceeding. GMO has
11 filed its notice of filing a rate case. And if this CCN
12 is approved, those rate determinations can and should be
13 made in that proceeding.

14 Now, proponents argue GMO has the financial
15 ability to build this project and provide the resulting
16 services and it will be financed by its general funds and
17 that, therefore, it has the financial wherewithal to
18 provide this service. Again, similarities with the
19 Ameren case. In Staff's testimony in that case,
20 Ameren -- Staff stated, Ameren Missouri has indicated
21 that it is -- that it will adequately finance the solar
22 project with a combination of existing funds and
23 indebtedness. Staff also said that, The cost estimates
24 of the proposed solar energy project are relatively small
25 in comparison to some other major construction projects

1 that Ameren Missouri has successfully completed.

2 KCPL, likewise, has some major generation
3 resources in the state and in its entire service
4 territory that cost a lot more money to build than this
5 3-megawatt solar facility. That should be enough of a
6 testament that they have the financial wherewithal to do
7 this.

8 Turning now to economic feasibility. In Re
9 Tartan the Commission stated that it had considered the
10 evidence presented and is of the opinion that there is
11 sufficient evidence from which to find that Tartan's
12 proposal represents a viable project. Viable. Not least
13 cost, but viable. Tartan bears most of the risk if it
14 has underestimated the economic feasibility of this
15 project, and the public benefit outweighs the potential
16 for underestimating these costs. The public benefit was
17 that customer -- or people in south central Missouri
18 would have an alternative source for heating energy.
19 They wouldn't have to solely rely on propane or
20 wood-burning stoves. They would have a natural gas
21 company also serving them.

22 As well as the cost, the Commission said the
23 company bears the burden if it goes over budget.
24 Likewise in a rate case, the Commission can determine
25 whether -- you know, whether the company went over

1 budget, was it prudently incurred, you know, what type of
2 rate structure or rate treatment it should get.

3 Again, opponents' argument is that it does
4 not meet this economic feasibility requirement because
5 it's not least cost. We believe that's the wrong
6 standard. Proponents state that, While solar technology
7 is not currently least cost, generation technology is
8 available, as an impact on -- the impact of the average
9 GMO ratepayer should be minimal, given the size of this
10 facility.

11 Again, turning back to the Ameren O'Fallon
12 project, in that case Staff stated in its testimony that,
13 Ameren has provided analysis and cost studies that
14 indicate the company has sufficiently evaluated the
15 necessary capital costs and ongoing operating costs
16 associated with the proposed project. It also stated
17 that, Ameren has the wherewithal to own, operate,
18 control, and maintain the proposed facility throughout
19 the facility's expected life; and that, Staff will have
20 the opportunity to review and evaluate all of these costs
21 in a future Ameren Missouri rate case before such costs
22 are included in customer rates.

23 Again, the same situation as here. No
24 mention that the project was least cost. In fact,
25 Ameren's own witness testified in their test -- in their

1 prefilled testimony that the solar facility was not the
2 least-cost option to comply with Missouri's Renewable
3 Energy Standard; that the least-cost option to comply
4 with that standard would be to continue to buy
5 out-of-state RECs from states such as California and
6 Florida; and yet Commission Staff, other parties to that
7 proceeding, and ultimately the Commission approved that
8 solar facility, even though it was not least cost.

9 Turning now to the public interest.
10 Generally speaking, positive findings with respect to the
11 other four standards set out in Tartan in most instances
12 support the finding that an application for a Certificate
13 of Convenience and Necessity will promote the public
14 interest. The Commission in Tartan stated that, Just as
15 the mule breeding business vanished upon the advent the
16 farm tractor and truck, just as wood stoves gave way to
17 propane, such casualties are the price paid for progress.

18 We are in a period of progress. Our solar,
19 our energy sources are changing. There's going to be
20 disruptions. Some -- you know, but sometimes you have to
21 put a down payment on your future, and that's what we are
22 ask -- that's what the Company is asking the Commission
23 to do today.

24 Also in that case, the Commission said that,
25 Natural gas is a preferred energy source for both

1 economic and environmental reasons. Now, that was
2 several decades ago, and natural gas still plays a part
3 in our energy future. But what I wanted to highlight is
4 that the Commission was considering the economic and
5 environmental considerations of providing a new service
6 in a new area.

7 Again, the opponents to this project say that
8 it's not needed to meet these minimum requirements of the
9 Renewable Energy Standard and won't materially affect
10 GMO's capacity needs and that it's not least cost.
11 Again, we think this is -- this is an overly-narrow and
12 incorrect application of the standard that the Commission
13 has used in past CCN cases.

14 Correct -- the correct way to evaluate the
15 public interest, as proponents see it, this project will
16 help potential future environmental compliance, future
17 Renewable Energy Standard compliance, as well as
18 diversify the state's in-state energy supply resources,
19 provide public health benefits in reducing other
20 pollutants, as well as providing economic development
21 benefits, construction jobs, increase the marketability
22 of Missouri as being a forward-thinking state.

23 That's all of my prepared remarks. If there
24 are any questions, I'd be happy to...

25 JUDGE WOODRUFF: Mr. Chairman?

1 CHAIR HALL: Good morning, Mr. Antal.

2 MR. ANTAL: Good morning.

3 CHAIR HALL: In your statement of positions,
4 you answer the question affirmative, should the impact on
5 ratepayers be considered by the Commission; correct?

6 MR. ANTAL: Yes.

7 CHAIR HALL: So I'm trying to square that
8 with the rest of your presentation just a moment ago. We
9 should take into -- into account the cost of the facility
10 when determining whether or not a CCN should be granted;
11 correct?

12 MR. ANTAL: Yes.

13 CHAIR HALL: So if -- so it's your position
14 -- it's the position of the Division that while we should
15 take into account the cost -- and you acknowledge that
16 there are lower-cost options -- it's your position that
17 the information that could be learned by the Company
18 outweighs that cost differential; is that in a nutshell
19 what you're saying?

20 MR. ANTAL: Yes, it is.

21 CHAIR HALL: Okay. So if the -- if the price
22 of the facility was double what it is, would you still
23 take that position? I mean -- and I'm not trying to trap
24 you. I'm trying -- so at some point your position would
25 change. At some point the cost would be such that it

1 would not be in the public interest, is that correct, but
2 you just don't think that we're there yet for this
3 facility?

4 MR. ANTAL: I don't believe so. I don't know
5 where that -- that line is --

6 CHAIR HALL: Right.

7 MR. ANTAL: -- today. But, yeah, if this
8 was astronomical, if it was outside the range of
9 similarly-sized solar facilities, I think it would give
10 us pause, and it should give the Commission pause.

11 CHAIR HALL: Do you know how the cost of this
12 facility compares to the cost of the O'Fallon facility?

13 MR. ANTAL: I do not offhand. I imagine that
14 there are some Staff witnesses who probably would know.

15 CHAIR HALL: I have no further questions.
16 Thank you.

17 I did want to note for the attorneys in the
18 room that I got an email from Commissioner Stoll. He is
19 listening, and he will be notifying me or the Judge of
20 any questions he might have.

21 JUDGE WOODRUFF: Commissioner Coleman, do you
22 have any questions?

23 COMMISSIONER COLEMAN: No.

24 JUDGE WOODRUFF: Thank you.

25 Opening for Renew Missouri is next on the

1 list. He's not here.

2 Brightergy.

3 MR. ZELLER: Morning. May it please the
4 Commission, Mr. Chairman, Commissioner Coleman. We're in
5 favor of this project. We're in favor of granting the
6 CCN. We've taken a consistent position that the
7 Commission should encourage utilities under its charge to
8 think outside the box, to try new things, to diversify,
9 to experiment, and to generally be progressive.

10 You Commissioners are going to see a lot more
11 of this type of thing during your terms here. The
12 environment is changing. The Clean Power Plan is
13 uncertain. Utilities are going to be looking to do new
14 and different things. It's an appropriate time to begin
15 thinking about how you're going to evaluate these types
16 of applications.

17 Staff, OPC, some of the other parties have
18 focused on the Tartan factors. I think that's a fine
19 place to start. However, you don't necessarily need to
20 be boxed into that. You can give those factors whatever
21 weight you choose or you can choose to ignore them.
22 There's a matter of stare decisis, and that has been
23 determined. But you are certainly not bound by it. It
24 is your precedent. You can change it based on changing
25 circumstances.

1 If you do indeed focus on the Tartan factors,
2 I would suggest that you give special weight to the
3 public interest. And in considering the public interest,
4 look at the lack of diversification we have in the
5 state's energy supply. We are heavily, heavily dependent
6 on nonrenewable commodities that we import from outside
7 the state. These are subject to supply chain issues.
8 They are subject to the whims of the marketplace. They
9 can come and go. As we pointed out in the opening
10 statement, a lot of coal suppliers are declaring
11 bankruptcy and going under. This can't go unnoticed by
12 the Commission, and it can't go unaddressed.

13 So, in summation, this is a very small step
14 that the Company wants to take. I'd ask you to reward
15 the Company for this type of thinking. I would ask you
16 to encourage the Company and other companies within the
17 state to keep doing this type of thing and to keep making
18 progressive choices.

19 So that's all I prepared. I'm happy to
20 answer any questions anyone has.

21 JUDGE WOODRUFF: Mr. Chairman?

22 CHAIR HALL: No questions. Thank you.

23 JUDGE WOODRUFF: Commissioner Rupp?

24 COMMISSIONER RUPP: No questions.

25 JUDGE WOODRUFF: Commissioner Coleman?

1 COMMISSIONER COLEMAN: No questions.

2 MR. ZELLER: Thank you.

3 JUDGE WOODRUFF: Opening for United for
4 Missouri.

5 MR. LINTON: I have no opening statement.
6 Thanks, Your Honor.

7 JUDGE WOODRUFF: Okay. Opening for Staff.

8 MS. MUETH: May it please the Commission.
9 Good morning. I'm Marcie Mueth representing the Staff at
10 the Missouri Public Service Commission.

11 The case before you is a request for a
12 Certificate of Convenience and Necessity for KCPL/GMO to
13 build a solar generation facility in Greenwood, Missouri.
14 For GMO the project seeks to implement -- this project it
15 seeks to implement is an expensive experiment; and the
16 Company wants its ratepayers to pay for it, as it has
17 indicated in previous filings. And I believe, actually,
18 their counsel mentioned that during his opening as well.

19 The Staff found that the Company's
20 application was insufficient to demonstrate that the
21 project was necessary or convenient for the public
22 service under Section 393.170 of the Revised Statutes of
23 Missouri. So the Commission should not grant the
24 requested CCN.

25 There are five main issues before the

1 Commission today, but Staff will address only these:
2 First is the issue of convenience and necessity; second
3 is whether the impact to ratepayers should be considered
4 by the Commission when deciding whether to issue the CCN;
5 and, finally, the issue of conditions to be imposed if
6 the Commission does decide to issue a CCN in this case.

7 I'll preface this discussion by saying that,
8 although Staff considers the Tartan factors to be helpful
9 in determining whether a project is convenient or
10 necessary, it does not use them as a checklist to which
11 the Commission must make an exception for granting a CCN
12 if not all factors are met.

13 The Intercon Gas case guides the
14 determination of convenience and necessity. In that case
15 the Appellate Court said that, Necessity means that an
16 additional service would be an improvement justifying its
17 costs. Here GMO has not demonstrated that the
18 construction of the project will be a service that
19 justifies an additional cost -- this additional cost.

20 In this evaluation of whether or not the
21 project is necessary or convenient, Staff considered the
22 Tartan factors and concluded that there is no need for
23 the service at this time. Although Staff feels GMO is
24 qualified to provide the proposed service, GMO's entire
25 reason for doing the project hinges on the idea that it

1 needs to gain knowledge and experience. The proposal is
2 not economically feasible, and the service does not
3 promote the public interest.

4 After examining the Tartan factors, Staff
5 concluded that the costs would likely ultimately be borne
6 by GMO's customers, and this outweighs the benefits of
7 the project.

8 I will walk through each Tartan factor with
9 which Staff took issue and discuss Staff's analysis and
10 conclusion for each.

11 First is does the evidence establish that
12 there is a need for a project -- for this project?
13 Staff's witnesses will tell you that GMO has not
14 demonstrated a need for this project. While GMO is short
15 on capacity and uses Purchase Power Agreements to meet
16 its customers' demands, the project will not materially
17 affect the gap between GMO's supply needs and its
18 customer demands. What little impact it does have is
19 de minimis, certainly a far cry from the true needs to
20 meet GMO's customers' demands.

21 GMO is able to purchase additional capacity
22 to meet these needs at a much lower cost than the cost of
23 this proposed facility. Additionally, GMO does not need
24 Solar Renewable Energy Credits, or S-RECs, until 2027 to
25 comply with the Missouri Renewable Energy Standard, or

1 RES. Any S-RECs the project would create prior to this
2 date will not count towards GMO's compliance of the solar
3 requirements of the RES. Not only has GMO met its S-REC
4 requirements for over a decade, but it will actually have
5 unused S-RECs that will expire if not sold, even without
6 the addition of this solar facility.

7 Although the S-RECs from this project could
8 theoretically count towards other Renewable Energy Credit
9 requirements with its planned, less expensive, nonsolar
10 renewable resource addition and without this solar
11 facility, GMO will have sufficient overall RECs to comply
12 with the RES through 2030.

13 The second Tartan factor looks at whether GMO
14 is qualified to provide the proposed project services.
15 Staff's position is that GMO is qualified to operate and
16 maintain the project, given its vast experience managing
17 a number of other nonsolar plants that require much more
18 involvement from operators and maintenance technicians
19 than a solar plant of this size would require. GMO also
20 has experience with rooftop solar that is interconnected
21 to its system. GMO has contracted with experts on solar
22 facilities to aid in the design, building, operation, and
23 maintenance of this project.

24 That said, Staff is confused by GMO's main
25 argument for building a project now, which is that it has

1 an apparently urgent need to gain hands-on experience in
2 operating a solar electrical production facility. This
3 argument begs the question of the adequacy of GMO's
4 experience and expertise. It also begs the question why
5 GMO feels it specifically needs hands-on experience
6 instead of agreeing to some other method for obtaining
7 the requisite knowledge.

8 A third Tartan factor is the economic
9 feasibility of the proposed project. Staff's position is
10 that this project is not economically feasible. It is
11 not the least-cost option, and it is not the right time
12 for the project for various reasons. GMO acknowledges
13 that this is not the least-cost option, but it is
14 hesitant to quantify what this means. Staff will
15 demonstrate that wind, which has a similar environmental
16 impact and similar reliability, is approximately five
17 times less costly than a fixed solar facility such as the
18 one proposed here.

19 Further, the timing of this project is not
20 ideal. If GMO builds the facility now, it will expend
21 unnecessary costs for a facility that will likely yield
22 fewer benefits than the same project would if built in
23 the future. Photovoltaic solar costs have significantly
24 declined over the past several years, and these costs are
25 expected to continue to decline. On top of that, solar

1 conversion efficiencies have improved and are expected to
2 continue to do so. This same plant, if built three years
3 from now, for example, would likely cost less money and
4 include more efficient solar technologies.

5 While building this project now would allow
6 GMO to take advantage of the Investment Tax Credit,
7 Congress recently extended the energy credit for solar
8 facilities, allowing the credit to continue at 30 percent
9 through tax year 2019. GMO has admitted that it does not
10 expect to use the tax credit until after 2021 due to
11 existing net operating loss carry forwards that must be
12 used first. This means GMO ratepayers will not receive
13 the benefit of the ITC until after 2021 at the earliest.
14 There is no rush to get this project built in time for
15 GMO to use the tax credit before it gets phased out.

16 Given the hefty cost of this project and its
17 poor timing, the project is not economically feasible at
18 this time.

19 The final Tartan criteria with which Staff
20 takes issue is whether the project promotes the public
21 interest. While Staff agrees that solar as a renewable
22 resource is beneficial and promotes the public interest,
23 Staff did not find this project to be in the public
24 interest. Some ratepayers may be willing to pay a
25 premium to promote renewable energy, but that does not

1 take the ratepayer impact out of the equation. In fact,
2 most advocates of renewable likely do place a dollar
3 value on that interest over which they would not be
4 willing to pay.

5 GMO's ratepayers are already paying a premium
6 for renewable energy, the Renewable Energy Standard Rate
7 Adjustment Mechanism Rider, RESRAM, that is designed to
8 collect over \$7.5 million annually and is approximately
9 an extra 1 percent added to each customer's bill. This
10 RESRAM will remain in place until the balance of over
11 \$50 million, primarily for solar rebates, is paid off,
12 which will likely require more than six years of RESRAM
13 payments.

14 So in the context of the recent continuation
15 of tax incentives, that the solar facility -- solar
16 efficiency is increasing while costs are decreasing, that
17 GMO does not need S-RECs until 2027, that the size and
18 scope of the project does not significantly reduce GMO's
19 capacity gap, that the project is far more costly than
20 the least-cost alternative, and that GMO's primary reason
21 for development at this time is for its own experience
22 and so they can seek recovery of project costs in its
23 next rate case, Staff did not agree that this project is
24 in the public interest. Staff considers the effect on
25 ratepayers to be an important factor in evaluating its

1 CCN application.

2 The Ag Processing case is relevant to this
3 matter. In that case the Missouri Supreme Court found
4 the opportunity to address an issue regarding recoupment
5 of an acquisition premium in a subsequent ratemaking case
6 did not relieve the PSC of the duty of deciding the issue
7 as relevant and critical when ruling on the proposed
8 merger in the case at hand. The Court went on to say
9 that the PSC should have considered the acquisition
10 premium as part of the cost analysis when evaluating
11 whether the proposed merger would be detrimental to the
12 public. This CCN is no different. The potential
13 deleterious impact to ratepayers is relevant and critical
14 and should absolutely be considered as part of the cost
15 analysis in this case. Therefore, the cost of this
16 project should be considered in determining whether it is
17 in the public interest.

18 Given all the considerations I have
19 addressed, GMO has not shown why this project is
20 necessary and convenient at this time. Staff cannot
21 agree that the project amounts to an improvement
22 justifying its cost. In addition to these
23 considerations, it is interesting to note that the
24 Company alone has control over the filing of its cases.
25 And the timing of this filing, in order for GMO to

1 recover the costs of this project in upcoming rate case,
2 should not be a factor that pushes the balance in favor
3 of the CCN.

4 Although Staff does not support the issuance
5 of a CCN in this case, Staff proposes six conditions that
6 should be imposed in the event the Commission does decide
7 to grant the CCN, and Claire Eubanks will discuss those
8 during her testimony today.

9 Additionally, Staff proposes three economic
10 alternatives that would help balance the project in favor
11 of the public interest if the Commission does decide to
12 grant the CCN. One of those economic alternatives is
13 this. GMO itself has admitted that the project is not
14 the least-cost option for this generation. If the
15 Commission chooses to issue a CCN in this case, Staff
16 recommends that the Commission place the cost burden on
17 the shareholders of GMO. If GMO were to seek recovery of
18 project costs in its next rate case, the Commission
19 should disallow the costs from being recovered at that
20 time.

21 A second economic alternative is, if the
22 Commission were to grant the CCN and decide to allow
23 recovery of costs from ratepayers in GMO's next rate
24 case, Staff recommends that the Commission allow recovery
25 of no more than the amount of the least-cost alternative

1 to provide the same service as this project. All costs
2 above the least-cost alternative would be borne by GMO's
3 shareholders.

4 Finally, a third economic alternative, and
5 this is not included in our position statement, is that
6 we would begin with that second alternative, wherein at
7 the next rate case GMO would be allowed to recover the
8 equivalent of the least-cost alternative from all
9 ratepayers. For the amount above the least-cost
10 alternative, the Commission would allow an opt-in for
11 interested customers to choose to help pay the additional
12 noneconomic portion of the cost of the project up to the
13 project's full cost.

14 In any instance Staff recommends that the
15 Commission make no finding or determination as to the
16 prudence or specific ratemaking treatment to be given
17 this project and its associated costs. These economic
18 alternatives would not be a new concept for the
19 Commission to consider.

20 In the Utilicorp case the Commission
21 evaluated an application for a CCN by Utilicorp United to
22 construct and operate a gas distribution system. In
23 evaluating the financial and economic feasibility for the
24 gas distribution project, the Commission stated, There is
25 little question that Utilicorp can suffer a complete loss

1 on this project without appreciable damage to its
2 Missouri operation or harm to its ratepayer. The
3 Commission went on to find that, The expansion into the
4 Salem area will be allowed, but solely at the risk of the
5 shareholders of Utilicorp. Should the proposed project
6 fail or for any reason prove to be economically
7 insufficient or unsound, the Commission will likely
8 assess project costs and operational losses against
9 Utilicorp and its shareholders.

10 The Commission granted the CCN in that case,
11 but required the Company to keep separate accounting
12 records for the Salem service area to be examined at the
13 time of the next general rate case. Moreover, the
14 Commission noted that it makes no finding or
15 determination as to the prudence or ratemaking treatment
16 to be given this project and its associated costs.

17 Whether or not a specific project has a
18 specific effect on a rate should be reserved for
19 determination during a rate case. However, any CCN that
20 approves the construction of a generation facility has an
21 impact on rates and ratepayers, so its costs should be
22 considered in determining whether the project is in the
23 public interest.

24 In this case Staff opposes a CCN for the
25 various reasons I have already indicated. However, if

1 the Commission chooses to issue a CCN in this case, Staff
2 urges it to consider one of its three economic
3 alternatives to help mitigate the issues raised today.

4 And I'll just note for all of the
5 Commissioners that Staff witnesses will testify as
6 follows. Dan Beck is our overview and policy witness.
7 He will address Staff's position in general and, more
8 specifically, the issues of need, GMO's qualification,
9 economic feasibility, public interest, and economic
10 alternatives to Staff's position.

11 Claire Eubanks is our engineering witness who
12 will address need, Renewable Energy Credits, public
13 interest, and conditions to be imposed if the CCN is
14 granted.

15 And, finally, Karen Lyons is our accounting
16 witness, and she will address the tax credit, financial
17 ability, economic impacts, and the public interest.

18 I welcome any questions. I will do my best
19 to answer.

20 JUDGE WOODRUFF: Mr. Chairman.

21 CHAIR HALL: Good morning, Ms. Mueth.

22 MS. MUETH: Good morning.

23 CHAIR HALL: Does Staff agree with the
24 utility that it would be appropriate for the Commission
25 to make a determination of decisional prudence should --

1 should it determine that a CCN should be granted?

2 MS. MUETH: So I believe what was discussed
3 earlier was -- by Mr. Fischer was that the Company wants
4 to know whether any of Staff's economic alternatives
5 would be imposed at this case, as opposed to finding out
6 at the rate case; is that what you're referring to?

7 CHAIR HALL: I'm not completely sure I
8 understand what decisional prudence is. So...

9 MS. MUETH: If that's what we're talking
10 about, I do agree that those issues -- if the CCN is
11 granted, the Commission should make a determination in
12 this case as to what the likely recovery would be. It
13 does not need to go into specific ratemaking
14 determinations, but should at least take those
15 considerations into account.

16 CHAIR HALL: So Staff takes the overall
17 approach -- and I don't know how to get this into the
18 legal parameters of what we are to do here. But Staff, I
19 take it from that, believes that we should -- the
20 Commission, if it were to grant the CCN, should give some
21 indication as to its view on ratemaking treatment?

22 MS. MUETH: Yes.

23 CHAIR HALL: Okay. Does -- does Staff take
24 the position that, in order for a particular expenditure
25 to be prudent, it has to be the least-cost option?

1 MS. MUETH: I don't believe so. I think
2 prudent -- the prudence that would be reviewed in a rate
3 case is different than what we are examining in this
4 case. So if this project -- if the Company was granted a
5 CCN to build this project, at the rate case the prudence
6 that would be reviewed would be whether the solar panels
7 that were purchased were a prudent decision, not whether
8 the project as a whole was a prudent decision. Does that
9 make sense?

10 CHAIR HALL: Well, I'm not sure I agree with
11 that, but keep going.

12 MS. MUETH: Okay. So -- I don't remember
13 what the exact question was. But I know --

14 CHAIR HALL: Let me frame it this way: If
15 the Company had an option of a particular expenditure,
16 whether it's generation, whether it's -- it's
17 transmission, whether it's any of the long laundry list
18 of expenditures, does Staff take the position that in
19 order for that expenditure to be a prudent expenditure,
20 it has to be the least-cost option?

21 MS. MUETH: I don't believe so. I think that
22 there are -- that is one of the factors that is
23 considered in determining the prudence of the
24 expenditure, but there are other factors that could weigh
25 in on that.

1 CHAIR HALL: And so -- and so like in this
2 case, there are some parties, including the utility, that
3 believe that some of those other factors that should
4 weigh in are the information and experience that could be
5 gained from operating a facility such as this.

6 MS. MUETH: Correct.

7 CHAIR HALL: And Staff discounts that.

8 MS. MUETH: We have Staff witnesses that will
9 testify, and we will ask some questions of Company
10 witnesses as well --

11 CHAIR HALL: Okay. Well, I want to make sure
12 I understood Staff's position, that -- and I'm -- and I'm
13 glad to hear that Staff is not taking the position that,
14 in order for an expenditure to be prudent, it has to be
15 least cost, because I think that would be a very
16 significant deviation from a -- from a hundred years of
17 ratemaking where we -- where we made it very clear that
18 we don't micromanage the utility and that there's some
19 leeway in prudence.

20 Let me turn to another issue.

21 MS. MUETH: Sure.

22 CHAIR HALL: Staff signed off on the
23 nonunanimous stipulation and agreement concerning the CCN
24 for Ameren's O'Fallon facility.

25 MS. MUETH: Yes, I believe that's correct.

1 CHAIR HALL: What is the difference? And --
2 and I understand that Mr. Beck may be the individual to
3 ask.

4 MS. MUETH: He definitely will have a lot
5 more information to offer than I can. I can tell you
6 that what I do know about that case that is different
7 from this case is that Ameren was in need of RECs, S-RECs
8 potentially specifically. But I know they were in need
9 of RECs to meet the RES requirement, where in this case
10 GMO does not have that same need.

11 I believe the circumstances were slightly
12 different as well -- and, again, Dan Beck would probably
13 be able to correct me if I'm wrong on this, but I -- I
14 feel like I recall hearing that that was the first or at
15 least one of the first instances of a utility-scale solar
16 facility in Missouri. So there were not other solar
17 facilities in Missouri that Ameren could look to for
18 examples of how that would impact their system. Now,
19 that said, I defer to my witness, Dan Beck, because I may
20 be misspeaking on that.

21 CHAIR HALL: And then just my last line of
22 inquiry. You -- Staff takes the position, and I believe
23 OPC does as well, that the costs for construction for
24 utility-scale solar are going down and will continue to
25 go down into the foreseeable future, so it would be

1 better for ratepayers if GMO were to wait one, two,
2 whatever number of years, until those costs go down.

3 MS. MUETH: Yes.

4 CHAIR HALL: The problem with that argument,
5 from my perspective, is if it -- if those costs are going
6 to continue to go down, couldn't Staff take that same
7 position two years from now?

8 MS. MUETH: I see where you're going with
9 that. I think -- yes, theoretically Staff could take
10 that position. I think you will hear today from Staff's
11 witnesses additional reasons why the timing is not right
12 and why the cost is prohibitively expensive at this time,
13 and hopefully that will help answer that for you.

14 CHAIR HALL: Thank you.

15 JUDGE WOODRUFF: Commissioner Rupp?

16 COMMISSIONER RUPP: No.

17 JUDGE WOODRUFF: Commissioner Coleman?

18 COMMISSIONER COLEMAN: No. Thank you.

19 JUDGE WOODRUFF: Thank you.

20 MS. MUETH: Thank you.

21 JUDGE WOODRUFF: Opening for Public Counsel.

22 CHAIR HALL: Do you have additional copies of
23 this for other commissioners?

24 MR. KRETZER: I don't. That was the only
25 copy I brought with me.

1 CHAIR HALL: Okay.

2 MR. KRETZER: We can have copies prepared.

3 May it please the Commission. Good morning,
4 my name is Steven Kretzer. And I, along with Tim Opitz,
5 have the privilege of representing the public interest as
6 part of Public -- Office of Public Counsel in today's
7 case.

8 In my opening statement today I intend to
9 first discuss and clarify Public Counsel's position on
10 utility-scale solar energy generation. The second point,
11 I'll point out areas where GMO will be unable to prove
12 their petition meets the Tartan criteria. And finally
13 today I'll talk about why the Commission should deny
14 GMO's application, and finish with some parting thoughts
15 to ponder as you hear this case today.

16 Before I get into those points, I would point
17 out that, before the Commission may grant a CCN, the law,
18 pursuant to Section 393.170, requires that the Commission
19 find it is necessary or convenient for the public
20 service. The Commission traditionally has applied
21 certain criteria, called the Tartan factors, to aid in
22 making that determination.

23 The evidence in this case will not show that
24 Tar-- that GMO has met all the Tartan factors, not -- nor
25 will the evidence show that there is a compelling

1 environmental reason that this project is in the public
2 interest.

3 The project is not in the public interest.
4 It is, however, in the Company's interest. By attempting
5 to build this project now, when all considerations
6 indicate that the project should not be built, at least
7 not yet, the Company's application is nothing more than
8 an attempt to increase its rate base by millions of
9 dollars so that it can attempt to recover more money in
10 its upcoming rate case.

11 First, I would like to seize this opportunity
12 to clarify Public Counsel's stance on utility-scale solar
13 generated electricity and point out several things with
14 regard to that. The public agrees that pursuing solar
15 energy as a renewable source is a good thing. It is
16 safe. It is a clean alternative specifically to
17 coal-generated electricity. Currently, however, the
18 public market for utility-scale generation is a rapidly
19 evolving one, and it is still young.

20 You will hear some testimony on this fact in
21 today's case, but we all know that technology changes
22 rapidly in today's day and age. Our own personal
23 experience tells us this. Think about examples provided
24 by companies such as Tesla or Apple or changes we've seen
25 in the Internet just in the recent years. We've seen how

1 technology innovation will have an impact on the market
2 with regard to this process.

3 In its current state, utility-scale solar
4 generation is still expensive, and especially when
5 compared to alternatives such as wind and coal. And
6 while solar is on its way to parity with coal prices, it
7 is not there yet and will not be there in the time period
8 that is relevant to this case before the Commission.

9 Again, we all agree that utility-scale solar
10 generation has the possibility to be an important
11 renewable source in the future. And that's really the
12 kind of -- the crux that drives the opposition in this
13 case.

14 Let's talk about the burden of proof in this
15 case for just a minute. First, as the petitioner, GMO
16 bears the burden of proof in today's case. That means
17 they must present a prima facie case in chief with their
18 direct testimony. If they don't present a case that on
19 its face during direct proving it's met its burden, the
20 Commission could deny it at that point. So it is
21 important for the Commission to listen for all the things
22 that GMO does not present in support of the elements
23 needed in order for the Commission to grant the CCN.

24 As with other CCN cases, the Commission will
25 employ a preponderance of the evidence standard in

1 weighing this case. Fortunately, the groundwork for what
2 factors the Commission should use in deciding this case
3 has been laid and applied in previous CCN cases before
4 the Commission. As I mentioned earlier, Section 393.170
5 guides the Commission in analyzing CCN cases, and the
6 Commission has adopted criteria in order to weigh whether
7 the statutory requirements of a CCN are met. And we've
8 talked -- you've heard from other parties specifically
9 about that case.

10 Specifically, the Commission outlined these
11 factors in *In Re Tartan*. There are five factors stemming
12 from that case, and it is important to note
13 that traditionally -- traditionally failure to show one
14 of these factors has resulted in denial of CCNs. The
15 Commission will see in this case today that GMO, however,
16 fails to meet several of these factors. As such, GMO
17 will be unable to meet its burden, and at the conclusion
18 of the case the Commission should deny GMO's proposed
19 CCN.

20 I want to take two moments and break down
21 some of these factors that are presented by Tartan. The
22 first Tartan factor is whether or not there's a need for
23 the plant. In looking at this factor, we must first
24 discuss the fact that the customers do not need. GMO
25 will not present any evidence today demonstrating the

1 need for additional electricity generation by its
2 customers. Staff witnesses will talk about that, as
3 Ms. Mueth has already brought to the Commission's
4 attention. And nor will anything be presented that
5 indicates that customers are even demanding that GMO put
6 such a plant into service at this point.

7 GMO witnesses will agree that there's no
8 mandate by state or federal government for GMO to build a
9 3-megawatt solar energy generating facility. And,
10 additionally, GMO and Public Counsel witnesses will tell
11 you that tax credits for solar generation implementation
12 projects have been extended at this point.

13 The Commission has already heard several
14 points made about the Ameren case that was previously
15 approved. And one of the driving factors in the approval
16 in that case, I would point out to the Commission, was
17 the issue of the tax credits. It was expected at the
18 time that those tax credits would expire and not be
19 available. We know now here today that those tax credits
20 have been extended and will remain available to GMO for
21 quite a while.

22 GMO is very well situated with its current
23 S-RECs. You've already heard some observations on this
24 point. You'll hear evidence in today's case that they're
25 so well positioned with regard to S-RECs that they will

1 carry them into the next decade, if not even further.

2 Now, GMO claims that the need for this plant
3 extends from its need for hands-on experience. The claim
4 for hands-on experience only benefits GMO, not the
5 public. The CCN statute requires findings that the
6 project is necessary and convenient for the public
7 benefit, not for the benefit of the utility.

8 Let's talk about the qualifications. Again,
9 the burden of proof is on GMO. As the petitioner in this
10 case, they will have to show you that they have the
11 qualifications. Again, GMO will say on one hand that it
12 has the qualifications necessary to construct, operate,
13 and maintain a utility-scale solar generation facility;
14 but on the other hand it says that it needs the facility
15 in order to gain experience in this type of project. The
16 two positions are mutually exclusive. And the onus is on
17 GMO to show the Commission that it is qualified to
18 construct, operate, and maintain this facility. GMO
19 witnesses will tell you that they have contracted with
20 other entities to come in and essentially hold their
21 hands through this process of constructing, operating,
22 and maintaining the plant.

23 The Commission should remember throughout
24 this case that GMO doesn't even physically have employees
25 and that the hands-on experience that they're talking

1 about will go to KCP&L employees. However, it's the GMO
2 ratepayers that will be the ones to pay for this project,
3 while GMO reaps all the financial benefits of having a
4 higher plant base in its subsequent rate case.

5 GMO is not required to have its own plant to
6 gain the type of experience it claims it needs.

7 Remember, first of all, there are no GMO employees. And,
8 second, GMO witnesses will tell you about the other ways
9 that they could gain experience necessary without having
10 its own plant to work.

11 Ultimately, the Commission must decide --
12 will need to decide whether the facts established by GMO
13 in its case in chief established the fact that GMO is
14 qualified to construct, operate, and maintain this
15 facility. In doing so, the Commission will find that the
16 Company's application is nothing more than an attempt to
17 increase its rate base by millions of dollars so that it
18 can attempt to recover more money in its upcoming rate
19 case.

20 We now turn to the Tartan -- the third Tartan
21 factor. And, again, with regard to this factor, GMO
22 again bears the burden of showing to the Commission that
23 they meet this factor. It is ultimately GMO ratepayers
24 that will be expected to pay for the hands-on experience
25 created for KCP&L employees should the CCN be granted.

1 GMO will need to clearly establish its financial ability
2 in its case in chief with its witnesses, and its failure
3 to do so will cause the Commission to find that the
4 GMO -- that GMO fails to meet this Tartan criteria.

5 Let's talk about economic feasibility. When
6 we turn to this factor, it's important to note that this
7 factor exposes a major hole and flaw in GMO's proposal.
8 GMO's own witnesses will testify that -- and you heard
9 from other counsel up to this point that this project is
10 not the least-cost generating plant that it could have
11 pursued in order to diversify its renewable energy
12 portfolio. Just because it's not the least-cost
13 alternative doesn't mean it does not meet its economic
14 feasibility. But that's where the analysis starts in
15 this case.

16 Utility solar prices and costs are continuing
17 to decline. This is a significant fact when weighing
18 whether or not pursuing the project at this time is
19 economically feasible. For example, wind is one optional
20 renewable source that could be utilized cheaper and more
21 efficiently by GMO currently as opposed to solar. GMO
22 doesn't need it, but it is there and a much more
23 economically-feasible alternative.

24 You'll hear testimony in this case today
25 about how wind generation is seeing record numbers and

1 could, in fact, be used to displace CO2-generating plants
2 better than solar generation at this point. Wind as an
3 alternative, however, is not even mentioned by GMO in its
4 application. The failure to prove this factor with
5 regard to economic feasibility alone would be enough for
6 the Commission to deny -- deny GMO's application, as the
7 only clear economic benefit in this case would be to
8 increase revenues for GMO. And that results in an
9 additional burden on GMO ratepayers with higher rates.
10 That's not economically feasible.

11 Finally we turn to the fifth Tartan factor,
12 as to whether or not this project is in the public
13 interest. This factor is somewhat unique in that it
14 weighs previous factors in its analysis. In other words,
15 it's informed by the other four factors when weighing
16 this matter and whether or not it's in the public
17 interest. As we've discussed, should GMO be unable to
18 prove to the Commission by a preponderance of the
19 evidence the other four factors, this will not indicate
20 that the public interest is enhanced by approval of the
21 CCN.

22 The Commission, in considering the public
23 interest, could also weigh other factors into this Tartan
24 factor. One such area would be the environmental issues
25 at stake here. The evidence will not show that this

1 proposed plant will displace any other nonrenewable
2 sources of energy for GMO, such as coal energy
3 production. The lack of a positive environmental impact
4 weighs against this plan in being in the public interest.

5 Aside from that, customers have already
6 invested in solar up to this point. As you heard from
7 Counsel from Staff, \$50 million in rebates up to this
8 point. When weighing these and other issues presented by
9 (sic) the hearing, the Commission must conclude that this
10 project is not in the public interest. To sum it up,
11 it's simply not the right time for the Commission to
12 grant a CCN in this case.

13 Throughout this case you'll hear some of the
14 following facts that support denial of GMO's CCN in this
15 case: The fact that the price of utility-scale solar
16 generation will decline further in the coming years and
17 that these costs have not leveled off yet, nor will they
18 level off in the foreseeable future; technology continues
19 to evolve in this process; and another benefit that will
20 be realized is clarity from the Clean Power Plan. As the
21 Commission is most likely aware, the Supreme Court just
22 ruled a couple days ago, in effect, suspending the
23 effects of Clean Power Plan at this point, and it's
24 future is very uncertain. So delaying this project will
25 provide the benefit of getting clarity for what

1 ultimately happens with the Clean Power Plan and its
2 impact on companies like GMO.

3 This is not the right time for GMO to pursue
4 the project, and it will not serve the public. GMO could
5 do the same thing, if not better, with wind alternatives.
6 But GMO does not need the additional generation at this
7 time.

8 GMO could have focused on additional
9 environmental considerations and proposed removing or
10 retiring 3 megawatts of production from other
11 nonrenewable sources, but it does not with its proposal.
12 The purpose of the application is clear: GMO wants to
13 build up its plant in service and be able to claim larger
14 amounts from its ratepayers in its forthcoming rate case.

15 The Commission should deny GMO's application
16 in this case.

17 And I welcome any questions.

18 JUDGE WOODRUFF: Mr. Chairman?

19 CHAIR HALL: Good morning, Mr. Kretzer.

20 MR. KRETZER: Good morning, sir.

21 CHAIR HALL: If the cost of the facility were
22 50 percent of the projected cost, would OPC still take
23 the position that it's not in the public interest?

24 MR. KRETZER: At this time I think that's
25 appropriate, because especially when you take into

1 consideration the fact that those prices are going to be
2 declining. So if you're saying it's 50 percent now, a
3 year from now it may be a quarter of that. And to put
4 that impact on ratepayers is not fair.

5 CHAIR HALL: So even if it was at the same
6 price of constructing a wind facility, OPC would take the
7 position that it's not in the public interest?

8 MR. KRETZER: At that point you would have to
9 reconsider -- we'd certainly have to reconsider and look
10 at the impact on the ratepayers.

11 CHAIR HALL: So it almost seems like OPC is
12 100 percent focused on cost.

13 MR. KRETZER: I think that's incorrect.
14 That's where you start the analysis, and that's where
15 you -- you look at, first of all, whether or not it's
16 going to meet the economic feasibility standard. You
17 look at those costs. And then you look at what those
18 costs -- what the impact of those costs will have,
19 especially in this case the cost on GMO ratepayers, who
20 really aren't the ones who are seeing any proposed
21 benefit on this -- from this facility.

22 CHAIR HALL: Okay. Thank you.

23 JUDGE WOODRUFF: Commissioner Rupp?

24 COMMISSIONER RUPP: No.

25 JUDGE WOODRUFF: Commissioner Coleman?

1 COMMISSIONER COLEMAN: No.

2 JUDGE WOODRUFF: All right. Thank you.

3 MR. KRETZER: Thank you.

4 JUDGE WOODRUFF: That concludes the opening
5 statements.

6 We'll take a break and come back at 10:15.

7 (Off the record.)

8 JUDGE WOODRUFF: All right. We're back from
9 break. Let's come to order, please. We completed
10 opening statements before we took our break, and we're
11 now ready to take our first witness, which would be for
12 GMO.

13 MR. STEINER: Thank you, Judge. The Company
14 calls Emeka Anyanwu to the stand.

15 JUDGE WOODRUFF: Please raise your right
16 hand. I'll swear you in.

17 EMEKA ANYANWU,
18 after having been first duly sworn, was
19 examined and testified on his oath as follows:

20 JUDGE WOODRUFF: You may proceed.

21 DIRECT EXAMINATION BY MR. STEINER:

22 **Q. Please state your name and business address.**

23 A. My name is Emeka Anyanwu. Spelled E-M-E-K-A.
24 A-N-Y-A-N-W-U. Business address of 1200 Main Street,
25 Kansas City, Missouri.

1 **Q. By whom are you employed and in what**
2 **capacit y?**

3 A. I work for Kansas Ci ty Power & Li ght Company
4 as the di rector of asset management, pl anni ng and desi gn.

5 **Q. And on whose behalf are you testi fying today?**

6 A. I am testi fying on behal f of Kansas Ci ty
7 Power & Li ght Company Greater Mi ssouri Operations, or
8 GMO.

9 **Q. What are your responsibilities in your**
10 **current j ob?**

11 A. I'm responsi ble for three -- primari ly three
12 groups that perform short, medi um, and long-term pl anni ng
13 for our system in our faci lities.

14 **Q. And could you give us your educational**
15 **background?**

16 A. Sure. I was -- I got my engi neeri ng degree
17 in electri cal engi neeri ng from Iowa State Uni versi ty, and
18 I also have a master' s in busi ness admi ni stration from
19 Rockhurst Uni versi ty.

20 **Q. And could you descri be your engi neeri ng**
21 **experi ence?**

22 A. Yes. I have 13-plus years of experi ence wi th
23 Kansas Ci ty Power & Li ght Company. I started out as a
24 di stri buti on engi neer, di stri buti on pl anni ng and
25 engi neeri ng di stri buti on projects. I then moved on to a

1 position as supervisor of field design, where I
2 supervised some individuals who were performing detailed
3 design for our system. From there I moved on to a
4 position as a field construction supervisor, supervising
5 line crews in the field.

6 My next position was as manager of resource
7 planning where I was responsible for the group that did
8 most of our work planning, and I managed our job -- job
9 orders. And then from that position I moved to my
10 current position.

11 **Q. Do you have experience in the design of**
12 **distribution systems?**

13 A. Yes, I do.

14 **Q. Mr. Anyanwu, what is the purpose of your**
15 **testimony today?**

16 A. The purpose of my testimony today is to
17 explain from an engineering perspective why we think that
18 the proposed facility near Greenwood, Missouri is
19 something that the Commission should approve for GMO to
20 do.

21 **Q. Would you briefly describe the project at**
22 **Greenwood?**

23 A. Yes. As I understand it, the project at
24 Greenwood is a 3-megawatt solar generating facility which
25 will be interconnected on the distribution side.

1 **Q. So what does interconnected at the**
2 **distribution side mean?**

3 A. In this particular case it means that this
4 facility will be directly connected to a distribution
5 circuit at 12 kilovolts.

6 **Q. So does that mean it will only serve**
7 **customers connected at this circuit?**

8 A. Primarily, yes.

9 **Q. And how many customers would that be,**
10 **approximately?**

11 A. I believe the capacity of the facility is
12 expected to serve approximately about 440 customers.
13 There are typically more than that on a -- on a normal
14 distribution circuit.

15 **Q. Is the interconnection that you just**
16 **described, is that different than the interconnection at**
17 **a wind farm such as Spearville, the one in Spearville?**

18 A. Yes. As I understand it, the Spearville
19 facility is interconnected on the transmission side,
20 which is sort of a different system. It has different --
21 different characteristics.

22 **Q. And how else would the proposed Greenwood**
23 **project be different than a wind farm project?**

24 A. Well, certainly in the case of Spearville,
25 it's a smaller facility. But also wind energy and solar

1 energy are two different kinds of energy. They have
2 different -- different profiles and different
3 characteristics.

4 **Q. So what's the nature of those -- of those**
5 **different profiles?**

6 A. Well, for one thing, wind energy is generated
7 by using wind power, generated by using wind energy to
8 turn turbines, which is sort of a mechanical operation
9 versus solar, which is more of a radiance of -- or sun
10 exposure property.

11 **Q. Has the Company ever designed an**
12 **interconnection facility for a utility-scale solar**
13 **station?**

14 A. Nothing like this, no.

15 **Q. Is it typical for the Company to try out a**
16 **new situation, a new technology such as a solar**
17 **interconnection that the Company does not have experience**
18 **with?**

19 A. Certainly. Pilot projects are part of doing
20 engineering on distribution systems on utility systems.
21 We pilot various different kinds of technology,
22 reclosures, switch gear, even, you know, some of the
23 stuff, for example, like we did in the Smart Grid example
24 that was mentioned earlier.

25 **Q. So what was the new technology that was**

1 **piloted in the Smart Grid?**

2 A. One good example would be the battery, a
3 large-scale battery that we installed in Kansas City,
4 Missouri, which we used to evaluate the characteristics
5 and how something like that -- how an asset like that
6 would fit into our system.

7 **Q. And what was the findings that the Company**
8 **determined from that battery pilot?**

9 A. I wasn't directly responsible for that pilot;
10 but as I understand it, the final -- final decision was
11 that this was probably not a technology that we would --
12 that we would be able to use in a widespread fashion.

13 **Q. Do you know the approximate cost of that**
14 **battery project?**

15 A. Yes. I believe the project itself cost
16 about -- the battery itself cost about \$7 million to
17 install, of which I believe Kansas City Power & Light was
18 responsible for a portion, about 4 million maybe.

19 **Q. Are you aware of other utilities trying out**
20 **now technologies in a controlled setting?**

21 A. Yes. Again, you know, much like us,
22 utilities do that kind of thing all the time. There are
23 a number of our peer utilities that we are aware of that
24 have tried out different kinds of technologies, including
25 things like utility-scale solar.

1 **Q. So is there an example in Missouri of**
2 **utility-scale solar?**

3 A. Yeah, we're aware of the Ameren example, of
4 course, that has been talked about this morning near
5 O'Fallon and some of the characteristics of that.

6 **Q. Are the characteristics of the Ameren**
7 **facility different than the proposed Greenwood facility?**

8 A. Yes. I mean, certainly it obviously is
9 installed and owned by a different utility with their own
10 different -- their own particular operating standards and
11 approaches. As I understand it, it's also interconnected
12 on a 34 kV system, which is slightly different from ours.

13 **Q. What's the interconnection system that the**
14 **proposed Greenwood facility would be interconnected on?**

15 A. Ours would be interconnected on 12 kV
16 circuit.

17 **Q. From an engineering perspective, why do you**
18 **believe the Commission should approve this application?**

19 A. Well, from an engineering perspective, my
20 belief certainly is in line with the Company's position.
21 We think it is useful for the Company to get better
22 hands-on learning about how to design and install a
23 facility like this. We certainly believe that it will be
24 useful to know what advantages there are, if any, of
25 locating a facility like this next to an existing

1 facility, and our ability to train and otherwise equip
2 the personnel of that existing facility to -- to manage a
3 facility like the one proposed at Greenwood, and perform
4 any maintenance necessary.

5 Certainly from my perspective as a
6 distribution engineer, we're interested in evaluating the
7 grid impacts of a facility like this in terms of not only
8 how it will impact the grid from a system performance
9 perspective, but also our ability to leverage some of the
10 positive impacts that a facility like this could bring to
11 the table. And just in general, you know, an ability for
12 us to evaluate the costs and maintenance profile of a
13 utility-scale solar facility.

14 **Q. What is the Company expected to learn from**
15 **this project?**

16 A. We're certainly interested in knowing about
17 some of the -- some of the ideas that are out there in
18 the industry and in the community about what
19 utility-scale solar really brings to the table from a
20 distribution perspective. There are proposals and ideas
21 around the ability to use utility-scale solar facilities
22 to displace or defer infrastructure investments on the
23 system. There are some interesting ideas out there about
24 potential reactive power support to maintain voltage on
25 the system. And certainly there are -- there are --

1 there is interest in the ideas around the specific
2 impacts of a solar facility as it relates to system
3 stability and system performance.

4 **Q. Now, does KCPL have some solar**
5 **installations -- excuse me, does GMO or KCPL have solar**
6 **installations today?**

7 A. Yes. Kansas City Power & Light has a couple
8 of facilities like the one that's installed at Paseo
9 School, Kansas City, Missouri. And there's, of course,
10 one that was well-publicized at Kauffman Stadium.

11 **Q. And what is the difference between the**
12 **Greenwood facility and those two facilities you**
13 **mentioned?**

14 A. Well, both of those are significantly
15 smaller. And so, you know, both of them are also
16 connected on the secondary side. And so primarily they
17 directly service the customer at that location.

18 **Q. So what is interconnected at the secondary**
19 **side? What does that mean?**

20 A. It just means, again, that the facility's
21 connected on the load side of a distribution transformer,
22 and typically that means most of the energy from that
23 facility is used by the customer at that location, as
24 opposed to this one, which would be connected on the
25 primary side, or the source side, of distribution

1 transformers.

2 **Q. The Company's position statement lists a**
3 **number of things the Company hopes to learn from the**
4 **project. Would you elaborate on them?**

5 A. I can elaborate to a certain degree, I think.
6 Again, you know, the Company talks about wanting to learn
7 about the impacts of a utility-scale solar facility on
8 our distribution system. We're certainly interested,
9 again, in seeing what impacts the nature of a facility
10 like this might have on voltage and system stability and
11 generally the impacts that it would have on how we plan
12 our distribution systems for the future.

13 **Q. Is the Company anticipating learning about**
14 **any maintenance issues of this solar facility?**

15 A. Yes, certainly. We're interested in knowing
16 really, again, what that maintenance profile might look
17 like, what kind of needs it might have, what kind of
18 materials might be necessary, and what -- what might be
19 necessary to maintain those facilities.

20 **Q. Would you elaborate on how the project would**
21 **provide firsthand knowledge around the design and**
22 **construction of facilities, particularly as it relates to**
23 **voltage issues?**

24 A. Yes. So, you know, we are interested in
25 knowing about what impact the intermittent nature of

1 solar generation might have on our distribution system.
2 And that intermittent nature means that there are
3 voltage -- voltage anomalies that could be introduced
4 onto the system by that facility that need to be managed
5 and mitigated, as necessary. And certainly learning
6 about that firsthand is something that we're interested
7 in doing. You know, we have ideas from the rest of the
8 industry and really around the world, but at the end of
9 the day there really is no substitute for us doing our
10 own engineering and monitoring a facility like this
11 firsthand.

12 **Q. So you indicated that other utilities have**
13 **projects such as what's proposed at Greenwood; is that**
14 **correct?**

15 A. That is correct.

16 **Q. And have you looked at those facilities?**

17 A. Yeah, certainly. We have -- we have
18 consulted various industry materials and some of the
19 information that's out there. We've talked to some of
20 our peers at other utilities to try to understand some of
21 their thoughts and some of their experiences thus far.
22 And, you know, as -- in terms of doing our due diligence
23 in planning and designing this facility, we've undertaken
24 a lot of those conversations as part of that effort.

25 **Q. Have you discovered any differences with --**

1 **like you mentioned other facilities in other parts of the**
2 **country -- with what the Greenwood facility is?**

3 A. Well, yes. We've certainly discovered that
4 there are -- there are differences in terms of what the
5 outputs are in places like California or Hawaii, Arizona,
6 you know, some of the places where this kind of facility
7 has been built. And certainly those places have
8 different climate and different weather conditions
9 obviously, different sun exposure characteristics.

10 We've even looked at some of the
11 intercondition (phonetic) materials about some of the
12 learnings from the integration of facilities in Europe,
13 in Germany. That's a pretty well documented case where
14 integration of solar facilities wasn't necessarily
15 contemplated in advance as it should have been. And
16 that's certainly a learning for us, that integration of
17 solar facilities is something that we need to plan for in
18 advance of its adoption.

19 **Q. Will this project help determine whether**
20 **existing KCPL or GMO employees with natural gas plants**
21 **can be trained to operate solar facilities?**

22 A. I would expect so. I would expect that in
23 operating -- owning and operating this facility, we will
24 attempt to use our existing employees to do that, and we
25 will learn along the way how best to do that, how -- how

1 to do that most efficiently and safely.

2 **Q. Is the -- you mentioned earlier that wind was**
3 **connected at the transmission level, and the proposed**
4 **Greenwood facility would be interconnected at the**
5 **distribution grid level. Did I --**

6 A. That's correct.

7 **Q. -- get that right?**

8 A. That's correct.

9 **Q. So what are the differences between those two**
10 **types of grids?**

11 A. Well, simply put, the transmission grid is --
12 is a much more interconnected system and has
13 significantly more complexity. It operates at a higher
14 voltage. The distribution side is -- especially in our
15 case, is typically more of a source-to-load radial
16 design. And so -- it's also operated at lower voltage as
17 well.

18 **Q. Will this project help us -- help the Company**
19 **determine the real costs and maintenance and value of a**
20 **utility-scale solar facility?**

21 A. I expect so. I expect that we will -- we
22 will learn a lot of things about that along the way.

23 **Q. Are there things to be learned, from your**
24 **perspective, as a distribution engineer regarding the**
25 **cost of maintenance and maintenance activities with**

1 **the -- with the grid?**

2 A. I think so. I think, you know, we're already
3 learning some of those things even in the design of this.
4 I think we're learning about some of the interconnection
5 equipment that will be necessary, some of the protection
6 settings in equipment that might be necessary to
7 interconnect this facility. And we will certainly learn
8 as we go about how we can use our existing distribution
9 operations employees, field employees for maintenance of
10 some of the materials that would be installed, as well as
11 generally familiarize those personnel with this different
12 kind of energy source.

13 **Q. Again, from your perspective as an engineer,**
14 **are there things that could be learned from this project**
15 **related to the reliability and system resiliency impacts?**

16 A. I think so. I think we will learn exactly
17 what the values are of a facility like this to the grid
18 in terms of both of those issues.

19 **Q. Does the Company need to learn about the --**
20 **how solar energy production occurs under different**
21 **weather conditions?**

22 A. Yes. I think that our weather conditions,
23 again, like I mentioned earlier, are different than some
24 of the places that we've talk to -- talked to. I think
25 that on our system, again, the specific weather patterns

1 in our area will -- will have certain characteristics on
2 our particular system.

3 **Q. Will you have any opportunity to study**
4 **community solar facilities as a result of building this**
5 **Greenwood plant?**

6 A. I think so. I mean, to my knowledge, really
7 community solar, from a technical perspective,
8 connectivity perspective, would look an awful lot like
9 what is proposed at Greenwood. So learning about this
10 would allow us to prepare for a future where, you know,
11 members of the community can undertake this kind of
12 effort independently.

13 **Q. Could the project help determine whether**
14 **there are benefits to diversification of the Company's**
15 **generation fleet?**

16 A. I'm sure it can. I'm sure it will -- it will
17 teach us a lot about what we can gain from diversifying
18 our fleet.

19 **Q. From an engineering perspective, is there a**
20 **need for a utility-size solar facility at GM0?**

21 A. I think so. I think that we are in a
22 position where the -- the adoption of facilities like
23 this is in our -- in our horizons in the foreseeable
24 future. And so I think it's -- it's the right thing to
25 do. I think it's the smart thing to do for us to prepare

1 ourselves for that eventuality.

2 **Q. From -- also from an engineering perspective,**
3 **is GMO qualified to provide the service that will be**
4 **undertaken at the Greenwood solar facility?**

5 A. Yes. On the basis of -- of the generating
6 facilities and other facilities that we have and our
7 knowledge and experience operating some of those
8 facilities, I believe that we do have the experience
9 necessary to design and operate -- to design, construct,
10 and operate a facility like this.

11 **Q. From an engineering perspective, does the**
12 **proposed solar facility promote the public interest?**

13 A. Yes, I believe it does.

14 **Q. How so?**

15 A. Because, again, the quality of service that
16 we expect and our customers have come to expect requires
17 that we understand how best to design -- to plan, design,
18 and operate our system so that they see the quality of
19 power and the reliability that they expect and deserve.

20 **Q. Well, from that perspective, does it make**
21 **sense to wait a few years to build a solar station?**

22 A. I wouldn't say so, simply because of where we
23 see the industry going. I think that trying to learn
24 about how to integrate a facility like this during a
25 potential period of mass adoption is significantly more

1 difficult to do and certainly creates a greater exposure
2 of our customers to some of the negative -- potential
3 negative impacts.

4 **Q. What are those potential negative impacts?**

5 A. Like I said, again, some of the voltage
6 instability and some of the things that -- some of the
7 disturbances that could be introduced on the system; and
8 just in general, you know, understanding how a
9 distributed source like -- like this on a distribution
10 system would impact our planning and -- system planning,
11 contingency planning, things like that.

12 MR. STEINER: Thank you. I have no further
13 questions.

14 THE WITNESS: Thank you.

15 JUDGE WOODRUFF: All right. We'll move to
16 cross-examination then, beginning with Division of
17 Energy.

18 CROSS-EXAMINATION BY MR. ANTAL:

19 **Q. Hello, sir.**

20 A. Good morning.

21 **Q. Good morning. Just a few questions. Is GMO**
22 **experiencing any load growth?**

23 A. To my knowledge, we are experiencing some in
24 pockets. It's not necessarily as high as it's been in
25 the past, but there is some.

1 **Q. Okay. Can GMO reduce the utilization of**
2 **other carbon-emitting resources as a result of operating**
3 **this facility?**

4 A. I would expect so. I mean, this kind of
5 facility is power that would essentially be used upon
6 generation. So to the extent this power is generated and
7 used, that's power that we wouldn't necessarily have to
8 generate somewhere else.

9 **Q. Okay. Absent new resources such as this**
10 **project or demand-side programs, could GMO reduce its use**
11 **of current generation assets?**

12 A. I wouldn't think so. I mean, you know, the
13 supply has to come from somewhere. So ultimately we have
14 to figure out a way to meet the needs of our customers,
15 and we believe that a facility like the one proposed at
16 Greenwood is part of that future.

17 MR. ANTAL: Okay. No further questions.
18 Thank you.

19 THE WITNESS: Thank you.

20 JUDGE WOODRUFF: Renew Missouri and
21 Brightergy are absent.

22 UFM?

23 MR. LINTON: I do have some questions, Your
24 Honor.

25 CROSS-EXAMINATION BY MR. LINTON:

1 **Q. Good morning.**

2 A. Good morning.

3 **Q. My name is David Linton. I represent United**
4 **for Missouri. During your direct testimony you**
5 **referenced a battery, a \$7 million battery?**

6 A. That's correct.

7 **Q. Could you describe that a little bit more?**

8 A. Yeah, it's just a -- it's a large battery.
9 It looks sort of very similar to a trailer on a -- on a
10 truck. But it was a large battery that was installed by
11 one of our substations to basically interconnect to the
12 system and provide energy.

13 **Q. Where -- where is it located?**

14 A. It was located in Midtown, Kansas City, over
15 by the Country Club Plaza area.

16 **Q. Is that the green, KC --**

17 A. In the green zone, yeah.

18 **Q. Green zone. Okay. Can you describe some of**
19 **the cost components of that battery?**

20 A. I wouldn't be the one necessarily to break
21 down the cost components. Like I said, I wasn't in --
22 directly involved with that specific project. But it
23 is -- it is interconnected on our distribution system, so
24 we're aware that it was out there.

25 **Q. It included things such as a converter to**

1 **convert AC to DC and DC to AC, I assume?**

2 A. Well, it included components to convert DC to
3 AC.

4 **Q. Okay. What -- what was your hope in**
5 **experimenting or running this as a pilot project?**

6 A. Well, I mean, I would assume, again, in terms
7 of initiating that project, that part of the hope was to
8 learn about the technology and its potential value to us.

9 **Q. And you concluded that it was not of value to**
10 **you and you're not going to pursue this technology any**
11 **more; is that correct?**

12 A. That's my general understanding, yes.

13 **Q. Can I ask why you concluded that?**

14 A. I wasn't the one who directly studied that,
15 so I wouldn't be the right person to ask that question.

16 **Q. Okay. How would you characterize that?**
17 **Would that be a failure of the pilot project or...**

18 A. I don't -- I don't believe I would classify
19 it as a failure, no.

20 **Q. You just learned that it's something that**
21 **wouldn't fit your needs?**

22 A. Correct.

23 **Q. You mentioned that your share -- KCPL's share**
24 **of the battery was \$4 million?**

25 A. That's my understanding, yes.

1 **Q. What was the -- who provided the other**
2 **3 million?**

3 A. Well, as I understand it, the Smart Grid
4 project was a partnership between us and the U.S.
5 Department of Energy, and they helped pay for some of the
6 costs of various things. I presume that's kind of part
7 of how that was broken down.

8 **Q. They -- they provided the other 3 million?**

9 A. I -- I believe so. I'm not -- I'm not a
10 hundred percent sure exactly how that cost breakdown was
11 done.

12 MR. LINTON: Okay. Thank you. I have no
13 further questions.

14 JUDGE WOODRUFF: Okay. Cross for Staff?

15 MS. MUETH: Thank you, Your Honor.

16 CROSS-EXAMINATION BY MS. MUETH:

17 **Q. Good morning.**

18 A. Good morning.

19 **Q. Do you know how many GMO customers are**
20 **connected to the distribution circuit?**

21 A. I don't know that specific number off the top
22 of my head.

23 **Q. Do you know how that might compare to the**
24 **number of GMO customers?**

25 A. It's a small number, obviously, in the grand

1 scheme. It's only one circuit.

2 **Q. Okay. Do you know the energy output expected**
3 **per year from this project?**

4 A. Maybe you could rephrase that question. I'm
5 not sure I understand the question.

6 **Q. Okay. Staff submitted a data request to the**
7 **Company, and in its response the Company agreed -- or**
8 **indicated that this solar project would generate**
9 **approximately 4,700 megawatt hours of energy output per**
10 **year. Would you agree with that number?**

11 A. If that was what we submitted in our -- in
12 our data request, then I have confidence that it's
13 correct.

14 **Q. Would you agree that the solar project is**
15 **projected to reduce CO2 emissions by approximately**
16 **3,878 tons per year?**

17 A. That's a -- an environmental question that I
18 really wouldn't be qualified to answer.

19 **Q. So you're not the appropriate witness for**
20 **that. Okay. Is it the Company's position that there's a**
21 **need for a project at this time?**

22 A. Yes, I believe that's what I state.

23 **Q. Do you agree with that position?**

24 A. I agree with it.

25 **Q. In your deposition you agreed with the**

1 **Company's position that GMO needs to build this facility**
2 **to get hands-on experience with a utility-scale solar**
3 **facility; is that correct?**

4 A. That's correct.

5 Q. **Do you have an opinion about whether this**
6 **hands-on experience is needed now as opposed to some**
7 **later date?**

8 A. I have an opinion. Yes, I do.

9 Q. **And what is that opinion?**

10 A. Well, my opinion certainly is that learning
11 about that now is an advantage to us.

12 Q. **Can't GMO spend additional time learning more**
13 **about solar before installing a solar facility?**

14 A. I suppose it could.

15 Q. **Are you aware of any -- you mentioned earlier**
16 **in your direct questions that GMO is planning on placing**
17 **this project on the primary side as opposed to secondary**
18 **side?**

19 A. Correct.

20 Q. **And that's how it's different from those**
21 **other two facilities that KCPL has; is that correct?**

22 A. That's correct.

23 Q. **Do you know of any other power companies that**
24 **have placed solar projects on the supply side -- or on**
25 **the primary side?**

1 A. Yes.

2 Q. Excuse me.

3 A. Yes, we do.

4 Q. And have any other power companies placed
5 solar on distribution grid?

6 A. Yes.

7 Q. Did you read GMO's position statement filed
8 in this case?

9 A. I read parts of it. Yes, I did.

10 Q. Would you agree that some of the firsthand
11 knowledge the Company seeks to gain surrounds the design
12 and construction of solar facilities?

13 A. I would agree with that.

14 Q. What was GMO's role in developing requests
15 for proposal in selection of bidders?

16 A. GMO's role? I suppose I'm not really -- I'm
17 not really clear. I'm not sure I understand that
18 question.

19 Q. Did GMO employees develop the request for
20 proposal?

21 A. Colleagues of mine at Kansas City Power &
22 Light participated in developing the proposal and the
23 design.

24 Q. Did those same colleagues aid in the
25 selection of bidders for the project?

1 A. There was a process certainly that was
2 undergone from a cumulative perspective, yes.

3 Q. So it is fair to say that GMO has learned
4 about design and construction in its development of the
5 IRP?

6 A. We've learned some things along the way,
7 absolutely.

8 Q. Did GMO design the Greenwood solar facility?

9 A. We designed parts of it. We participated in
10 the design decisions.

11 Q. Okay. Did -- how did GMO know what to do in
12 designing this facility?

13 A. Again, like I said earlier, we talked to many
14 of our peers, we've worked with and talked to various
15 engineering consultants and folks with experience
16 executing some of these projects and working with other
17 utilities to execute projects like this.

18 Q. Wouldn't you agree that GMO could get this
19 same type of knowledge at a later date, if GMO decided to
20 later implement a solar facility?

21 A. Could you elaborate what you mean by this
22 kind of knowledge?

23 Q. Knowledge about the design and construction
24 of this facility.

25 A. Well, again, I think the process that we

1 underwent today we could do. But at the end of the day,
2 that would be years down the road, which would just put
3 us a little bit further behind on learning about this, as
4 the adoption rates continue to increase.

5 **Q. Would this knowledge about designing a solar**
6 **facility apply, regardless of the size of the facility?**

7 A. I think it would be inaccurate to say that it
8 would -- it would apply regardless of size, because I
9 think these things can be built to various sizes.

10 **Q. So how does GMO expect the knowledge it gains**
11 **about design in this case to aid it in designing**
12 **potential future larger-scale solar facilities?**

13 A. Well, again, it's -- it's probably very
14 similar to how our understanding of existing solar
15 installations on our system impact our system.
16 Ultimately the specific kind of design, if you will, and
17 sort of this range of size is a fairly particular kind of
18 installation as an option on the system. So it has
19 specific characteristics in this size range.

20 **Q. Will GMO be constructing the Greenwood solar**
21 **facility?**

22 A. I'm sure GMO -- I'm sure Kansas City Power &
23 Light employees would be involved in the construction
24 process.

25 **Q. So how would the knowledge GMO gains about**

1 **constructing this facility differ -- differ from anything**
2 **else it might have been able to read or learn from**
3 **talking with solar contractors?**

4 A. Like I said earlier, really there's no
5 substitute for hands-on knowledge. I think contractors
6 certainly bring -- can bring something and consultants
7 can bring something to the table, just like talking to
8 our peers and reading industry publications can as well.

9 But at the end of the day, the kind of
10 facility that we're talking about and the needs of that
11 facility, in terms of its interconnection to the
12 distribution system, certainly mean that hands-on
13 knowledge would be an advantage to us.

14 **Q. And how would GMO know what to do in**
15 **constructing this facility?**

16 A. How would we know what to do? Could you help
17 me?

18 **Q. So GMO has not constructed a facility like**
19 **this before, has it?**

20 A. No, it has not.

21 **Q. So how does GMO know what is involved in the**
22 **construction of this facility?**

23 A. Again, through the means that I described.
24 We will consult with all of the resources at our disposal
25 to try to make the best decisions we can.

1 **Q. Would this knowledge about constructing a**
2 **solar facility apply, regardless of the size of the**
3 **facility?**

4 A. Again, I wouldn't say it would apply
5 regardless of the size, but certainly it will -- it will
6 add to our knowledge base on constructing facilities like
7 this.

8 **Q. You discussed earlier interest in learning**
9 **about the impacts of the intermittent nature of this**
10 **facility; is that correct?**

11 A. Yes.

12 **Q. And you mentioned that KCPL has two solar**
13 **facilities that it owned and that the difference is that**
14 **they are on the secondary side; is that correct?**

15 A. That is one of the differences, yes.

16 **Q. Okay. So how is this facility and the**
17 **intermittent nature of it -- of this facility, how is it**
18 **different from the intermittent nature of KCPL's other**
19 **two solar facilities?**

20 A. Simply put, it's larger. It's larger in
21 scale and, therefore, larger in impact and different in
22 impact on a distribution feeder.

23 **Q. You also discussed weather conditions**
24 **earlier. Do you recall that?**

25 A. I -- yes, I mentioned it.

1 **Q. And you mentioned that GMO owns solar**
2 **generation at Paseo and Kauffman; is that right?**

3 A. That is correct.

4 **Q. Are those located in GMO's service area?**

5 A. I don't believe either Kauffman or -- no,
6 neither one of those. Those are both in Kansas City
7 Power & Light property.

8 **Q. Would there be a difference in weather**
9 **conditions from this Greenwood facility versus the area**
10 **that those facilities are located?**

11 A. In fact, it's my understanding that there are
12 some differences as you move geographically across our
13 service territory.

14 **Q. Would you agree that one of the areas of**
15 **knowledge to be gained from this project is the impact of**
16 **a facility like this on GMO's existing electrical**
17 **distribution grid?**

18 A. Yes.

19 **Q. Are you aware of GMO's Landfill Gas Facility?**

20 A. I'm aware of it, yes.

21 **Q. Is it interconnected on the distribution**
22 **system?**

23 A. I'm not directly familiar with how that
24 facility is interconnected, no.

25 **Q. Are you aware that Staff is recommending that**

1 if this project is approved, the issue with the CCN
2 should be conditioned upon an interconnection study being
3 completed?

4 A. I am aware of that.

5 Q. GMO has studied the impact of this plant on
6 the distribution system; isn't that right?

7 A. Yes, we have.

8 Q. Do you agree that one of the areas of
9 knowledge to be gained from this project is whether
10 maximizing total kilowatt hour production or peak
11 production is better?

12 A. We think that's part of the learnings we can
13 get.

14 Q. This facility seeks to maximize total
15 kilowatt hour production; correct?

16 A. I'm not -- I'm not really privy to that.

17 Q. Do you know, are the solar panels fixed in
18 this case --

19 A. I believe they are fixed.

20 Q. Do you know which direction the solar panels
21 would be facing?

22 A. I don't know what that specific direction is.

23 Q. Would you agree that one of the areas of
24 knowledge to be gained firsthand -- oh, scratch that.

25 Do you recall answering one of my earlier

1 questions regarding timing of this and that you stated
2 that waiting to build this facility would put GMO further
3 behind?

4 A. Yeah, I say that.

5 Q. Can you explain what you meant by that?

6 A. Sure. I think that as we have seen the
7 adoption rates of solar generation increase, I think that
8 one of the -- one of the areas that many industry experts
9 have certainly agreed upon is that knowing about
10 integration of distributed generation is something
11 that -- that utilities should pursue. I think that, you
12 know, we have to try to anticipate the direction that
13 that's going in order to make the best decisions
14 possible. Having to react to conditions on the ground
15 all the time is generally not the best -- the best
16 approach, because it means that you are dealing with
17 things that you sometimes can't control.

18 Q. Would you agree that one of the areas of
19 knowledge to be gained pertains to whether existing KCP&L
20 or GMO employees for natural gas and coal plants can be
21 cross-trained to operate and maintain solar facilities?

22 A. Yeah, that's in our position statement.

23 Q. Is there any reason to doubt the ability of
24 KCPL and GMO employees to operate and maintain solar
25 facilities?

1 A. I wouldn't say there's reason to doubt it.

2 MS. MUETH: Okay. I have nothing further.

3 JUDGE WOODRUFF: For Public Counsel.

4 MR. OPITZ: Yes, Judge.

5 JUDGE WOODRUFF: You may inquire.

6 MR. OPITZ: Thank you, Judge.

7 CROSS-EXAMINATION BY MR. OPITZ:

8 Q. Good morning, Mr. Anyanwu.

9 A. Good morning.

10 Q. To begin, I wanted to ask you about two areas
11 I heard you give testimony on just this morning. The
12 first, you made a statement to the effect of to your
13 knowledge GMO is experiencing load growth. Do you --

14 A. Yeah.

15 Q. -- recall that?

16 A. Yes.

17 Q. And load growth is not your area of
18 expertise; correct?

19 A. I'm not sure I understand that question.

20 Q. Do you in your -- your daily job duties deal
21 with addressing load growth?

22 A. Yes, I do.

23 Q. Okay. The second thing was about generation
24 assets. And you are not an expert in generation;
25 correct?

1 A. That would be accurate.

2 Q. Prior to two weeks ago you did not anticipate
3 being a witness in this case; correct?

4 A. That is correct.

5 Q. And you have not read the Company's
6 application that was filed in November; correct?

7 A. No, I have not.

8 Q. But you do understand that the Company is not
9 proposing a community solar facility; correct?

10 A. Could you clarify that question?

11 Q. Do you agree that in the Company's
12 application it is not requesting a CCN to build a
13 community solar facility?

14 A. I believe that's correct.

15 Q. You've talked about distribution. And would
16 you agree that distribution systems that have
17 utility-scale solar on them currently exist?

18 A. I would agree with that.

19 Q. And, in part, you became aware of those
20 systems from industry groups, by reading publications,
21 and by attending conferences; right?

22 A. That's correct.

23 Q. And you also looked at information from EPRI,
24 the Electric Power Research Institute; right?

25 A. Yes.

1 Q. And you also looked at information from EEI,
2 the Edison Electric Institute; correct?

3 A. Yes.

4 Q. And you find that -- and you find the
5 information you received from EPRI and EEI to be
6 reliable; right?

7 A. We do.

8 Q. Now, as it relates to the proposed solar
9 facility, GMO has worked with DLR, Sungevity, and Mark
10 One Electric; right?

11 A. That is correct.

12 Q. And DLR is an engineering firm that has
13 experience building large-scale solar facilities;
14 correct?

15 A. That's correct.

16 Q. And Sungevity also has experience with solar
17 installations and knows how to manage this project?

18 A. That's correct.

19 Q. And you agree that once this facility is --
20 the proposed facility is complete that you do not believe
21 that the contractors would continue to work at the solar
22 facility?

23 A. It's not my understanding that they will.

24 Q. Do you have a copy of your deposition with
25 you?

1 A. No, I do not.

2 MR. OPITZ: Your Honor, may I approach the
3 witness?

4 JUDGE WOODRUFF: You may.

5 BY MR. OPITZ:

6 Q. I'm looking at page 63, beginning at line 11.
7 Are you there?

8 A. Yes, I am.

9 Q. And the question was: Would any employee of
10 those groups, if this facility is built, remain on to
11 help GMO employees operate the system?

12 Your answer was: Remain on in what capacity?

13 The question was rephrased: Would they
14 continue to work at the solar facility?

15 Your answer: I can't imagine why.

16 Mr. Anyanwu, you have experience using a
17 system analysis software called Synergy Electric;
18 correct?

19 A. I do.

20 Q. And when you perform an analysis with that
21 software, you are testing to see if the system meets
22 GMO's system operations expectations; right?

23 A. Yes.

24 Q. And that includes things like looking for
25 voltage, either overvoltage or undervoltage problems;

1 **right?**

2 A. That's correct.

3 Q. And when you operate that software, you are
4 **also making sure that you do not have voltage stability**
5 **issues; correct?**

6 A. That is correct.

7 Q. And you're also testing for capacity issues
8 **with that software; correct?**

9 A. That is correct.

10 Q. And you agree that a sag is a reduction of
11 **voltage that lasts for a longer period of time; right?**

12 A. Yes.

13 Q. And a dip is an undervoltage condition that
14 **is a shorter period of time, sometimes only seconds;**
15 **right?**

16 A. Yes.

17 Q. And sags and dips are instances when the
18 **voltage on a system decreases; right?**

19 A. That is correct.

20 Q. But in instances where there's an increase in
21 **voltage, that is simply called an overvoltage condition;**
22 **right?**

23 A. Yeah. It can also be called a voltage swell
24 or surge.

25 Q. Thank you. And each one of those conditions

1 is bad for the system; correct?

2 A. That is correct.

3 Q. And would you agree that the Synergy Electric
4 system can model for variations in voltage conditions?

5 A. To a certain degree, it can.

6 Q. You'd agree that GMO has equipment that it
7 uses to monitor voltage on its system?

8 A. Yes, it does.

9 Q. And that equipment includes SCADA systems and
10 capacitor controls?

11 A. Yes.

12 Q. And GMO has components on its system that
13 help to regulate voltage; correct?

14 A. Yes, it does.

15 Q. And those components include capacitors and
16 voltage regulators; right?

17 A. That is correct.

18 Q. And you agree that a voltage regulator
19 compensates for variations of voltage on the system to
20 ensure that the system operates within desired voltage
21 limits?

22 A. Yes.

23 Q. And you agree that GMO has varying sizes of
24 regulators that it uses, depending on the particular
25 need?

1 A. Yes.

2 Q. If GMO's system has an overvoltage problem,
3 that can be fixed?

4 A. Yes.

5 Q. If GMO's system is consistently under
6 voltage, that can be fixed?

7 A. Yes.

8 Q. But if GMO does the engineering right, those
9 problems can be avoided altogether --

10 A. That's our --

11 Q. -- correct?

12 A. That's our ultimate goal, yes.

13 Q. And so you agree that those problems can be
14 avoided if the engineering is done right?

15 A. I agree that the -- those problems can be
16 avoided -- we can try to avoid those problems by doing
17 the right engineering, yes.

18 Q. Now, for the proposed solar facility, GMO
19 plans to engineer it in a way that will integrate it
20 properly into the grid; correct?

21 A. Yes, that's correct.

22 Q. And when it comes to getting the engineering
23 right for the proposed solar facility, you can look at
24 other real-world cases; right?

25 A. We can -- we can learn from some of those

1 real-world cases, yes.

2 **Q. And GMO itself has some experience**
3 **interconnecting solar generation into distribution**
4 **systems; correct?**

5 A. Yes, we do.

6 **Q. And that interconnection experience includes**
7 **rooftop solar?**

8 A. Yes.

9 **Q. And that rooftop experience includes**
10 **facilities at Kauffman Stadium?**

11 A. Yes.

12 **Q. And that solar interconnection includes a**
13 **solar installation at Paseo High School?**

14 A. Yes.

15 MR. OPITZ: That's all the questions I have,
16 Judge.

17 JUDGE WOODRUFF: Questions from the bench.

18 Mr. Chairman?

19 QUESTIONS BY CHAIR HALL:

20 **Q. Good morning.**

21 A. Good morning, sir.

22 **Q. Were you in the hearing room this morning**
23 **when Mr. Fischer was presenting the opening remarks on**
24 **behalf of the Company?**

25 A. I was.

1 Q. Okay. He said that solar will reach price
2 parity with other technologies by 2020. DO you remember
3 him saying that?

4 A. Yes.

5 Q. Are you the proper witness To get more
6 information on that?

7 A. No, I'm not.

8 Q. Who is?

9 A. Probably senior leadership team. I believe
10 Mr. Ives will be talking a little bit about that.

11 Q. Okay. In your direct examination this
12 morning, you provided some testimony on the similarities
13 and differences between the Ameren facility in O'Fallon
14 and the currently-proposed facility; is that correct?

15 A. Yes, I did.

16 Q. Could you -- you mentioned one difference
17 being the kV connection --

18 A. Yes.

19 Q. -- at the facility. Ameren's, I believe you
20 indicated, was 12?

21 A. No, Ameren's is 34.

22 Q. Ameren's is 34. And this facility is?

23 A. 12.

24 Q. Is the 12. Are there any other differences
25 that you're aware of?

1 A. Not specifically. I do know that Ameren has
2 different standards and specifications they use in
3 constructing and operating their system than we do.

4 **Q. So you -- do you know anything about the**
5 **differences in terms of the cost?**

6 A. No. No. I'm not --

7 **Q. Do you know anything about in terms of the**
8 **actual generation?**

9 A. Not specifically, no. I know that
10 they're different --

11 **Q. Is that --**

12 A. -- in size.

13 **Q. Is that -- is that also information that**
14 **could be obtained from Mr. Ives or another witness?**

15 A. I'm sure, yeah, they can speak to that.

16 **Q. Is it your understanding -- you -- you**
17 **referred to this project as a pilot project?**

18 A. Yes, sir.

19 **Q. So I assume what that means is that if**
20 **everything goes well, it will -- first of all, if it is**
21 **built and then everything goes well, that the Company**
22 **would be interested in constructing additional similar**
23 **projects?**

24 A. I'm sure that would be an option for us. I
25 think it would certainly raise more interest. There's

1 also, again, the possibility of adoption, either from a
2 community perspective or from other, you know,
3 third-party sources.

4 But this -- this is a pilot in the sense that
5 it allows us to learn about the integration. And from a
6 technical perspective, it's not really that different.
7 The ownership doesn't really necessarily differentiate
8 it.

9 **Q. So it is possible, or perhaps even likely,**
10 **that the Company would -- if everything goes well here,**
11 **would build other facilities?**

12 A. Oh, especially if we find that there's
13 significant positive benefits, yes.

14 **Q. Positive benefits such as what?**

15 A. Such as -- you know, one of the things that
16 has been proposed is that some of these facilities might
17 be able to be used for reactive power support, which is
18 something that utility system designers are often looking
19 to find. We use different means to do that. And so to
20 the extent that this has that kind of positive benefit,
21 it's certainly something we're interested in.

22 There's some other proposals out there about
23 potential deferral or even elimination of some
24 infrastructure investments; and, you know, we certainly
25 want to investigate that and see for ourselves.

1 **Q. Any other positive benefits?**

2 A. Not that I can think of off the top of my
3 head.

4 **Q. Is it safe to say that if the Company does**
5 **not construct this pilot project, none of those benefits**
6 **will ever materialize?**

7 A. I would certainly say that we would nev-- we
8 would not know for sure about the ability to leverage
9 those benefits with a solar facility.

10 **Q. So if you don't build this -- this 3-megawatt**
11 **facility, then there is zero likelihood that you might**
12 **build a 5, 8, 10, or 12 down the road?**

13 A. That's probably -- that's probably true, at
14 least in the near-term future.

15 CHAIR HALL: I think that's all I have.
16 Thank you.

17 THE WITNESS: Yes, sir.

18 JUDGE WOODRUFF: Commissioner Rupp?

19 COMMISSIONER RUPP: No.

20 JUDGE WOODRUFF: Commissioner Coleman?

21 COMMISSIONER COLEMAN: No. Thank you.

22 JUDGE WOODRUFF: I have a couple of
23 questions.

24 THE WITNESS: Sure.

25 EXAMINATION BY JUDGE WOODRUFF:

1 **Q. I'm trying to get some idea of the relative**
2 **size of these -- of this system. It's going to be 3**
3 **megawatts; is that right?**

4 A. That's correct.

5 **Q. What would be the size of the solar panels at**
6 **Kauffman Stadium?**

7 A. I believe the solar panels at Kauffman
8 Stadium total up to 28.8 kilowatts.

9 **Q. Okay. So significantly smaller?**

10 A. Significantly smaller.

11 **Q. The 3 megawatts, how many wind turbines would**
12 **that equal?**

13 A. I'm not really sure I can answer that
14 question.

15 **Q. Okay. And you mentioned that there are**
16 **certain voltage anomalies and sags and dips and surges**
17 **that can result from the integration of this onto the**
18 **system?**

19 A. That's correct.

20 **Q. What kind of problems would that cause for**
21 **the rest of the system?**

22 A. Well, I think we're interested in kind of
23 seeing what that looks like. I think it could cause a
24 misoperation of customer equipment. It could certainly
25 cause visible -- visible issues in terms of lighting and

1 those kinds of things.

2 **Q. Lights would dim more?**

3 A. Yeah, dim more or -- or --

4 **Q. Get brighter?**

5 A. Get brighter. And, you know, those kind of
6 things can be irritating. And so, ultimately, in terms
7 of the ability to plan and operate the system, knowing
8 how those things affect the system and what is necessary
9 to successfully and safely integrate this into our system
10 is something that we're interested in learning about.

11 **Q. I assume those kind of problems can come from**
12 **other sources as well?**

13 A. To a certain degree, yes. But I think one of
14 the things that's important to point out about this, as
15 it relates to what you would call sort of a traditional
16 distribution system, or at least a distribution system
17 traditionally to us at this point, is that it is a --
18 it's a source of energy, not a load.

19 You know, again, like I said earlier, we're
20 typically used to sort of unidirectional or one direction
21 of, you know, source to load flow. You know, distributed
22 energy being introduced onto the distribution system is a
23 little bit different than what we typically see.

24 **Q. Can you explain that more?**

25 A. Well, yeah. I mean, basically what you have

1 is you have energy entering the system at two different
2 points, as opposed to from one point and flowing directly
3 to load. And so --

4 **Q. Normally it would be coming off the -- off**
5 **the grid?**

6 A. Right. It would normally be coming from a
7 substation and onto the circuit and feeding customers.
8 And so introducing another energy source changes the
9 dynamics somewhat. And, again, that's something that we
10 haven't had a lot of experience with and are interested
11 in looking -- looking at. Excuse me.

12 **Q. I think that leads me to my next question**
13 **about the community solar that you talked about.**

14 A. Yes, sir.

15 **Q. Can you explain more what you mean by**
16 **community solar?**

17 A. So the way I understand it, community solar
18 is a situation in which members of a community, either --
19 you know, typically through a third-party, sort of come
20 together and decide to try to build a solar generation
21 facility. And, you know, I think it's done mostly by
22 subscriptions, and there's a third-party owner.

23 **Q. So a subdivision of 440 houses might build a**
24 **3-megawatt plant for themselves?**

25 A. Right. Might decide to do something like

1 that.

2 Q. Do you know if anything like that is planned
3 in Missouri?

4 A. I'm not aware of anything -- any specific
5 plans on anything like that, though we certainly think
6 it's a possibility in the near-term future.

7 Q. And this might be beyond your expertise, but
8 do you know anything about the legalities of that?
9 Would -- would -- specifically, would GMO have to
10 integrate those, whether they wanted to or not?

11 A. Yeah, I mean, from my perspective as an
12 engineer, it's my understanding that, you know, if
13 something like this arrives, similar to rooftop solar, we
14 would be -- the expectation would be for us to integrate
15 that into the grid, the system.

16 JUDGE WOODRUFF: That's all the questions I
17 have. Thank you.

18 THE WITNESS: Thank you, sir.

19 JUDGE WOODRUFF: Recross based on questions
20 from the bench, beginning with Division of Energy?

21 MR. ANTAL: No questions. Thank you.

22 JUDGE WOODRUFF: Okay. UFM.

23 THE WITNESS: No questions.

24 JUDGE WOODRUFF: Staff.

25 MS. MUETH: Yes. Thank you.

1 RECROSS EXAMINATION BY MS. MUETH:

2 Q. Do you remember answering a question from the
3 chairman where you said there is no probability that GMO
4 would build a larger facility in the future if this
5 facility is not approved?

6 A. Yes, I do.

7 Q. What is the probability that GMO would build
8 a facility of this size in the future if this facility is
9 not approved?

10 A. I'm not really sure. I mean, that would be
11 subject to other decision makers. But I would assume
12 that if this facility weren't approved, then it would
13 mean that, you know, the Commission isn't interested in
14 GMO constructing facilities like this. And so I would
15 assume it wouldn't have a positive impact on decision
16 making about building facilities like this going forward.

17 MS. MUETH: I have nothing further.

18 JUDGE WOODRUFF: Public Counsel.

19 MR. OPITZ: No, thank you, Judge.

20 JUDGE WOODRUFF: Any redirect?

21 MR. STEINER: Yes, Your Honor.

22 REDIRECT EXAMINATION BY MR. STEINER:

23 Q. Do you recall Staff Counsel asking about the
24 vendor designing the solar system? I believe you said
25 that they did design part of the solar system and GMO did

1 as well. Do you recall that?

2 A. I recall that.

3 Q. Does your group use a vendor to design the
4 distribution grid?

5 A. Certainly not typically, no. I mean, we --
6 system planning is typically an in-house activity.

7 Q. Do you recall questions from Staff counsel
8 regarding the intermittent nature of solar energy?

9 A. I do.

10 Q. Are those effects magnified when a larger
11 facility is built?

12 A. Yes.

13 Q. Do you recall -- I believe it was Public
14 Counsel asking about EPRI and EEI?

15 A. Yes.

16 Q. Do you use those entities to design KCPL's
17 and GMO's distribution system?

18 A. We use information from those entities. But,
19 really, the best information we have about how to design
20 and operate our system comes from our own experience.
21 And so, similar to your question earlier about -- about
22 our contractor or consultant design, it -- it is -- our
23 own experience ultimately provides the best information
24 that we use to design systems.

25 Q. So do you recall questions from Office of the

1 **Public Counsel about your use of a program called Synergy**
2 **Electric?**

3 A. I do.

4 **Q. Will this give you -- will that program give**
5 **you all the information you need to determine the effects**
6 **of the Greenwood solar facility on KCPL's distribution**
7 **system?**

8 A. No, it would not.

9 **Q. What -- what is missing from the Synergy run?**

10 A. Well, for one thing, solar generation is
11 notoriously difficult to model in simulations. And so
12 it -- it presents some difficulties and some deficiency
13 from that perspective, in terms of just the accuracy of
14 the outcomes. But at the end of the day, even to the
15 extent that we're comfortable with those -- those
16 outputs, we still rely, just like in any other situation,
17 on -- on direct observation and -- and data to -- to make
18 the best decisions we can.

19 **Q. Would that modeling by Synergy give you any**
20 **information about the positive aspects of solar**
21 **distributed on the grid?**

22 A. We can model some of those. But, again, you
23 know, it's really difficult to rely solely on -- it's,
24 frankly, incorrect to rely solely on simulations for
25 something like that.

1 **Q. You talked a little bit with Counsel for OPC**
2 **about -- or possibly Staff about rooftop solar, which was**
3 **different than solar at facilities at Paseo and Kauffman**
4 **Stadium. What -- what are the characteristics of that**
5 **rooftop solar?**

6 A. Those are similar to those. They're
7 connected on the secondary side of the distribution
8 transformer.

9 **Q. Are they much smaller than the Greenwood**
10 **facility?**

11 A. Yes, they are.

12 **Q. So does the experience in rooftop solar give**
13 **the Company the learnings that it needs to determine the**
14 **effects of distributed solar on its distribution system?**

15 A. It certainly doesn't give us everything that
16 we need to plan for and integrate a system like -- or a
17 facility like the one proposed at Greenwood.

18 **Q. You were asked about contractors continue to**
19 **remain on the -- at the solar facility after the project**
20 **is -- if it's built after it's completed. Do you**
21 **remember that?**

22 A. Yes.

23 **Q. And so I was unclear on your answer. Will**
24 **they remain?**

25 A. It's not my understanding that there will be

1 any contractors on the facility on an ongoing basis, no.

2 MR. STEINER: Okay. Thank you.

3 THE WITNESS: Thank you.

4 JUDGE WOODRUFF: All right. You can step
5 down.

6 THE WITNESS: All right. Thank you.

7 (Witness excused.)

8 JUDGE WOODRUFF: Call your next witness.

9 MR. STEINER: Company calls Paul Ling.

10 JUDGE WOODRUFF: Please raise your right
11 hand.

12 PAUL LING,

13 after having been first duly sworn, was
14 examined and testified on his oath as follows:

15 JUDGE WOODRUFF: You may inquire.

16 DIRECT EXAMINATION BY MR. STEINER:

17 Q. Please state your name and address for the
18 record.

19 A. My name is Paul Ling. P-A-U-L. L-I-N-G. My
20 address is 1200 Main, Kansas City, Missouri.

21 Q. Please share your educational background with
22 the Commission.

23 A. I have an undergraduate degree in
24 engineering, I have a graduate degree in engineering, I
25 have a master's in business administration, and I have a

1 law degree.

2 **Q. On whose behalf are you testifying today?**

3 A. I'm testifying on behalf of Kansas City
4 Power & Light Greater Missouri Operations Company.

5 **Q. And what is your title at Kansas City Power &
6 Light?**

7 A. I am the director of compliance for Kansas
8 City Power & Light.

9 **Q. And as director of compliance, what are your
10 responsibilities?**

11 A. I'm responsible for the environmental
12 matters, which include the permitting, compliance, and
13 strategy regarding environmental. Also, as director of
14 compliance, I'm responsible for the corporate ethics and
15 compliance side of the Company.

16 **Q. What is the purpose of your testimony today?**

17 A. The purpose of my testimony today is to
18 describe the Clean Power Plan and its impacts on the
19 certificate -- Certificate of Convenience and Necessity
20 that Kansas City Power & Light/GMO is asking for in this
21 case.

22 **Q. So tell us what the Clean Power Plan is.**

23 A. The Clean Power Plan is a federal regulation
24 that's recently been finalized. So it is currently an
25 effective final regulation. It regulates CO2 from

1 emissions of affected units. And Kansas Power &
2 Light/GMO has affected units in their existing units. So
3 it's affected existing units in which GMO has. It's
4 seeking a reduction -- a significant reduction of up to
5 37 percent reduction in CO2, specifically from those
6 affected units.

7 The Clean Power Plan is implemented in a
8 manner in which EPA gives guidance to the states, in this
9 case the State of Missouri, on to how it's going to
10 implement the plan. The State of Missouri has the option
11 to implement it through a state plan or not implement it
12 through a state plan, in which case the federal
13 government will implement a federal plan on behalf of
14 Missouri. The state plan can be implemented through a
15 mass-based program or a rate-based program.

16 **Q. And do you know if Missouri will implement a**
17 **mass or a rate-based program?**

18 A. It's uncertain at this time how Missouri's
19 going to proceed. The -- there was a date for initial
20 submittal of a compliance plan, which was September of
21 this year, and a final submittal in 2018. MDNR nor the
22 State of Missouri has disclosed whether we'll use a
23 mass-based or a rate-based program.

24 **Q. And how does either of those, mass or**
25 **rate-based plan, affect GMO's compliance?**

1 A. The mass-based program would require GMO to
2 have a -- an allowance program in which for every ton of
3 CO2 emitted, it would have to have allowance to cover
4 that ton of CO2. In a rate-based program, it would
5 require GMO to comply with its specific rate. In this
6 case it's pounds of CO2 over megawatt hours generated.
7 So GMO will have to reduce either the generation or --
8 and/or the amount of CO2 emitted and -- to get to a rate
9 calculation.

10 Energy efficiency in renewable energy
11 projects can qualify for that rate-based program by
12 generating what EPA in the rule describe as emission rate
13 credits, ERCs. Those emission rate credits can be
14 generated, like a solar project in this discussion, to
15 apply through the affected units, a GMO coal-fired unit,
16 to attain the rate it needs to attain for compliance.

17 Previously, as I mentioned, a mass-based
18 program, a solar facility like this could generate or --
19 electricity, which would offset the generation or cause
20 reduction of a coal-fired generation, allowing compliance
21 with the mass-based cap that would be in place with the
22 state.

23 **Q. How would the solar project comply if a**
24 **rate-based approach was adopted by the state?**

25 A. As I described, if a rate-based approach was

1 adopted by the State of Missouri for compliance, the
2 electricity generated from the solar project would
3 generate emission rate credits, ERCs, that could be used
4 to comply at our coal-fired facilities with the rate it
5 would have to attain for compliance.

6 **Q. Now, could Kansas have a rate-based approach**
7 **and Missouri have a mass-based approach?**

8 A. That could occur. And the problem with that
9 occurs is that there will be a challenge of how do we
10 move credits or allowances for projects between the
11 states? So this is one significant uncertainty a utility
12 like Kansas City Power & Light and GMO, because GMO also
13 operates as customers in Missouri but operates generation
14 assets in Kansas. So it makes it difficult and uncertain
15 as to how GMO will comply going forward if a situation
16 exists where the -- a rate-based structure in Kansas and
17 a mass-based structure in Missouri.

18 So one benefit of a solar project like this,
19 constructing it in Missouri would eliminate some of that
20 uncertainty, because you'd have the asset -- the
21 generation asset constructed in Missouri. Instead of
22 like much of GMO's wind is currently structured and
23 operated through either PPA or -- yeah, PPA in Kansas,
24 which leaves some question about how we're going to get
25 allowances or credits we need for compliance across that

1 state line, which is artificially created by the EPA's
2 rulemaking.

3 **Q. What's the timeline of CPP, or Clean Power**
4 **Plan, compliance obligations for GMO?**

5 A. Well, when I talked to Commissioner Hall in
6 the workshop a week ago, I thought I knew the timeline.
7 But the timeline has changed based on the Supreme Court
8 stay. So the timeline in the rulemaking as it was a week
9 ago was for the state to submit its state initial plan by
10 2016, later this year. That state plan would not give
11 GMO details the it would need to understand what
12 resources it would have to comply.

13 It was expected the state would ask for a
14 two-year extension to 2018. At that time, when the state
15 filed a final state plan, it would provide the details in
16 that plan that would help KCPL/GMO understand what steps
17 it would have to take to attain the standard, with the
18 attainment of the standard, the compliance states of the
19 standards starting in 2022. And then there's three
20 interim periods before the final standard has to be
21 reached by 2030.

22 **Q. So can you expand a little bit more on the**
23 **effect of a stay on the CPP?**

24 A. The stay adds uncertainty on top of
25 uncertainty. It adds a lot of confusion, certainly. And

1 it's unprecedented. So this is, to my knowledge and I
2 think the industry's knowledge, the first time the
3 Supreme Court has stepped in on an environmental
4 rulemaking to stay at the Supreme Court level. So in
5 large perspective, Kansas City Power & Light will take --
6 GMO will take advantage of this stay in having more time
7 to implement its resource plan, which it filed through
8 the Integrated Resource Plan. And KCPL/GMO continues to
9 install additional renewable energy sources, continues to
10 work with energy efficiency, all these steps it takes
11 towards compliance in diversifying its generation, such
12 that it comply with the rulemaking in the future.

13 As to the specifics of what the impact of the
14 stay is, the initial draft submittal plan that would be
15 due in September of this year will certainly be a date
16 that will still be during the period of the stay. So
17 likely the MDNR will not have to submit any state plan --
18 initial state plan.

19 It could also impact the final state plan
20 that would be due in 2018, depending on the length of the
21 merits litigation, where those will go back now and occur
22 at the Appellate Court level. The DC Court of Appeals
23 will now hear the plaintiffs' arguments against the Clean
24 Power Plan. That litigation will continue throughout
25 this year, and a decision and will likely get appealed to

1 the Supreme Court on the merits case, and that Supreme
2 Court decision will likely, depending, be 2017 or, if
3 it's delayed in any manner, it could be into 2018, which
4 would mean the state plan submittal date in 2018 may not
5 be yet.

6 So there's significant amount of uncertainty
7 as to the timing. But one thing that could occur on the
8 timing issue, and this gets into the compliance issue, is
9 if this stay delays the rulemaking such that we do not
10 have a state plan submitted till the 2018, 2020 time
11 frame -- again, a state -- final state plan is where
12 KCPL/GMO is going to understand what it needs to do to
13 comply. If that doesn't occur until the 2018, 2020 time
14 frame and EPA still holds that 22 -- 2022 initial
15 compliance date, GMO's opportunity to comply could be
16 significantly shorter, and that means that we may not
17 know until 2020 what it needs to do to comply with the
18 37 percent reduction in CO2 until 2020 and have to comply
19 by -- starting 2022.

20 So any steps we can take now in advance and
21 to diversify our portfolio and add additional energy
22 efficiency and additional solar and additional renewable
23 energy will help us comply with that more stringent date
24 that could come very quickly without much notice.

25 **Q. So what do you believe a Clean Power Plan --**

1 I know there's a lot of uncertainty, but what's your
2 estimate of what it has in store for GMO, in terms of CO2
3 emission reduction?

4 A. As I mentioned, and as the rule's currently
5 written, there's up to a 37 percent reduction required
6 for GMO. And that's a significant reduction from our
7 current 2012 operating budget levels. It will take GMO a
8 diversification of its generation portfolio to attain
9 that. Additional wind, additional energy efficiency,
10 certainly additional solar as a component of that will
11 help GMO satisfy and diversify to attain a very stringent
12 reduction in CO2 by initially starting 2022.

13 Q. Are there incentives in the Clean Power Plan
14 for early installation of renewable resources?

15 A. Yes, the Clean Power Plan includes a Clean
16 Energy Incentive Plan, which was included as part of the
17 final rule. But there's a significant amount of
18 uncertainty with it. It's described as -- EPA describes
19 it as a voluntary plan. So one uncertainty is MDNR and
20 the State of Missouri may not -- decide they do not want
21 to participate in that incentive plan. And one reason
22 why they may not want to participate in it, if those
23 allowances are taken from the state compliance pool of
24 allowances, and that could potentially make the
25 compliance for the affected units even more stringent

1 than this 37 percent we're facing in rule, I could
2 increase that stringency by providing allowances to other
3 sources of generation that meets -- either not use those
4 allowances or send those allowances out state for
5 compliance with other states' requirements. So the MDNR
6 has not yet decided whether it's going to include in its
7 final state plan the Clean Energy Incentive Plan.

8 In addition, although the Clean Energy
9 Incentive Plan was a component of the final rule, EPA has
10 opened dockets and solicited comments on how it should
11 proceed with the Clean Energy Plan -- Incentive Plan. So
12 that seems to mean that it's not complete in EPA's mind
13 and that changes could be in the future for what -- the
14 structure of the Clean Energy Incentive Plan.

15 So there's a tremendous amount of uncertainty
16 as to what that incentive actually is or what it will be
17 by the time that we're to a point for taking advantage of
18 it.

19 **Q. What are the renewable or energy efficiency**
20 **resources that could assist GMO in complying with the**
21 **Clean Power Plan?**

22 A. The rule would allow wind energy, solar
23 energy, or energy efficiency to comply with the
24 rulemaking.

25 **Q. What happens if GMO is not in a position to**

1 **build renewables when it's obligated under the Clean**
2 **Power Plan?**

3 A. An answer to that would be how I described it
4 before. If we do not know what we need to build until
5 2020 and we have to comply in 2022 -- and this is
6 unprecedented -- an across-state air pollutant rule, both
7 versions have occurred, and both those rules went final
8 and we had six months to comply with those rulemakings.
9 So it's not unprecedented for EPA to provide a very short
10 period of time to comply with the rule.

11 If EPA does nothing until 2022 and cannot
12 install the diversification of its portfolio by 22 --
13 2022 for the initial three-year compliance period and
14 does not attain by 2024 the end of that compliance
15 period, it will face penalties. And associated with it,
16 it will have to procure either the ERCs, the rate
17 credits, or the allowances or it will face penalties, if
18 they cannot procure those to satisfy its generation and
19 will be in noncompliance at that point.

20 **Q. You spoke about wind. Is wind the best**
21 **energy resource to comply with the Clean Power Plan?**

22 A. Wind isn't always the best energy source. We
23 found that diversification of your energy source is
24 probably the best approach to take, and solar provides
25 some of that diversification. As we all know, the wind

1 doesn't always blow. So at times when the wind doesn't
2 blow, you'd have your solar asset there. The sun doesn't
3 always shine. So, yes, you need your wind or another
4 asset there.

5 Another problem, as I described, is this
6 state boundary issue. Unfortunately, as the rule is
7 currently set up and some of the unknowns surrounding the
8 rule, the state boundary could be a problem. So
9 constructing additional wind in Kansas may not be in the
10 best interest of Missouri, because that will be
11 problematic in the future if the regulation doesn't allow
12 us to transfer those credits or allowances across the
13 state border.

14 So a facility in Missouri may be in the best
15 interest and a solar facility may be in the best interest
16 of GMO to diversify its portfolio to attain what
17 potentially could be a pretty stringent standard in a
18 fast time frame by the time the initial compliance period
19 starts in 2022.

20 **Q. Mr. Ling, would it be wise for the Company to**
21 **rely solely on wind for compliance at this stage?**

22 A. As I described, I think you need -- GMO needs
23 to diversify its portfolio. And relying completely on
24 wind, as I described, could be problematic on its
25 transfer, it doesn't always occur, and to be able to

1 diversify its portfolio to another generation source that
2 is nonCO2 emitting. And that's what GMO needs to be
3 focussing on, is additional low or non-GO -- CO2-emitting
4 sources to comply.

5 **Q. If the Company builds this project now, will**
6 **it gain the experience it needs to evaluate solar as an**
7 **option for compliance?**

8 A. That is certainly an opportunity of this
9 project, to gain that experience. And it take -- it will
10 take a number of solar projects. This will be the first
11 of many. And GMO would need to understand how they can
12 aggregate a number of these solar projects to be able to
13 offset -- to offset the CO2 emitted from a coal-fired
14 facility.

15 So the learning has to start somewhere and
16 this project would be a start and a stepping stone to
17 additional projects such that we could understand and
18 offset the CO2 from our coal-fired facilities.

19 MR. STEINER: Thank you. I have nothing
20 further.

21 JUDGE WOODRUFF: All right. Now we'll move
22 to cross, beginning with Division of Energy.

23 CROSS-EXAMINATION BY MR. ANTAL:

24 **Q. Good morning, Mr. Ling.**

25 A. Good morning.

1 **Q. A few questions. In your direct examination**
2 **you were talking about potential Clean Power Plan**
3 **compliance. Is it reasonable for a company like GMO to**
4 **plan for potential future environmental compliance costs**
5 **when there is a stay?**

6 A. I think it is. And a stay -- I would like to
7 comment that the stay is not a vacatur. The stay means
8 just hold right now and it will get lifted at some point.
9 A vacatur would have completely eliminated the rule. The
10 rule is likely coming back. May be coming back slightly
11 tweaked, different form, but it's likely coming back. So
12 it's prudent for GMO in this case to continue to plan
13 that the rule will be back at some point.

14 **Q. Okay. And also you mentioned the cross-state**
15 **air pollutant rule. That rule was stayed but ultimately**
16 **upheld; is that correct?**

17 A. That's correct.

18 **Q. Are there other examples where environmental**
19 **regulations have been stayed but ultimately upheld, to**
20 **your knowledge?**

21 A. There may be. Another one's not coming to my
22 mind, at least a significant one that's impacted the
23 utilities.

24 **Q. Sure.**

25 A. There's certainly been requests for stays

1 that also have been denied. And there's been rulemakings
2 on appeal that have been sustained. So those rulemakings
3 are sent back down to EPA for remand, but they weren't
4 actually initially stayed.

5 **Q. Okay. Would the Greenwood facility reduce**
6 **the need to use existing carbon-dioxide-emitting**
7 **resources?**

8 A. Yes. Under either -- under Clean Power Plan,
9 either the rate-based program or the mass-based program,
10 the Greenwood Energy fac -- the Greenwood solar project
11 would allow compliance, and the mass-based program would
12 offset the CO2 generated from a coal-fired facility.

13 MR. ANTAL: Okay. No further questions.
14 Thank you, sir.

15 THE WITNESS: You're welcome.

16 JUDGE WOODRUFF: For UFM.

17 MR. LINTON: A couple.

18 CROSS-EXAMINATION BY MR. LINTON:

19 **Q. Good morning, Mr. Ling.**

20 A. Good morning.

21 **Q. You're a lawyer, so I can ask this question.**
22 **What is the standard for the United States Supreme Court**
23 **to grant -- have granted this stay in this case?**

24 A. Well, I'll clarify, I'm not acting for (sic)
25 a lawyer on behalf of the Company, but I'll try to answer

1 your question. And the question (sic) is it's a
2 significant standard, and it contains several provisions.
3 Will the -- will the plaintiffs in this case, the
4 industry, be able to prove -- it's a case on -- it's on
5 merits and will it likely succeed. And the judges of the
6 Supreme Court, at least five of -- five of nine, have
7 indicated that at least that -- potentially that
8 component or other components, the utilities could
9 succeed on it.

10 In addition, the utilities have to show
11 irreparable harm that not having provided the -- giving
12 the stay of the rule would cause irreparable harm to the
13 industry going forward.

14 And I believe there's a third and fourth one,
15 which are not coming to my mind right now.

16 **Q. So the -- five of the four (sic) found that**
17 **there was a significant likelihood that the plaintiffs,**
18 **including 27 states, would succeed on an argument on the**
19 **merits; correct?**

20 A. That is correct.

21 MR. LINTON: Thank you. No further
22 questions.

23 JUDGE WOODRUFF: All right. Staff?

24 MS. MUETH: Yes. Thank you.

25 CROSS-EXAMINATION BY MS. MUETH:

1 **Q. Good morning, Mr. Ling.**

2 A. Good morning.

3 **Q. You said that the Clean Power Plan has been**
4 **finalized and is currently effective; correct?**

5 A. It is.

6 **Q. But you are aware that the Supreme Court**
7 **granted the stay of the Clean Power Plan this week;**
8 **correct?**

9 A. The Supreme Court has stayed the compliance
10 requirements of the rule. The rule is effective.

11 **Q. Would you -- well, given this framework, I'd**
12 **like to ask you some questions about the Company's**
13 **position regarding the Clean Power Plan. Is it your**
14 **position that GMO needs to diversify its portfolio in**
15 **order to comply with the Clean Power Plan?**

16 A. Yes, that's one of the steps that the Company
17 needs to take to comply.

18 **Q. And does the Company consider the cost of**
19 **diversifying its portfolio when it decides what steps**
20 **it's going to take?**

21 A. That's not my area of expertise. But, yes,
22 the Company does look at the costs in the IRP process.

23 **Q. What is it that you feel GMO needs to do in**
24 **order to comply with the Clean Power Plan?**

25 A. I think GMO needs to take a number of steps,

1 and that includes the diversification of its fuel base.
2 It needs to add additional wind. It needs to add
3 additional solar. It needs to make use of energy
4 efficiency. It needs to look at reducing its coal-fired
5 generation. It needs to look at continuing to announce
6 retirements or ceasing combustion of coal of its units.
7 There's no one silver bullet for compliance with the
8 stringency of the standard of a 37 percent reduction that
9 GMO faces.

10 **Q. So the Clean Power Plan doesn't require**
11 **specific installation of any one type of generation unit;**
12 **correct?**

13 A. That is correct. But to be able to achieve
14 that, you're going to have to diversify into a number of
15 different fuel sources or energy sources to be able to
16 comply with the stringency of the standard.

17 **Q. Would it be fair to say it is up to a utility**
18 **to determine how it will comply with the Clean Power**
19 **Plan?**

20 A. Well, that's yet to be told. MDNR could
21 write a final rule that could specify for us how we are
22 complying. We would not favor such a rulemaking, but
23 there is uncertainty as to the rule -- the final state
24 plan this rule will have to comply with.

25 **Q. Would you agree that the goal of the Clean**

1 **Power Plan is to reduce carbon emissions?**

2 A. Yes.

3 **Q. And you said by 37 percent for GMO?**

4 A. That's correct.

5 **Q. Under the Clean Power Plan, which GMO units**
6 **are considered affected sources?**

7 A. All of the coal-fired units in GMO's system.

8 **Q. For plants that are jointly-owned for KCPL**
9 **and GMO, which utility's responsible for environmental**
10 **compliance?**

11 A. For the Jeffrey facility, Westar Energy is
12 responsible for environmental compliance. For the Iatan
13 facilities, KCPL is responsible for environmental
14 compliance.

15 **Q. Do you know what the annual tons of CO2**
16 **emissions were for those affected sources that you**
17 **mentioned earlier?**

18 A. I do not have it memorized.

19 **Q. Are you aware that the Company announced in**
20 **January 2015 that Lake Road 6, Sibley 1 and Sibley 2**
21 **would cease burning coal?**

22 A. Yes.

23 **Q. Which units is the Company planning to**
24 **retire?**

25 A. That decision has not been made.

1 **Q. Do you know which units the Company is**
2 **planning to convert to natural gas?**

3 A. At this point the Lake Road boiler 6 unit 4
4 will be converted to natural gas to comply with the mass
5 rule making in April of this year.

6 **Q. And what would the annual tons of CO2**
7 **emissions reduction be for GMO after these planned**
8 **retirements or -- and/or conversions?**

9 A. I don't have that number.

10 **Q. How -- by approximately how many tons per**
11 **year would this project be projected to reduce CO2**
12 **emissions, do you know?**

13 A. I think in previous testimony you indicated
14 there was a DR for about 3,800 tons of CO2. I think
15 that's probably a conservative number and that that's
16 a -- it was based on a comparing against our fleet
17 average CO2 rate. I think what I would be more
18 interested to compare that to would be our coal fleet,
19 which is where this project would offset; it would offset
20 coal generation. So it would almost be a 1-to-1 per
21 megawatt hour per CO2.

22 **Q. So what percent of GMO's emissions would be**
23 **reduced by this plant?**

24 A. It would be a small percent. I grant it
25 that. But, again, it takes a number of solar projects to

1 be able to build up and get -- aggregate to get the
2 reduction where you need to to significantly offset the
3 coal fleet.

4 **Q. So you would agree that this plant alone**
5 **doesn't significantly impact GMO's compliance?**

6 A. Yeah, it would be about a -- I would estimate
7 about a 5,000 tons of CO2 reduction, and that is a
8 small -- smaller amount when you compare it against our
9 coal-fired units. But you need to be able to aggregate
10 solar projects over a number of years. Just like we've
11 aggregated our wind over a number of years to get enough
12 wind energy to compensate for a reduction in our
13 coal-fired facility, you'd have to aggregate other solar
14 projects to do the same.

15 **Q. Are you familiar with GMO's IRP?**

16 A. A little bit. I'm not -- that's not my area
17 of responsibility.

18 **Q. Are you aware that GMO -- according to GMO's**
19 **IRP, GMO does not plan to install any further**
20 **utility-scale solar for another ten years or so?**

21 A. The IRP is evaluated annually. And the last
22 IRP did not have the final Clean Power Plan rule, which
23 was finalized in approximately -- I'm going to say last
24 fall to summer. So the IRP that will be provided to the
25 Staff by GMO or KCPL in March or April this year will

1 contain an evaluation of the Clean Power Plan. At that
2 point in that IRP process we'll disclose what other
3 further diversification or energy sources will be needed
4 for compliance.

5 **Q. Are you aware that GMO filed its 60-day**
6 **notice of an application for rooftop solar?**

7 A. I'm aware of that.

8 MS. MUETH: Okay. I have nothing further.

9 JUDGE WOODRUFF: Public Counsel.

10 CROSS-EXAMINATION BY MR. KRETZER:

11 **Q. Good morning again, Mr. Ling.**

12 A. Morning.

13 **Q. Just to kind of give you a road map some of**
14 **the questions I'm going to ask you for cross-examination,**
15 **I'm going to cover some of the questions that have been**
16 **asked from you on direct, and then I've prepared some**
17 **questions in advance. So I'll try and get you out of**
18 **here before we get too late into the lunch hour.**

19 **First of all, you would indicate -- or you**
20 **would agree with me that the plans to build this plant at**
21 **Greenwood is -- it's not going to take a lot of time;**
22 **correct?**

23 A. That's not my area of expertise. But I'm not
24 sure what you -- take a lot of time. I --

25 **Q. Is it going to take five years to build this**

1 **plant?**

2 A. No, I don't believe it's going to take five
3 years.

4 **Q. In fact, we're talking a matter of months;**
5 **correct?**

6 A. Again, that's not my area of expertise.

7 **Q. You would agree with me that wind electricity**
8 **generation is cheaper than solar electricity generation**
9 **at this point?**

10 A. Again, that's not an area of my expertise.
11 There's other witnesses that could comment on that.

12 **Q. You discussed a lot about the Clean Power**
13 **Plan and its effectiveness. Best-case scenario at this**
14 **point GMO would be required to comply at the year 2022,**
15 **with penalties kicking in in 2024; correct?**

16 A. That's correct.

17 **Q. You were asked the question about whether or**
18 **not it was wise to rely on wind energy at this point; and**
19 **you responded that no, it's not wise to rely on wind.**
20 **But you would agree that you have, under the best-case**
21 **scenario, eight years to comply with any Clean Power**
22 **Plan?**

23 A. Well, the uncertainty caused by when the
24 state plan will be finalized, when we know what the
25 requirements are -- the state plan could be finalized in

1 2020, and there could be a requirement for solar as part
2 of the state plan. I can't sit here and know that. So
3 that is what I know and it's out there.

4 **Q. Mr. Antal was asking you questions. He said**
5 **that you would agree that it's reasonable to plan even**
6 **though there's a stay in place. Do you recall that,**
7 **response to that question?**

8 A. I do.

9 **Q. And you would agree with me that there's a**
10 **pretty big difference between planning and**
11 **implementation?**

12 A. Sure.

13 **Q. Mr. Antal also asked you about the fact that**
14 **building this solar generating electricity facility would**
15 **help reduce the need for CO2 emissions generation plants.**
16 **Do you remember that question?**

17 A. I do.

18 **Q. And you would agree with me, however, that**
19 **that's not part of GMO's application in this case here**
20 **today?**

21 A. I'm not familiar with GMO's application in
22 the case today.

23 **Q. GMO hasn't proposed to retire any plants or**
24 **reduce any of these other CO2-emitting plants in response**
25 **to building this project, have they?**

1 A. Part of the IRP process evaluates our
2 resource planning, and that would be the appropriate
3 place to look for that answer.

4 **Q. So the answer is no?**

5 A. I'm not able to answer your question.

6 **Q. So the answer is I don't know?**

7 A. I don't know.

8 **Q. Okay. You spoke about, when you were being**
9 **asked questions by Staff Counsel, that there are at least**
10 **five different areas that GMO can invest in in order to**
11 **diversify its renewable energy resources portfolio;**
12 **correct?**

13 A. That's correct.

14 **Q. I think I counted five. Wind, solar,**
15 **efficiencies, reduce some of the plants, and diversify in**
16 **other ways; is that correct?**

17 A. That's correct.

18 **Q. And a majority of those you can -- you are**
19 **working on and have in place at this point; isn't that**
20 **correct?**

21 A. Yes. The Company is working on diversifying
22 its portfolio through a number of ways, including those
23 you mentioned.

24 **Q. You would agree that GMO's proposal in this**
25 **case is not the most cost effective?**

1 A. That's not my area of expertise. There will
2 be other witnesses who can testify on that.

3 **Q. Would you have any reason to dispute those**
4 **claims by Counsel on opening statement or any of those**
5 **other witnesses that will testify?**

6 A. Again, it's not my area of expertise.

7 **Q. You would agree with me that there are other**
8 **renewable streams, such as wind, currently available to**
9 **GMO?**

10 A. Yes.

11 **Q. And you would agree with me that the costs**
12 **for solar electricity at this time have gone down**
13 **significantly in the past several years?**

14 A. That's not my area of expertise.

15 **Q. Do you have any reason to disagree that they**
16 **wouldn't be expected to decline in the future?**

17 A. Depending on the solar that would be mandated
18 in the future, you could see a supply-and-demand effect
19 where, if we get in a crunch in 2020, as I described it,
20 where the utility has to install a lot of solar in
21 addition to KCPL, in addition to Empire, in addition to
22 Westar, at a very time -- fast time period, all the
23 sudden solar installations may become very expensive.

24 **Q. So you do disagree with the idea that solar**
25 **electricity generation is going to decline in the**

1 **foreseeable future?**

2 A. It could. I gave you an example where it
3 could change.

4 Q. You would agree with me that GMO customers
5 that are serviced by this proposed plant don't need the
6 additional electricity generation at this point?

7 A. That's not my area of expertise to comment
8 on.

9 Q. All right. But you would agree with me that
10 GMO customers are the ones that will pay for the project?

11 A. Again, that's not my area of expertise to
12 comment on. There's other witnesses who can answer that
13 question.

14 Q. Who do you think is going to pay for the
15 project eventually?

16 A. I don't know. As the application is, GMO
17 right now. I assume the GMO-regulated service territory
18 will pay for the project.

19 Q. And it's been your experience, certainly with
20 the amount of time you've worked with GMO and working
21 these cases -- or working these projects, that ultimately
22 those projects get built into the rates, and the
23 customers pay for you those projects; isn't that correct?

24 A. At a high level that's my understanding of
25 the process.

1 **Q. You would agree with me that one of GMO's**
2 **primary bases for justifying the costs involved in this**
3 **project is to gain hands-on experience; is that correct?**

4 A. Yes, understanding of how to integrate a
5 solar project into our distribution system.

6 **Q. And nothing in that -- in that claim for the**
7 **need talks about helping customers that would be serviced**
8 **by this electricity generation; correct?**

9 A. I didn't read the application.

10 **Q. Doesn't talk about an offer to customers as**
11 **an alternative to fossil fuel generation?**

12 A. Again, I didn't read the application.

13 **Q. Your involvement up to this point in this**
14 **case was essentially just a cursory review and opinion**
15 **last year, until about two weeks ago; is that correct?**

16 A. I'm not understanding your question.

17 **Q. When did you become involved in the case?**

18 A. In this case?

19 **Q. Yes, sir.**

20 A. Several weeks ago.

21 **Q. And with regard to the Greenwood solar --**
22 **utility-scale solar generation plant, you were asked just**
23 **a question about a year ago about it, or what was your**
24 **involvement then?**

25 A. Yes, I was asked approximately a year ago a

1 question about the permitting required for the
2 construction of the facility.

3 **Q. And that was the extent of your involvement**
4 **up until a couple weeks ago; correct?**

5 A. That's correct.

6 **Q. Now, you've previously testified that you**
7 **were to present at the Midwest Environmental Compliance**
8 **Conference in May of 2015; is that correct?**

9 A. In a deposition, yes.

10 **Q. And in that presentation you were prepared to**
11 **opine that GMO was well-positioned to satisfy future**
12 **renewable requirements driven by the renewable portfolio**
13 **standards in Missouri through at least 2035?**

14 A. I don't recall that. It could be part of the
15 presentation. I don't recall it.

16 **Q. You did prepare a PowerPoint presentation**
17 **for -- to present at that conference?**

18 A. Yes, I did.

19 MR. KRETZER: May I approach the witness?

20 JUDGE WOODRUFF: You may.

21 BY MR. KRETZER:

22 **Q. Sir, I'm going to show you a couple of slides**
23 **that are taken from that presentation. First, do you**
24 **recognize those slides?**

25 A. I do.

1 Q. Do you recognize those as slides that you
2 would have prepared for your presentation at that
3 conference?

4 A. They are.

5 Q. Would you take a moment and just review the
6 highlighted portion of the second slide that I've handed
7 you?

8 A. I have.

9 Q. And do you recall the comments that you
10 presented at this time?

11 A. This was actually a presentation I was unable
12 to make. So I did not make this presentation. I
13 prepared the slides, but I was called away and did not
14 make the presentation.

15 Q. And I understand that and appreciate that.
16 But in your preparation and -- it was your intent to
17 present on the fact that GMO was well satisfied --
18 satisfied -- well-positioned to satisfy future renewable
19 requirements driven by renewable portfolio standards in
20 Missouri through at least 2035; isn't that correct?

21 A. That's correct.

22 Q. You testified in your deposition that it's
23 your job to develop and implement a strategy to diversify
24 GMO's portfolio pursuant to regulations imposed by
25 programs such as the Clean Power Plan; correct?

1 A. That's correct.

2 **Q. And at this point GMO doesn't even have any**
3 **specific written policies or even written strategies in**
4 **order to do that; it's just kind of an idea that they**
5 **want to do; isn't that correct?**

6 A. I got lost in your question there. If you
7 could try it again.

8 **Q. Have you codified those -- those strategies**
9 **and plans, written them down on paper?**

10 A. The strategies and plans for what? I'm
11 sorry, I just got lost in --

12 **Q. Sorry.**

13 A. -- the question.

14 **Q. That's fair. With regard to develop and**
15 **implement a strategy to diversify GMO's portfolio**
16 **pursuant to regulations imposed by programs such as the**
17 **Clean Power Plan, that's part of your job?**

18 A. Yes.

19 **Q. And at this point GMO does not have an**
20 **official policy or strategy, for lack of a better word,**
21 **codified or written down; isn't that correct?**

22 A. I disagree. That's what the Integrated
23 Resource Plan is about. As I was describing to Staff
24 Counsel, the Clean Power Plan is evaluated as part of the
25 Integrated Resource Plan that will be part of what you'll

1 see in the March, April time frame.

2 **Q. And part of your testimony here today is part**
3 **of that diversification process is to implement these**
4 **changes that you've discussed and explore these other**
5 **areas?**

6 A. Yes, the IR -- IRP looks at all potential
7 resource planning for the Company.

8 **Q. You agree with me that at this point, as we**
9 **sit here today and as we present this case here today,**
10 **there are no state or federal requirements for GMO to**
11 **build this facility?**

12 A. As to environmental requirements pursuant to
13 the Clean Power Plan, there's no specific requirement
14 that says we do. As I described, our compliance will
15 likely have to include diversification of resources. It
16 would be -- this would be solar that would be an element
17 of how we comply with the Clean Power Plan.

18 **Q. And by not building this facility, you're not**
19 **saying that that would eliminate your ability to**
20 **diversify your portfolio, are you?**

21 A. We will certainly look at other means to
22 diversify our portfolio, but this needs to be one element
23 of our portfolio diversification. You can't rely on any
24 one element. We need to look at a multiple of elements,
25 because we're looking at a 37 percent reduction

1 potentially as early as '22 when we know -- when we know
2 of that date by 2020. So taking steps now early in
3 advance will help us prepare for and our customers for
4 the potential compliance beginning in 2022.

5 **Q. And you will continue taking those steps,**
6 **regardless of what happens with this proposal?**

7 A. I think the decision on what -- in this case
8 what happens to solar could impact our future planning
9 for our plans to comply using solar as a compliance
10 mechanism for the Clean Power Plan. This is a pivotal
11 case for us.

12 **Q. But my question is you will continue to seek**
13 **to diversify that portfolio, regardless what happens with**
14 **this case; isn't that correct?**

15 A. We will continue to look at other
16 diversification, but solar is one element that would be
17 part of our strategy.

18 **Q. So you will continue to look at**
19 **diversification options?**

20 A. Yes.

21 **Q. And even though you spoke a great deal about**
22 **the Clean Power Plan in your direct testimony and it's**
23 **been covered in cross, you agree with me that, because of**
24 **the standard employed by the Supreme Court in issuing its**
25 **stay, there's probably a lot more for us to learn and**

1 **hear on the Clean Power Plan in the -- in the next**
2 **several months, if not years?**

3 A. I would agree that there's going to be
4 additional probably remand of the rulemaking, additional
5 work by EPA. But in the end it's likely EPA will come
6 forward with additional rule or remand of this rule. EPA
7 has -- and this administration has an agreement at the
8 federal level. And that agreement at the federal level
9 reductions clearly match the reductions of the Clean
10 Power Plan. And at the federal -- at -- that Paris
11 agreement also even referenced to the extent that Clean
12 Power Plan is one of its means by administration it was
13 going to comply with.

14 So the administration or a subsequent
15 administration to comply with that agreement at the
16 international level is going to have to have some
17 component of a CO2-reduction program, and in that
18 KCPL/GMO will need to work towards diversifying its
19 portfolio to comply.

20 **Q. And that links back to all the number of**
21 **times you talked about the uncertainty still at stake in**
22 **the future with regard to the Clean Power Plan; correct?**

23 A. There is a lot of uncertainty.

24 MR. KRETZER: Nothing further.

25 JUDGE WOODRUFF: All right. Questions for

1 the bench. Mr. Chairman?

2 CHAIR HALL: Thank you.

3 QUESTIONS BY CHAIR HALL:

4 Q. Good afternoon, Mr. Ling.

5 A. Hello.

6 Q. During direct examination you mentioned
7 having said something to me in connection with the Clean
8 Power Plan. And I just wanted to make sure the record
9 was clear. That was at the workshop last week. It
10 wasn't a one-on-one conversation. It was at -- it was at
11 a workshop, the purpose of which was to discuss the cost
12 of compliance for CPP. And you were speaking at the
13 podium, and I was in the audience; correct?

14 A. That's correct, Mr. Chairman. I'm glad to
15 attend that. I'm so glad you had the ability to attend
16 the workshop and learn about the utility's perspective
17 on the Clean Power Plan. But it was not a personal
18 discussion. You are correct.

19 Q. All right. You are the director of
20 compliance for KCP&L, compliance with environmental
21 regulations; is that correct?

22 A. That's correct.

23 Q. Okay. At some point in time were you given a
24 directive to come up with some plans for Clean Power Plan
25 compliance that were contained within an IRP?

1 A. As part of the IRP process at KCPL, I provide
2 input on the environmental regulations, policy and
3 strategy permitting issues that are associated with that
4 such that I can provide the IRP planning team the input
5 they need to execute and then produce an IRP.

6 **Q. So did you make a -- make a recommendation**
7 **regarding this -- this particular project at issue here**
8 **today?**

9 A. Not this specific project, but just solar in
10 general, wind in general --

11 **Q. Okay.**

12 A. -- energy efficiency.

13 **Q. So you made a recommendation for some type of**
14 **utility-scale solar project?**

15 A. Yes. We need -- GMO needs to diversify its
16 portfolio to be able to attain that 37 percent reduction.

17 **Q. Okay. So was -- was that recommendation**
18 **solely in response to the Clean Power Plan or were there**
19 **other environmental regulations at issue that caused you**
20 **to make that recommendation?**

21 A. The IRP looks at all the environmental
22 regulations a utility is facing. So --

23 **Q. Right. Right. You -- you made a**
24 **recommendation that there should be some utility-scale**
25 **solar, correct, in the IRP?**

1 A. Yes.

2 **Q. Okay. And so was that recommendation solely**
3 **a function of the Clean Power Plan or was it also a**
4 **function of other environmental regulations?**

5 A. That's what I was explaining was that the IRP
6 process looks at all the environmental regulations, which
7 would include the ozone standard and other standards
8 where you -- we can comply with reducing the amount of
9 NOx or SOx --

10 **Q. I understand what -- the point of the IRP**
11 **process. I'm trying to get an understanding as to your**
12 **specific recommendation to include utility-scale solar**
13 **within that -- within the IRP. And was it solely the**
14 **function -- solely a function of the Clean Power Plan or**
15 **was it also a function of other environmental**
16 **regulations?**

17 A. It was also a function of all environmental
18 regulations.

19 **Q. Okay. What other environmental regulations**
20 **were specifically motivating you to include a**
21 **recommendation of utility-scale solar in that IRP?**

22 A. Regulations that would be from -- regarding
23 our coal-fired facilities specifically, the ozone
24 standard, the SO2 standard, the cross-state air pollutant
25 rule. Any of those rules where a reduction in coal-fired

1 emissions was also allowed for compliance with those
2 rul emaki ngs.

3 **Q. Okay. So could you provide an explanation**
4 **for how the utility-scale solar could help with**
5 **compliance with each of those three regulations?**

6 A. Sure. The solar project is a zero emission
7 emitting source and a producer of electricity. So
8 electricity could offset our coal-fired fleet; and by
9 offsetting our coal-fired fleet, it would reduce the
10 emissions of NOx, SOx, and CO2. That would be the
11 pollutants of concern in those regulations that I
12 described to you.

13 **Q. Okay. What about the state RES requirements,**
14 **will -- will utility-scale solar help GMO meet those --**
15 **those mandates?**

16 A. My understanding is yes. But that's not my
17 area of expertise. I have the environmental side where
18 you have the credits and allowances associated with
19 direct responsibility for those in the Clean Power Plan.
20 The Renewable Energy Standards comes from the different
21 side of the Company, so that's not my area of
22 responsibility. I'm assuming Mr. Ives could comment on
23 that.

24 **Q. Okay. Okay. So concerning compliance with**
25 **the Clean Power Plan, if I understand your testimony**

1 correctly, the Company is taking the position that even
2 if the Clean Power Plan -- even if there is some
3 uncertainty as to the date that the Clean Power Plan will
4 require certain reductions or the amount of those
5 reductions, there will be a date at some point in the
6 future where the Company will have to reduce emissions?

7 A. Yeah, the Company believes either through
8 legislation or regulation of some form there will be CO2
9 reductions required in the future for our generation
10 assets.

11 Q. So even if the recent Supreme Court action
12 does indicate a substantial likelihood of success on the
13 merits by the opponents of the Clean Power Plan, it's the
14 Company's position that it -- good business sense would
15 dictate a need to put together a plan that results in CO2
16 emission reductions?

17 A. That's correct.

18 CHAIR HALL: Okay. I have no further
19 questions. Thank you.

20 JUDGE WOODRUFF: Commissioner Rupp?

21 QUESTIONS BY COMMISSIONER RUPP:

22 Q. Good afternoon.

23 A. Good afternoon.

24 Q. In your position as the environmental person,
25 has any of the customers reached out to your organization

1 and said that they want solar in the mix, they want more
2 solar? Has there been -- have you heard from your
3 customers that they want more of this renewable mix into
4 your portfolio?

5 A. Yes, the customers have reached out. On the
6 details, though, I don't have. Maybe Mr. Ives can tell
7 you more about the studies and evaluations where we
8 received that feedback. To my knowledge, yes, they've
9 asked for --

10 Q. Okay. I'll --

11 A. -- additional solar.

12 COMMISSIONER RUPP: I'll wait for Mr. Ives
13 then.

14 THE WITNESS: Thank you.

15 COMMISSIONER RUPP: Thank you.

16 JUDGE WOODRUFF: Commissioner Coleman?

17 COMMISSIONER COLEMAN: No. Thank you.

18 JUDGE WOODRUFF: I just have a couple of
19 questions.

20 EXAMINATION BY JUDGE WOODRUFF:

21 Q. Earlier in your testimony you used the
22 acronym PPA. I assume that stands for Purchase Power
23 Agreement?

24 A. That is correct.

25 Q. All right. It helps when I write the order

1 **to be able to be sure of that.**

2 A. Sorry for the acronym.

3 **Q. That's all right. You indicated -- well, let**
4 **me just ask the question this way: Would GMO be**
5 **diversifying its power sources even if the Clean Power**
6 **Plan went away?**

7 A. Yes. And I think I described a little bit of
8 that at the beginning. But even before the Clean Power
9 Plan, we knew this was coming. So we've been adding wind
10 and adding energy efficiency to do this. So part of our
11 planning process has been to diversify our portfolio.

12 **Q. Let me expand that even a little bit more.**
13 **What if all environmental regulations went away, would**
14 **they -- GMO still be looking to diversify its source of**
15 **power?**

16 A. Again, that gets into an IRP review. But if
17 there's other ways to produce power that was more
18 efficient, we'd certainly look at those.

19 JUDGE WOODRUFF: Okay. That's all I had.
20 Thank you.

21 THE WITNESS: Thank you.

22 JUDGE WOODRUFF: Recross based on questions
23 from the bench, beginning with Division of Energy?

24 MR. ANTAL: No questions. Thank you.

25 JUDGE WOODRUFF: All right. And for UFM?

1 MR. LINTON: No questions.

2 JUDGE WOODRUFF: For Staff?

3 MS. MUETH: Yes. Thank you.

4 RECROSS EXAMINATION BY MS. MUETH:

5 **Q. Mr. Ling, in response to one of the**
6 **Chairman's questions, you indicated that this solar**
7 **facility would reduce emissions of NOx, SOx, and CO2; is**
8 **that right?**

9 A. Indirectly by reduction of the coal-fired
10 generation it would offset.

11 **Q. So does GMO plan to reduce its coal-fired**
12 **production in response to building this facility?**

13 A. It would have the option to do so when the
14 compliance requirement for the Clean Power Plan came
15 forward.

16 **Q. GMO had the option, but does GMO plan to at**
17 **this time?**

18 A. That would be part of the integrated resource
19 planning process.

20 **Q. And is that included in the IRP?**

21 A. I'm not familiar with that process enough to
22 be able to answer that question.

23 MS. MUETH: I have nothing further.

24 JUDGE WOODRUFF: Public Counsel?

25 MR. KRETZER: No. Thank you.

1 JUDGE WOODRUFF: Redirect?

2 MR. STEINER: Briefly, Your Honor.

3 REDIRECT EXAMINATION BY MR. STEINER:

4 Q. You were asked by Public Counsel about a
5 PowerPoint you put together. Do you recall that?

6 A. I do.

7 Q. What were you meaning when you said the
8 Company was well-positioned to meet -- I can't even
9 remember the title at this time.

10 A. Let me read it for you. The slide
11 indicates -- and for the Commission too, it indicates
12 that I was making a statement that the future renewable
13 requirements driven by renewable portfolio standard, the
14 RPS in Kansas and Missouri, that the utility is
15 well-positioned to satisfy those requirements. And
16 that's something that's very true. But the Renewable
17 Portfolio Standards is different than the Clean Power
18 Plan Emission Rate Credit or allowance system.
19 Completely different programs. So complying with the
20 Renewable Portfolio Standard is not in compliance with
21 the Clean Power Plan. Different programs.

22 Q. I think you were also asked by Public
23 Counsel's attorney that there -- he wanted you to agree
24 that there was no state or federal requirements that
25 require the building of the Greenwood facility. Do you

1 **recall that?**

2 A. I do.

3 **Q. Would it still be a good idea to gain**
4 **experience with solar by building the Greenwood facility**
5 **at this time?**

6 A. When I answered the question, I was under the
7 assumption it was environmental requirements. And so
8 there certainly would be other reasons besides
9 environmental requirements to add solar, and one of
10 those -- this specific project would be to gain
11 experience such that we could have additional solar in
12 the future, understand its impact on our system.

13 MR. STEINER: Thank you. I have nothing
14 further.

15 JUDGE WOODRUFF: All right. Thank you. You
16 can step down.

17 (Witness excused.)

18 JUDGE WOODRUFF: And it's time for lunch.
19 We'll take a break now. Come back at 1:30 with Mr. Ives.

20 (Off the record.)

21 JUDGE WOODRUFF: All right. Let's come back
22 to order, please. It's 1:30, and we're back from lunch.
23 And we're ready for our next witness, which I believe
24 would be Mr. Ives.

25 Would you please raise your right hand.

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DARRIN IVES,

after having been first duly sworn, was
examined and testified on his oath as follows:

JUDGE WOODRUFF: You may inquire.

DIRECT EXAMINATION BY MR. FISCHER:

**Q. Please state your name and address for the
record.**

A. My name is Darrin Ives. My address is
1200 Main, Kansas City, Missouri.

**Q. By whom are you employed and in what
capacity?**

A. I'm employed by Kansas City Power & Light
Company, and my position is vice president of regulatory
affairs.

**Q. And on whose behalf are you testifying in the
case today?**

A. Testifying on behalf of the KCPL Greater
Missouri Operations Company.

**Q. Could you briefly explain the commission of
your responsibilities at the Company?**

A. Yeah, I have oversight for the regulatory
affairs department. So that covers all aspects of
regulatory activities, including tariffs, cost of
service, rate design, regulatory reporting.

Q. And what's your education and work

1 **experience?**

2 A. I graduated from Kansas State University in
3 1992 with a bachelor's degree, with emphasis in
4 accounting and marketing. I have a master's of business
5 administration from University of Missouri-Kansas City
6 that I received in 2001.

7 Started with -- started with KCP&L in 1996 in
8 the accounting organizations. Held progressive levels of
9 responsibility, until I moved to the regulatory affairs
10 group to head it in 2011. And I received my current
11 position as vice president in 2013.

12 **Q. And have you testified previously before the**
13 **Commission or the Kansas Corporation Commission?**

14 A. I've testified in front of both, and I've
15 provided written testimony in a proceeding in front of
16 the Federal Energy Regulatory Commission.

17 **Q. What's the purpose of your testimony today?**

18 A. The purpose of my testimony is to describe
19 our request for a Certificate of Convenience and
20 Necessity for the Greenwood solar facility that has been
21 the topic of our discussion today.

22 **Q. Would you describe briefly that application?**

23 A. Yes. It's a -- it's an application for a
24 solar electrical facility to be installed at our
25 Greenwood facility. It's on land and property owned by

1 GMO. It is proposed to be the equipment and works for a
2 3-megawatt capacity system that will cover about 12 acres
3 of farmland that's adjacent to our current Greenwood
4 Energy Center that has CTs on site.

5 **Q. When does GMO propose to build that solar**
6 **facility?**

7 A. Our intent had been to start construction
8 immediately upon receipt of a CCN from the Commission.
9 We had expected that that would be completed by
10 April 2016. With the proceedings that we're currently
11 in, our hope is to receive the CCN from the Commission by
12 the end of February, with a target of starting
13 construction immediately and completing it by the end of
14 July this summer.

15 **Q. Would you describe the reasons why the**
16 **Company filed this application and requested the CCN?**

17 A. Sure. Our witness, Emeka Anyanwu, provided a
18 lot of discussion about that earlier in his testimony.
19 But -- but we -- we have a view that solar is -- is here
20 to stay. It is -- it is moving forward in importance to
21 the energy supply into our system; going to reach price
22 parity, in our Company's opinion, somewhere in the range
23 of between, you know, 2017 and 2020, based on what we see
24 right now.

25 All that said, we think it's important to get

1 started in evaluating the experience that we can gain
2 operationally, both -- from the design and the
3 construction and the operation of the system, but both
4 from the impacts on our Company's distribution system.
5 It also is a first step towards, as our witness, Ling,
6 testified, what we will believe to be an important part
7 of compliance with CPP and other environmental rules and
8 regulations that, in general, are all geared towards
9 lessening the carbon intensity and lessening the reliance
10 upon fossil fuel generation.

11 **Q. Does the Company have an overall strategy**
12 **regarding solar energy?**

13 A. We do. In -- probably in about mid 2014 we
14 kicked off a process to evaluate a strategy around solar.
15 It was under the direction of myself, as well as our vice
16 president of marketing and public affairs, Chuck Caisley,
17 and at the time our vice president of strategy and
18 finance, Kevin Bryant. We -- we kicked off a team of
19 about 20 cross-functional employees from our
20 organization. That team ultimately, through quite a bit
21 of work, through quite a bit of assessment, review of
22 industry publications, discussions with other utilities
23 in the industry, developed a solar strategy moving
24 forward.

25 **Q. Okay. What -- what was the purpose or goal**

1 of that particular cross-functional group? And maybe you
2 can elaborate on who all was involved in that.

3 A. Sure. So we -- when we set it out, we set
4 out with several goals in mind. We wanted to understand
5 when and to what extent solar energy would begin to play
6 a major role in our service territory. We intended to do
7 that by identifying a number of what we refer to in our
8 strategic analysis as -- as sign posts that they indicate
9 when it would be a significant part of our service
10 territory.

11 In that regard, I mean, we identified things
12 that will tell us what the pace of adoption for some sort
13 of innovative technology would be. We looked at the
14 regulatory environment. We looked at the judicial
15 environment. We looked at the advancements in technology
16 in the space. Three of the primary ones that we looked
17 at. We also looked at develop of a view regarding when
18 solar energy was going to reach price parity. I
19 mentioned that earlier.

20 One of the -- one of the conclusions the team
21 drew in that strategic work in looking at what was going
22 on across the country, looking at rate increases that
23 were occurring in the regulated utility space, and all
24 the factors that play into price parity, their best
25 estimate for our service territory was somewhere in the

1 range of 2017 to 2020 solar would reach price parity.

2 We wanted to understand as part of that team
3 to what extent customers were interested in solar as an
4 energy resource, both from an environmental and from a
5 cost standpoint. Wanted to understand what types of
6 solar customers were interested in and develop customer
7 offerings to meet their needs, and then develop a
8 viewpoint into what type of solar offerings could advance
9 renewable and cleaner energy for our customers, while
10 making sense under our regulatory construct and not
11 exposing our shareholders to undue risk.

12 **Q. Could you also tell us why you believe solar**
13 **will play a major role in your service territory over the**
14 **next decade or so?**

15 A. Yeah, there are -- there are a number of
16 factors that lead us to that conclusion. Certainly it
17 has been a major topic of discussion in the state of
18 Missouri. Proposition C came about in 2008 that talked
19 about the expansion of renewable resources, including
20 solar, resulted in some requirements -- minimum
21 requirements to maintain. There have been solar rebates
22 offered in the state of Missouri in particular that we
23 all saw an explosion of interest in adoption of solar and
24 utilization of those rebates to our Company's tune of
25 about -- combined, KCP&L and GMO would probably provide

1 about \$90 million of rebates to customers over probably a
2 period of about four years.

3 **Q. Does that indicate to you some level of**
4 **interest by consumers in solar?**

5 A. It does. Additionally, that was part of the
6 undertaking that our strategic team did. We did some --
7 some customer survey and polling, particularly at the
8 residential customer level. The results of that work
9 that the team found out was roughly -- the response rate
10 was roughly 80 percent positive interest in solar from
11 our -- from our residential customers. They certainly
12 had some parameters around that, but two of their main
13 interests are cost price parity and certainly
14 sustainability of the resource and impact on changing our
15 portfolio mix.

16 In addition, we have a number of
17 interactions -- and this kind of goes to the question
18 that Commissioner Rupp started to ask earlier. We have a
19 number of interactions with our industrial, commercial
20 customers. Oftentimes they'll come to us and they'll ask
21 us about solar options, solar opportunities. You know,
22 as their energy supplier, they often look to us as a
23 trusted resource for evaluation of that. And in lots of
24 cases they'll ask us directly if we provide solar --
25 solar resources that they could -- they could partner

1 with us on.

2 And the last thing I'd mention about that is,
3 you know, when we filed this CCN request, one of the
4 first things that happened was the -- that the Commission
5 put out a press release indicating that we had filed this
6 case. The number of contacts and the interest that we
7 received from customers on that press release and the
8 positive feedback that we received from them in regards
9 to their interest in us pursuing solar, their
10 appreciation that we were coming in line with what Ameren
11 on the east side of the state had done, what a municipal
12 like Independence Power & Light had announced that they
13 were going to do, they were appreciative that we were
14 pursuing a renewable resource like solar.

15 **Q. Did your solar team come up with a strategy**
16 **or a recommendation on how to proceed to the future?**

17 A. They did. Their recommendation, which we --
18 we were accepting of, was really three-pronged. The
19 first step was pursuit of a utility-scale solar facility
20 in the range of 2 to 5 megawatts, I think was right in
21 the range of their -- their recommendation.

22 They also recommend that we pursue rooftop
23 solar installation owned by the utility at the C & I
24 level. That's another area of strong interest and
25 another area that we can -- we can study the implications

1 of distributed generation on our system, not unlike at
2 the utility-scale, as our witnesses provided.

3 And then the third recommendation from that
4 strategy team, in the near term at least, was to consider
5 the opportunities for community solar and adoption of
6 something that would provide that -- that level of
7 service to our customers.

8 **Q. If the Commission grants the CCN in this**
9 **case, what kind of experience does the Company hope to**
10 **achieve as a result of constructing and operating that**
11 **plant?**

12 A. Well, we've discussed a lot of that today,
13 and certainly -- certainly Emeka from our team described
14 some of that maybe as well as I could. But -- but we are
15 looking for hands-on experience, both on the -- both on
16 the operation of the generation facility and on the
17 implications to our distribution network, both from
18 reviewing the intermittent nature of the resource and its
19 impact on our system, as well as some of the benefits
20 that -- that Emeka referred to.

21 We also -- we also believe that this is the
22 right time to get a start on transitioning our portfolio
23 even further in -- into a less-carbon-intensive
24 portfolio. We have done -- we've been very supportive of
25 renewable energy. We have quite a bit of wind today, and

1 we hope to expand that into solar. And we believe, as
2 our witness, Ling, testified to, that over the near term
3 and into the future, to be successful in complying with
4 Clean Power Plan or other regulations, we're going to
5 have to diversify our fleet. And it's not going to be a
6 quick movement of diversifying a fleet our size, and it's
7 not going to be a one-size-fits-all solution. It's going
8 to have to be a balanced and a multi pronged approach to
9 reach compliance.

10 **Q. I think I heard suggestions that this would**
11 **just benefit the Company. But are there benefits to**
12 **consumers as well?**

13 A. Absolutely. You know, I might mention there
14 was a question earlier where -- I think Staff asked a
15 question whether or not there would be any sort of
16 displacement of fossil fuel generation and alluded that
17 we had set no plans to shut down generation in response
18 to this 3-megawatt add. You know, I would remind the
19 Commission and the parties of this case we have made
20 announcements to -- as a Company to -- for the cessation
21 of coal at a number of our facilities in the upcoming
22 years as a -- as a response to some of the regulations
23 we're talking about and a move towards diversification of
24 our portfolio.

25 You know, I would also say on a near-term

1 basis, you know, the electrical system is a process of
2 supply and demand. We have a demand on the system, and
3 there's supply that comes into the system. If a
4 3-megawatt solar system is dispatched on the system and
5 the demand hasn't changed, that means it's displacing 3
6 megawatts of supply that's coming onto the system. Most
7 likely in our region it's supply that's fossil-fuel based
8 either from us or from another participant in the SPP
9 marketplace. So it's likely there will be a shift.
10 That's certainly positive to customers.

11 Health benefits. We could talk a lot about
12 that, I'm sure. And I'm not an expert in that area, but
13 a zero-carbon-emitting, zero-pollutant-emitting resource
14 certainly has been deemed to be preferable on that front
15 as well.

16 **Q. Are there also economic development benefits**
17 **that you'd expect to occur?**

18 A. There are. We -- we have -- we have
19 contracted on this project with a -- with a local -- with
20 a company with a local presence. The company is an
21 international solar installer, but does have a Kansas
22 City presence that'd be providing work in the local
23 community, work for contractors that are doing that
24 construction. And that's certainly -- that clean energy,
25 clean technology space has certainly been a focus area in

1 the Kansas City market and an area that we are trying to
2 develop as a -- as a region.

3 **Q. There's been some discussion about whether**
4 **this is the lowest-cost option. Is this utility-scale**
5 **solar the lowest way to meet the requirements for the**
6 **state Renewable Energy Standard?**

7 A. If you look at -- if you look at the current
8 costs today, I mean, I will clearly state so we don't
9 have to argue about this the remainder of the afternoon,
10 the Company knows that this is not the least-cost option
11 to put generation in today. There is -- there is, no
12 doubt, more to planning a utility system and a move to a
13 more sustainable generation platform than just looking at
14 today's costs, when you're looking at what the needs and
15 requirements of your system are over the future not only
16 for providing reliable service to our customers, but in
17 order to meet the compliance of ever evolving, more
18 stringent environmental regulations.

19 **Q. Do you know what the approximate price of**
20 **S-RECs are? And maybe you could explain what an S-REC**
21 **is.**

22 A. Yeah, an S-REC is kind of -- kind of the
23 credit that you get, if you will, for having solar
24 generation that you're responsible for -- for producing
25 generation. I think if you have -- I think if you have

1 Missouri-based generation, you get 1.25 RECs or S-RECs
2 for what you generate. They're used to demonstrate your
3 ability to comply with the requirements of the Renewable
4 Energy Standards that are in place for the state.

5 In speaking with the folks in our company
6 that are responsible for S-RECs and in knowing that we
7 have, you know, in prior periods as a company purchased
8 S-RECs on the marketplace, they are in the range of a
9 dollar per -- dollar to \$2 per REC. Quite inexpensive in
10 the marketplace today, if that's the path you chose to
11 meet compliance.

12 **Q. So that could be a lower-cost option than**
13 **building a solar facility?**

14 A. Absolutely.

15 **Q. Okay. Well, if prices -- we've heard some**
16 **discussion of solar continuing to come down. Why not**
17 **wait until there's price parity or at least the price is**
18 **less than it is today?**

19 A. We've discussed that at some point. You
20 know, I -- I think if you read the publications and you
21 look across the country at the prevailing fuel solar, I
22 would say the majority position is that prices will
23 continue to decline. I would not take it as an absolute.

24 I think Witness Ling for us alluded to it,
25 but, you know, if we get to a point where you have price

1 parity and/or rapid required adoption of solar in order
2 to meet compliance obligations from an environmental
3 standpoint, it will fall into some of the typical demand
4 and supply that you see in the marketplace for something
5 like this. You could see prices go up.

6 The other thing I would say is -- you know,
7 we haven't talked about it, but solar panel prices and
8 things like that have gone down dramatically, primarily
9 as a result of the influx in panels coming from China and
10 the prices that they're bringing those over at. There's
11 nothing to say that federal policy in this state won't
12 ultimately, you know, put additional restrictions or --
13 or additional costs on panels coming in from China.
14 They've done that in a number of industries. It is
15 certainly a possibility in this space as well.

16 All that said, back to your -- back to your
17 original question. And we've -- we've alluded to this
18 with some of our earlier witnesses. Now is the time.
19 Because this is not a 3-megawatt and we're done decision
20 on moving our portfolio to be more sustainable. It's not
21 a 3-megawatt and we're done to meeting the type of
22 thirty -- 37 percent, I think, with a sling-sided
23 reduction in carbon intensity in order to reach
24 compliance with the Clean Power Plan. This is a first
25 step. And we've alluded to it today here as well, doing

1 it at a time when there is not an onslaught of solar
2 coming onto our system. And an onslaught of impacts will
3 help us be prepared for it more readily than what has
4 been seen in Kauai where they had rapid adoption of solar
5 and they've had dramatic system impacts; in Germany,
6 which our witness, Anyanwu, talked to, where they had
7 system reliability issues because of the rapid adoption.
8 It's an ability for us to understand and be prepared for
9 what we think is inevitably coming as far as solar
10 adoption.

11 **Q. Well, if the Commission grants a CCN in this**
12 **case, would you have plans to do other solar projects in**
13 **the future?**

14 A. We absolutely do. I alluded to the strategy
15 that our team came out with a recommendation. And that
16 was to start with this. It was to evaluate and move into
17 some rooftop solar. It was to evaluate and move into
18 community. And I agree with -- I agree with our witness,
19 Ling, that it likely will take quite a bit of solar,
20 quite a bit of wind, quite a bit of energy efficiency to
21 move our portfolio to a level that will be sustainable
22 and will comply with clean power and the other
23 regulations. So we will do more.

24 It would certainly be nice to start now and
25 have the learnings from this system and the ability to

1 evaluate it so that can inform our decision as we move
2 forward with additional solar resources.

3 **Q. Why did the Company focus on the Greenwood**
4 **facility for this first step?**

5 A. Well, the simple answer was it was easy for
6 us. We had the facility. It's already Company-owned.
7 So that certainly impacted the cost of putting the
8 system. It's a -- I think a 300-acre facility out there,
9 of which this Phase 1 Greenwood facility is going onto
10 farmland that covers about 12 acres. It is next to an
11 existing facility that has -- has some CT turbines out
12 there. So we have resources right across from it,
13 basically, that we can utilize to maintain the system.
14 There's also already security, other resources in place
15 that we can leverage off of as we put this first system
16 in.

17 **Q. Could the building of that Greenwood facility**
18 **also help facilitate a community solar offering from the**
19 **Company at some point?**

20 A. It could. I mean, there are -- there are a
21 couple of ways to think about that that certainly have
22 not been lost on us as we work through this. We could
23 install this, and then we could come back in and pursue
24 a -- some sort of community solar tariff with the
25 Commission so that we could offer community solar

1 fractional shares to customers. Or we could use it to
2 inform our understanding of how it's operating and
3 working so that in the future, if we put another
4 similarly-sized situation in, we could do that in an
5 offering for utility-scale solar -- or community solar.

6 **Q. I believe you were in the room when the**
7 **opening statements occurred and the various counsel**
8 **talked about the Tartan factors. Were you here then?**

9 A. I was here for that.

10 **Q. Is there a need for a utility-size solar**
11 **facility?**

12 A. There is. I alluded to that, you know, as
13 we've been talking here today. But, you know, as a
14 result of thinking about compliance, there will be
15 parties that will probably ask me questions about whether
16 or not we -- we have a need for S-RECs today to meet the
17 minimum requirements for the Missouri standards. We
18 don't have a need today. We have until somewhere in the
19 2020s.

20 But this system will still generate credits
21 in that future period when we may have a need past when
22 we have credits available from the -- from the
23 customer-generated supply, it -- to provide the
24 operational hands-on experience, to set us on the path to
25 do more renewables, and to transition our portfolio are

1 all factors that I think weigh into our evaluation of the
2 need for a system.

3 **Q. Is GMO qualified to construct this facility?**

4 A. Absolutely. I mean, I think that's been an
5 interesting question and parties' response to the
6 position statement. But it is a new and evolving
7 technology, not unlike we deal with day in and day out in
8 terms of operating a complex system like we have. But
9 we've been maintaining and operating systems for over a
10 hundred years as a utility. I'm quite certain we can
11 handle a 3-megawatt facility and the implications of
12 that.

13 **Q. Without getting into the number, does GMO**
14 **have the financial ability to construct and operate the**
15 **Greenwood facility that you're talking about?**

16 A. Absolutely. I think -- I think that's
17 another one that's been an interesting question for me.
18 GMO is a partial owner of the coal-fired facility that it
19 jointly put in with KCP&L not that many years ago. The
20 cost of that facility at the time was about -- just under
21 \$2 billion, and I think GMO's share of that was about
22 12 percent. Certainly a lot more money than -- than what
23 we're talking about spending on this facility, and GMO
24 found a way to get that done.

25 **Q. Is the proposed solar facility economically**

1 **feasible?**

2 A. It is. I've heard some discussion today and
3 in the position statements that there's a view that
4 economically feasible may -- may mean it needs to be
5 least cost. From my perspective, and I'm not an
6 attorney, but I don't necessarily believe that. We have
7 looked at it in terms of a list of factors. We certainly
8 look at costs. We looked at the ability to procure it on
9 a price consistent with what similarly-sized systems are
10 being put in today. So we ran a full RFP process to
11 determine the design and the bids for this facility. It
12 is going to be able to receive the federal tax credits
13 that have been discussed at some level today, which is a
14 benefit that the system will have.

15 And then, in general, I think, you know, our
16 view of the desires of our customers to move to a more
17 sustainable resource, our view that it is a prudent
18 decision to start that evaluation now as we move towards
19 compliance and move towards less-carbon-intensive
20 generation portfolio, all factor into what should be
21 considered for economic feasibility at this -- at this
22 point on the project.

23 **Q. Do you believe the benefits of this proposed**
24 **facility will exceed the costs?**

25 A. I -- I do or we wouldn't have proposed it.

1 **Q. Does the proposed solar facility promote the**
2 **public interest?**

3 A. It does. It does. I've talked about the --
4 the move to renewables. I've talked about the interest
5 in the state, both from Proposition C and both from the
6 information that's in the Missouri State Energy Plan
7 about movement to more renewables and more sustainable
8 resources. It is clearly in the public interest to
9 continue to look and evaluate these items and do it in a
10 way, when we're doing our long-range planning, that can
11 make sure we're meeting the reliability in the regulatory
12 compliance needs that we have to now and in the future.

13 **Q. Have you had the opportunity to review the**
14 **exhibits that the Public Counsel's indicated they would**
15 **present in this case through, I think, Dr. Proctor's**
16 **testimony?**

17 A. Yes, I have. You know, in summary, I would
18 say Dr. Proctor appears to be providing exhibits
19 summarizing analysis demonstrating that --

20 MR. OPITZ: Judge, I'm going to object to
21 this. Dr. Proctor hasn't even testified yet. I believe
22 the procedural schedule said that there's an opportunity
23 for rebuttal over the list of issues. But I don't
24 believe this is an appropriate time. Nothing's been
25 offered by Mr. Proctor.

1 MR. FISCHER: If you prefer to do it that
2 way, that's fine. We're just trying to move it along.

3 JUDGE WOODRUFF: We'll save it for rebuttal.

4 MR. FISCHER: Okay.

5 JUDGE WOODRUFF: Objection is sustained.

6 BY MR. FISCHER:

7 Q. Let me ask you this: Does the Company
8 believe that wind would be an appropriate substitute for
9 the solar project as proposed?

10 A. We -- we don't. There are a couple of
11 factors for that. One -- one is the placement of wind.
12 You know, wind generally, in our history and in the
13 history in the region, is not sourced close to load and
14 it's sourced primarily on a transmission system. You
15 know, what we're looking at is a sizable but much smaller
16 renewable generation that's going to -- going to be
17 located on our 12 kV distribution system.

18 The results of analysis of those two type of
19 renewable systems will be completely different. It won't
20 provide the hands-on experience that we're looking for
21 for this utility-scale solar installation.

22 Q. Why does the Company want to move ahead with
23 the project now rather than, as some of the parties have
24 suggested, waiting for a couple, two or three more years?

25 A. Well, I'll touch on that. You know, I -- we

1 think the time is now, because there's some uncertainty
2 in front of us on the Clean Power Plan, as -- as was
3 discussed by our witness, Ling, earlier. But,
4 nonetheless, that rule remains in place and is now
5 situated where we'd have to start complying as early as
6 2022 with the first threshold. That puts us in a
7 position where we need to -- we need to get started. We
8 need to understand.

9 And I alluded to this earlier, a 3-megawatt,
10 18 percent capacity factor solar system is not going to
11 be the end for transitioning our system from, you know,
12 the fossil fuel, carbon-intense set of resources we have
13 today to where we're ultimately going to need to be to
14 comply with clean power and other environmental
15 regulations.

16 **Q. Have you had a chance to review the position**
17 **statements of the other parties in this case?**

18 A. I have.

19 **Q. Do you have any particular comments regarding**
20 **the Staff's position statement that you could give to the**
21 **Commission?**

22 A. I do. The -- there were a couple of
23 operational conditions that the Staff alluded to. The
24 first I think being that -- that we needed to provide
25 some sort of assurance that there weren't electric or

1 telephone lines, railroad tracks, underground facilities,
2 that they were going to be crossed over by this facility.
3 I've had a chance to talk with our engineering team to
4 verify that we don't have any of those crossings to
5 address. We will make a filing with the Commission
6 indicating that, you know, at the conclusion of this
7 proceeding. They --

8 **Q. Were there also some questions about whether**
9 **we'd supply plans?**

10 A. There were. And when we made our initial
11 application, we did not -- we indicated that they are
12 still under development, not ready at that time. In mid
13 December we made a late filing to this case, providing
14 the complete plans and specifications for the facility.
15 So we believe we've met that -- that condition.

16 **Q. Does GMO have the required governmental**
17 **approvals for the project?**

18 A. We do, with the exception of approval of the
19 CCN from this Commission. We late filed at that same
20 time frame in mid December a letter from Jackson County
21 that states that a permit was not required.

22 **Q. Well, one of the other conditions was filing**
23 **an interconnection study, I believe was on Staff's**
24 **position statement. Would GMO be willing to perform and**
25 **file with the Commission an interconnection study**

1 **demonstrating the project will not cause an adverse**
2 **impact to the Company's distribution system prior to**
3 **commencing construction?**

4 A. Yes, we would. And, in fact -- and I think
5 this was alluded to earlier as well. But we have done
6 that work that's typically required for an
7 interconnection study as part of our evaluation of the
8 system. I would offer that we probably don't have it in
9 the articulated format and report structure that the --
10 that the Staff asked for in their -- their position
11 statement. But -- but we -- we will file a report
12 consistent with that structure and the parameters
13 outlined by Staff before -- before construction's
14 completed on the facility.

15 **Q. Would GMO develop and file with the**
16 **Commission a plan outlining its learning objectives from**
17 **the Greenwood solar facility and a description of how**
18 **you'll evaluate those objectives prior to construction?**

19 A. Yes. Yes, we'll be willing to do that. One
20 of the things that we've articulated from our application
21 forward is that we expect there to be learnings coming
22 out of this system. So we -- we would commit to develop
23 and file with the Commission just such a plan outlining
24 those objectives and how we'll evaluating -- evaluate
25 them. And we would endeavor to work with Staff and OPC

1 in the development of the filing and have a plan to make
2 that filing before construction of the facility is
3 completed.

4 **Q. Is GMO willing to file with the Commission an**
5 **evaluation of the plan after -- after you've had five**
6 **years experience?**

7 A. We are. We think that will be a valuable --
8 a valuable output of moving forward with the facility. I
9 think the Staff's condition in their position statement
10 might have been a little bit more restrictive than that.
11 I think they asked to do it in five years -- the earlier
12 of five years or before we file any future CCN for solar.
13 Based on the discussion that -- you know, and the views
14 of the Company that I've shared today, we're not willing
15 to stipulate that we would file it before any future CCN
16 requests -- file the evaluation before any future
17 requests, but we'd certainly be willing to provide it
18 after the first five years of operation of this facility.

19 **Q. And going back to that -- that objectives**
20 **document, let's clarify. When would you be able to do**
21 **that? Prior to the commencement or prior to the actual**
22 **completion of construction?**

23 A. Our proposal would be to do -- do it before
24 completion of construction and before the -- before the
25 facility's placed in service. I think the Staff had

1 requested in their position statement that it be prior to
2 the commencement of construction. As I mentioned
3 earlier, our intent would be to start construction
4 immediately upon -- assuming we could receive an order
5 from this Commission approving the CCN, and we would --
6 we would prefer to take a little bit more time to put
7 that filing together and work with Staff and OPC on any
8 thoughts they have on that and get it in before
9 construction's completed.

10 **Q. Did you also have a chance to review the**
11 **alternative economic conditions that were included in the**
12 **Staff's position statement?**

13 A. I did. As I -- as I understand it, they
14 provided two in the position statement, and I believe I
15 heard them add a third one in the opening this morning.
16 You know, long story short, I would echo what we said in
17 our opening, that those economic conditions have -- have
18 led us to the conclusion that we need to ask the
19 Commission to address decisional prudence in the -- in
20 the order on this CCN or, said more clearly maybe, if it
21 is the view of this Commission to follow the economic
22 conditions provided by OPC and Staff indicating that our
23 shareholders should fund an investment for generating
24 resource for our system, we'd prefer to know that before
25 we start construction, because -- because our

1 shareholders will not be willing to provide generation
2 resources on their dime for our customers. Our
3 shareholders invest in our company to earn a return on
4 their investment, not to be charitable and provide
5 generating resources to our customers for free.

6 **Q. Is that true of all of the economic**
7 **conditions that were suggested?**

8 A. In my opinion, yes.

9 **Q. Do you have any other comments about the**
10 **Staff's position statement you'd like to make?**

11 A. I don't on the Staff's. I think I've -- I've
12 addressed, in response to the questions in my direct, our
13 view of the Tartan criteria, I've addressed their
14 operational conditions, and now the economic.

15 **Q. Do you have any comments regarding the Public**
16 **Counsel's position statement?**

17 A. I have one. You know, as far as it goes to
18 the Tartan criteria, I think my responses that I provided
19 would be consistent, you know, in response to OPC.

20 So the one thing I would address is OPC
21 explicitly stated in their position statement that the
22 purpose of this project is to allow GMO to increase its
23 investment upon which it could earn a return. I mean,
24 candidly, I think that's ridiculous and, you know,
25 probably borderline slanderous (sic). I mean, the size

1 of this project is so small in relation to the
2 1.4 billion of rate base that GMO has and the
3 approximately \$180 million worth of capital expenditures
4 that we make annually to maintain reliability of our
5 system. I think to indicate that we're doing this to pad
6 shareholders' pockets is -- is crazy.

7 **Q. Do you have any comments regarding United for**
8 **Missouri's position statement?**

9 A. I do. Only one. It appears to me United for
10 Missouri's position statement is -- has been focused on
11 the -- the tax credits that are available for solar
12 installation such as this. I believe they requested a
13 condition that the Commission condition the approval of
14 the CCN upon GMO not receiving the benefit of the ITC.

15 Without getting into a tax policy discussion
16 with United for Missouri, I would consider it likely that
17 the Commission would believe it imprudent if we did not
18 pursue available federal tax credits for a solar project
19 if they approved the CCN for the construction of it.

20 **Q. I believe it was Commissioner Rupp that asked**
21 **about customer reaction or customer comments about solar.**
22 **Could you expand on that for the Commissioner?**

23 A. I can. And I mentioned it a little bit.
24 When we were putting the strategy together, we did some
25 polling of our -- our customers. Their positive response

1 rate to solar and to renewables was high. I think the --
2 the team indicated it was around an 80 percent favorable
3 response. Certainly some caveats to that. They're
4 interested in understanding the cost component to solar,
5 but -- but certainly interested in sustainable resources.

6 We get a lot of direct one-on-one inquiries I
7 alluded to from industrial and commercial customers not
8 only wanting our advice on installation of solar, but
9 pushing us on whether or not we can provide solar in
10 partnership with them or on our system that they can take
11 advantage of, you know.

12 And then the last thing I would say, and I
13 mentioned it, is when the press release came out that
14 this case was undergoing, we received a lot of social
15 media, a lot of positive comments from our customers
16 appreciating us pursuing a solar facility. So we've had
17 multi pronged approach from customers and very little
18 response from our customers that's been negative as far
19 as moving forward with sustainable resources.

20 **Q. Do you know if the Company's done any**
21 **customer surveys that address that topic?**

22 A. We -- we have. And I think we might have
23 provided, you know, some excerpts of them in DRs in this
24 case. But certainly we have asked questions specifically
25 about increased utilization of renewable resources, solar

1 resources. And that's what drove some of the 80 percent
2 favorable response that I -- that I spoke about.

3 **Q. I believe Chairman Hall asked questions**
4 **regarding price parity. You've already addressed that.**
5 **Is there anything else you need to say about that?**

6 A. I don't think so. I don't -- I have not seen
7 all the detailed analysis on that. I know the team
8 looked at, you know, studies that have been done in
9 different jurisdictions, had looked at evaluations that
10 had been done by the -- the solar energy industry trade
11 groups, things like that, that have indicated, you know,
12 parity in some jurisdictions starting as early as 2016.
13 When our team looked at it, we felt like in Missouri and
14 in the Midwest where our prices are, it's not 2016, but
15 it's likely in the 2017 to 2020.

16 I mean, the only caveat I should give to that
17 is that is considering that tax incentives and things
18 that are available today continue to be available at the
19 time that -- I mean, those are factored into the parity
20 discussion.

21 **Q. And then, finally, what are you asking the**
22 **Commission to do in this case?**

23 A. Certainly we are asking the Commission to
24 grant us the Certificate of Convenience and Necessity to
25 construct, install, own, operate, maintain the Greenwood

1 solar facility and all related equipment. We're asking
2 them to, you know, grant that it is consistent with the
3 public convenience and necessity standards.

4 As we mentioned today and as I mentioned
5 recently, we would now ask the Commission to address the
6 decisional prudence of moving forward with the Greenwood
7 solar facility at this time, basically from our view, in
8 response to parties' positions indicating that they
9 believe our shareholders should carry the investment for
10 this.

11 And then we'd ask them to make such other
12 orders and findings as necessary for the -- our ability
13 to move forward and construct the facility.

14 MR. FISCHER: Judge, with that, Mr. Ives will
15 be available for cross.

16 JUDGE WOODRUFF: All right. Cross beginning
17 with Division of Energy.

18 CROSS-EXAMINATION BY MR. ANTAL:

19 Q. Hello, Mr. Ives.

20 A. Good afternoon.

21 Q. A few questions. Did the Company do any
22 economic feasibility studies before submitting its
23 application?

24 A. We certainly included the solar facility,
25 both this and rooftop solar, in our IRP evaluation, the

1 triennial that was handled this last year and accepted by
2 the Commission this last year. So we have looked at that
3 time.

4 We have -- I am not aware that -- that we
5 have done any direct 3-megawatt replacement comparison,
6 candidly, because you wouldn't do that. You wouldn't put
7 3 megawatt of wind in. You wouldn't put 3 megawatt of
8 natural gas-fired generation or anything else in. But,
9 again, I've said it and I'd say it again: We are not
10 asking for this because we believe it's the least-cost
11 supply at a 3 megawatt set of generation today.

12 **Q. Is there any doubt in your mind that this is**
13 **not an economically-viable project for the Company?**

14 A. There's no doubt in my mind about that. I
15 believe it is viable.

16 **Q. There's no risk the Company's going to go**
17 **bankrupt because of a 3-megawatt solar facility?**

18 A. I'm quite certain this won't bankrupt GMO.

19 **Q. Okay. If the Commission denies this**
20 **application for a CCN in this case, will it have an**
21 **effect on the Company's processes for evaluating future**
22 **solar projects?**

23 A. Absolutely. And I'd take it a step further.
24 I'd say if the Commission approved the CCN but placed one
25 of the conditions on there, that their expectation was

1 our shareholders to foot the bill for this, it would have
2 the same effect. We would not move forward with this
3 project; and we would certainly not move forward in the
4 near term with any future solar, until we felt like the
5 state was ready to consider solar in our generation
6 resource portfolio.

7 MR. ANTAL: Okay. That's all the questions I
8 had. Thank you for your time.

9 JUDGE WOODRUFF: United for Missouri.

10 MR. LINTON: Just a couple.

11 CROSS-EXAMINATION BY MR. LINTON:

12 Q. Good afternoon, Mr. Ives.

13 A. Good afternoon.

14 Q. I think you answered most of my questions on
15 direct. So thank you for that. The only question I
16 think I have relates to the battery that was referred to
17 earlier today, the \$7 million battery.

18 A. Sure.

19 Q. And I think we understand that the
20 Department -- Department of Energy gave \$3 million to
21 that?

22 A. I think the -- I think if you step back --
23 step back to that Smart Grid project that went on, it was
24 roughly a 50/50 project between KCP&L and the Department
25 of Energy in terms of funding for that. There were also

1 some in-kind contributions provided from some other
2 suppliers to that process. And it was much more
3 expansive than just the battery. So I don't know that I
4 know that it was a specific breakdown of X dollars from
5 the DOE for a battery and X dollars from the Company for
6 a battery. It was looked at as a -- as a total project
7 value. But there was certainly --

8 **Q. A significant grant?**

9 A. Certainly a significant grant from the DOE to
10 evaluate a number of Smart Grid technologies.

11 **Q. Would KCP&L have gone forward with that**
12 **investment without the DOE grant?**

13 A. It's hard to say. I'm not sure that
14 that's -- I'm not sure that that's how it was developed,
15 as a stand-alone. We certainly put a fair amount of
16 dollars towards that project and certainly felt confident
17 that it was the right thing to do, to evaluate our
18 merging technologies and understand the implications of
19 adoption on our system of those types of things. Battery
20 being one piece of it.

21 **Q. But it would have been less likely that you**
22 **would have gone forward with that pilot project, if you**
23 **will, without the DOE grant?**

24 A. I think it's hard to say that. It might have
25 changed the scale or the scope of the project that was

1 undertaken. But we certainly put a number of dollars
2 into that project, regardless of the grant.

3 **Q. And you have decided that you will not go**
4 **forward with that -- that technology in the future; is**
5 **that correct?**

6 A. Specific to the battery?

7 **Q. Correct. Yeah.**

8 A. Specific to the battery, we have the battery.
9 It's still connected. It is not our intention to -- to
10 move forward with large-scale battery storage at this
11 stage of our -- our company's, I guess, efforts to
12 address generation storage and generation supply.

13 MR. LINTON: Thank you. No further
14 questions.

15 JUDGE WOODRUFF: Staff.

16 MR. WESTEN: Yes, Your Honor. Might I
17 inquire from counsel table?

18 JUDGE WOODRUFF: You may.

19 MR. WESTEN: Thank you.

20 CROSS-EXAMINATION BY MR. WESTEN:

21 **Q. Good afternoon, Mr. Ives.**

22 A. Good afternoon.

23 **Q. You answered a lot of questions that I had in**
24 **your direct, so hopefully I will be able to keep this to**
25 **just a few short questions.**

1 **Is it fair to say that after all the**
2 **statements you made about S-RECs and taxes and capacity,**
3 **that the primary purpose of building this Greenwood**
4 **facility is to gain in skills and experience to GMO and**
5 **the diversity of the GMO portfolio?**

6 A. Yes.

7 **Q. Okay. And you mentioned price parity. And I**
8 **want to make sure I understand what you mean by price**
9 **parity. Do you mean the -- the -- you believe in the**
10 **next three to five years the price of solar will become**
11 **competitive with GMO rates?**

12 A. That the price of solar, inclusive of kind of
13 the federal incentives and the things that are in place
14 today, if they were still in place, we believe that it
15 likely will become competitive with GMO or, maybe more
16 broadly said, regional rates in that time frame.

17 **Q. Okay. Regional rates. And these are rates**
18 **for residential customers?**

19 A. Yeah, I would say primarily. Our evaluation
20 was at residential because, you know, much of the work
21 has been done looking at the customer-generated
22 distributed generation view.

23 **Q. You mentioned a phrase during your direct,**
24 **which I wrote down because it struck me. You said the**
25 **timing of this, to do it now, is based on, quote, an**

1 **onslaught of solar onto our system. And I'm guessing**
2 **then from your previous answer about rate parity,**
3 **you're referring to a residential onslaught of**
4 **residential-generated solar onto the GMD/KCPL system?**

5 A. That certainly -- that certainly will be a
6 piece of it. There was a little discussion earlier today
7 when I was in the room about community gardens. I mean,
8 I would say that the potential for solar, as it moves to
9 a greater price parity, will move beyond just what we
10 think of as the typical residential rooftop. You'll get
11 more C and I rooftop. You'll get the ability for
12 distributed generation at a larger scale, like a
13 community garden solar.

14 **Q. When you say C and I, what do you mean?**

15 A. Commercial and industrial. Sorry.

16 **Q. Gotcha. And community solar that -- those --**
17 **do you know how those projects are usually funded?**

18 A. Well, so there are several ways to evaluate
19 community solar, from -- from my understanding. One --
20 and we've talked about our interest in evaluating
21 community solar. From our perspective, that would be
22 something that we would -- we would construct from the
23 utility perspective --

24 **Q. Rather than having customers potentially**
25 **construct that and pay for it?**

1 A. Sure. Because then what would happen if we
2 constructed a community solar -- I liken it to the
3 fractional ownership of private jets that came about, you
4 know, a number of years ago when people wanted to fly
5 private jets but they didn't want to spend the money to
6 own a jet themselves. They would buy fractional shares.
7 We would sell fractional shares of that -- of that solar
8 system to customers. What it does is it allows customers
9 to participate at a lower price point than if they were
10 installing solar just for themselves on the rooftop.

11 The other way that it can happen, and we
12 alluded to that -- it was alluded to today, is, you know,
13 a homes association, a residential grouping of customers,
14 could determine that they are going to band together and
15 use a third party to build a solar facility to connect
16 our system, and they would share in the cost of that
17 facility. Could be as easy as through some sort of homes
18 association cost for that facility. Could be more on a
19 fractional-share basis like -- like we discussed.

20 **Q. What would those costs actually pay for?**
21 **So what would --**

22 A. Which costs?

23 **Q. In a consume -- community solar system that**
24 **GMO would provide but then the customers would then buy**
25 **shares of, what are they actually paying for?**

1 A. So -- so the -- the easy answer for the
2 fractional share investment is they would be paying for
3 the -- the constructed cost of -- of the solar facility.
4 So -- so if we -- just take a -- take it to Greenwood's
5 example. If we invested in Greenwood and put that in the
6 rate base today, came back later, developed a community
7 solar program on that and sold fractional shares off of
8 that, we would take the proceeds from the sales of those
9 shares and offset the amount that was in rate base that
10 is being paid for by all customers in a rate base
11 generation investment and replace it with the specific
12 payments that the customers are making.

13 **Q. But just to be clear, that's not what you**
14 **plan for the Greenwood facility?**

15 A. At this stage that is not what we have --
16 have submitted for.

17 **Q. So I just want to recap, and then I think**
18 **I'll be done. The primary purpose is this knowledge for**
19 **GMO on how to deal with this potential onslaught onto**
20 **their system, and it is the diversification of their**
21 **portfolio; those are the driving factors for the proposal**
22 **of this plant?**

23 A. Those are our primary factors for moving
24 forward with this.

25 **Q. To get a plant built now before there's rate**

1 **parity?**

2 A. To take this first step now before there's
3 rate parity.

4 **Q. And you would agree that the point of a**
5 **Certificate of Convenience and Necessity is for the**
6 **provision of something to the public service or for**
7 **public service; correct?**

8 A. It is -- I don't have the exact definition in
9 front of me. But, in general, it is for the provision of
10 public service, yes.

11 **Q. And in some case law it actually says an**
12 **additional service that would be an improvement**
13 **justifying the costs. Any reason to disagree with that?**

14 A. I'll take your word for that.

15 MR. WESTEN: I have no further questions.

16 JUDGE WOODRUFF: Okay. Public Counsel.

17 MR. OPITZ: Yes, Judge. May I inquire?

18 JUDGE WOODRUFF: Go ahead.

19 CROSS-EXAMINATION BY MR. OPITZ:

20 **Q. Good afternoon, Mr. Ives.**

21 A. Good afternoon, Mr. Opitz.

22 **Q. I want to touch on some things you just**
23 **testified about. If GMO can't put this project into rate**
24 **base, it will not build this project; correct?**

25 A. That is absolutely correct.

1 **Q. And if this project was put into rate base,**
2 **the Company would earn a return on that investment;**
3 **correct?**

4 A. That's how the current regulatory construct
5 works.

6 **Q. You discussed some surveys in your direct**
7 **testimony; correct?**

8 A. I mentioned some -- some customer survey
9 questions and results, yes.

10 **Q. And GMO has not provided any of those survey**
11 **results for the record; correct?**

12 A. I don't believe we've provided any -- any
13 into the record. I believe there are some excerpts from
14 those in DR responses.

15 **Q. Can you tell me what DR responses that would**
16 **be?**

17 A. Not off the top of my head. We've -- we've
18 answered 90 or so DRs.

19 **Q. You discussed just a moment ago with**
20 **Mr. Westen about generational diversity. Do you recall**
21 **that?**

22 A. I do.

23 **Q. What criteria does GMO use to evaluate**
24 **whether it needs to diversify its generation?**

25 A. Well, it's probably not as easy as giving a

1 set of discrete criteria. It is an overall view and
2 strategic direction of the Company. Consider a lot of
3 factors. You consider the ability to maintain
4 reliability and service to customers. You consider the
5 current and expected movement in regulations, both from
6 an environmental or renewable standpoint. Consider
7 the -- the feedback from customers, the -- what we all
8 hear day in and day out across the country as an interest
9 in moving to a more sustainable energy future, an
10 interest to moving to less-carbon-intensive resources.
11 There are a number of factors that weigh into where we've
12 gotten today as a company, that we need to make it a
13 strategy to diversify our portfolio over the coming
14 years.

15 **Q. I appreciate that response. Can you tell me**
16 **if there are any specific criteria that GMO looked at**
17 **when deciding it wanted to pursue this project to**
18 **increase diversity?**

19 A. I can tell you what I told -- told everybody
20 in my direct testimony; that we put a team of 20
21 cross-functional individuals together to evaluate the
22 strategic direction that our company wanted to take on
23 solar, and that team, after looking at a number of
24 things, including the requirements from an environmental
25 standpoint, from diversification, and all those things --

1 **Q. So you can't tell me any specific factors**
2 **that were evaluated?**

3 A. I'm not sure what you mean by specific
4 factors. Very few things we do in strategic decision
5 making at a company our size come down to one or two or
6 three discrete check-the-box items. There's a lot of
7 factors that go into long-range planning for a business
8 like ours.

9 **Q. Do you look at any check-the-box items?**

10 A. I'm sure we do. For example, I did mention
11 that we set a number of sign posts about the -- the
12 evolution of solar and our views of when we thought that
13 would hit the area. We -- we look at minimum standards
14 like renewable compliance obligations in the states that
15 we operate.

16 **Q. Okay. I'll -- I'll stop you there. Do you**
17 **look at the costs of those projects?**

18 A. Absolutely. We provide an IRP on a triennial
19 basis with annual updates in this state.

20 **Q. Do you look at -- excuse me. Without this**
21 **project will GMO be able to provide reliable service to**
22 **its customers?**

23 A. Today, absolutely.

24 **Q. I believe you mentioned one of the criteria**
25 **factors that you look at in a diverse portfolio was**

1 **compliance with Renewable Energy Standards. Am I correct**
2 **in that?**

3 A. Certainly one of the things that we consider.

4 **Q. And you agree that GMO currently complies**
5 **with the Renewable Energy Standard?**

6 A. We are in compliance with the minimum
7 standards, yes.

8 **Q. Now, you testified in direct and I believe**
9 **again on cross from Division of Energy that you believe**
10 **the benefits of this project outweigh the costs; correct?**

11 A. We do or we wouldn't have proposed it.

12 **Q. Have you performed any calculation to show**
13 **that?**

14 A. I'm not sure that -- I'm not sure, based on
15 the discussions we've had today, that it is purely a
16 quanti -- quantified-type calculation.

17 **Q. So you have not performed any calculation to**
18 **show that the benefits outweigh the costs?**

19 A. We have not quantified the hands-on
20 experience that we hope to gain from this solar project.

21 **Q. You were a member of a team that was**
22 **established to evaluate corporate solar strategy;**
23 **correct?**

24 A. I was a member of three of the executive
25 officers of the Company that provided direction to that

1 team and reviewed their recommendation, yes.

2 **Q. And the corporation developing that strategy**
3 **was actually Great Plains Energy Corporate; correct?**

4 A. It's an interesting question. All of our
5 employees, as -- as I believe you well know, are Kansas
6 City Power & Light Company employees. We have a holding
7 Company, Great Plains Energy, that sits over the top of
8 KCP&L and GMO and the other entities of our organization.
9 Our KCPL employees provide the service not only to KCP&L,
10 but to GMO. So corporately as a company we conducted our
11 solar strategy. How you want to carve out who
12 specifically asked for that is probably up to
13 interpretation.

14 **Q. Do you have a copy of your deposition with**
15 **you?**

16 A. I think so.

17 MR. OPITZ: Judge, may I approach the
18 witness?

19 JUDGE WOODRUFF: You may.

20 THE WITNESS: I have it. What page?

21 BY MR. OPITZ:

22 **Q. You've got it?**

23 A. Yeah.

24 **Q. If you would look at page 39, specifically at**
25 **line 7, the question is asked: What corporation are you**

1 referring to?

2 And the answer: So when we do large
3 strategic evaluations, sometimes they're done at the
4 Great Plains Energy Corporate umbrella level, looking at
5 implications of those strategy decisions both on a
6 regulated and nonregulated basis, which is the general
7 management assessment of our company.

8 A. That's what I said.

9 Q. And you agree that Great Plains Energy is an
10 affiliate of the regulated utility GMO; correct?

11 A. Yes, it's the holding company over the
12 regulated utilities.

13 Q. And within that holding company there are two
14 regulated utilities; correct?

15 A. By a legal-entity nature, yes.

16 Q. And one is KCP&L and the other is GMO; right?

17 A. On a legal-entity basis, yes.

18 Q. And it was the GPES group decision to build
19 utility-scale solar generation at GMO only; correct?

20 A. Can you state that again? You said the GPES
21 group decision?

22 Q. Yes. It was the GPES, the Great Plains
23 Energy, group decision to build utility-scale solar
24 generation at GMO only?

25 A. Assuming the Great Plains Energy Group, not

1 the GPES Group. I'm not trying to split hairs. But
2 we've had discussions in front of this Commission about
3 Great Plains Energy having a service company --

4 **Q. Right.**

5 A. -- which is referred to as GPS.

6 **Q. Thank you. I do mean the Great Plains Energy**
7 **Corporate.**

8 A. So that group that evaluated the solar
9 strategy, I don't remember the specifics of their
10 recommendation. I know their recommendation was to
11 pursue utility-scale solar. I don't know if it was at
12 that time that that group evaluated placing it at the
13 Greenwood facility or if it was subsequent to that team's
14 recommendation that a smaller group began to look at
15 sites and opportunities for that utility-scale solar.

16 But long story short, it was -- it was the
17 Company's decision, once we decided to do utility-scale
18 solar, to place it at the Greenwood facility in GMO's
19 service territory.

20 **Q. When you say it was the Company's decision to**
21 **do so, are you referring to Great Plains Energy**
22 **Corporate?**

23 A. I suspect it was a regulated decision at that
24 point. The corporate team had determined that one item
25 to pursue was utility-scale solar, which would then turn

1 that to a decision for the regulated utility to
2 determine -- to determine siting and size and scale and
3 things like that.

4 **Q. Thank you. Mr. Ives, is this project a pilot**
5 **program or is GMO using it as a generation resource?**

6 A. Well, it would certainly be a generation
7 resource, regardless of the use of the term pilot,
8 because it is generation that will be on the system and
9 for the benefit of customers.

10 If you want to call it a pilot, it would be
11 because it is relatively small scale from a megawatt
12 perspective that is being utilized to gain information
13 and knowledge to help us set the strategy on a
14 longer-term basis.

15 **Q. There was discussion of displacement of**
16 **fossil fuel generation. Do you recall that?**

17 A. I do recall that.

18 **Q. What fossil fuel generation is displaced as a**
19 **result of this project?**

20 A. Well, again, as I mentioned, the -- you know,
21 the electric system's dynamic. You -- it responds to
22 demands from load that are on the system. And if 3
23 megawatts of solar energy goes onto the system to meet
24 demand, it displaces 3 megawatts that were on that system
25 from elsewhere. That -- the majority of generation in

1 our service territory in this region are fossil based, so
2 it is displacing something. There's just the --

3 **Q. So you don't know if this -- you can't tell**
4 **me if this project is displacing any GMO fossil fuel**
5 **generations?**

6 A. The specific system. I can't tell you that
7 electricity at my house is being serviced by KCPL
8 generation. The system doesn't work that way.

9 **Q. So that -- so your answer is no, you cannot**
10 **tell me what GMO fossil fuel generation is displacing --**

11 A. The answer is no. That doesn't -- that would
12 defy the physics of the system.

13 **Q. There was a discussion earlier during your**
14 **testimony about health benefits. Do you recall that?**

15 A. I mentioned health benefits, yes.

16 **Q. You have not quantified any health benefits**
17 **as a result of this project, have you?**

18 A. I have not done a health benefit
19 quantification, no.

20 **Q. And there was discussion of the economic**
21 **benefit of this project. Do you recall that?**

22 A. Yes.

23 **Q. And you haven't quantified -- performed a**
24 **calculation to quantify the benefit of this project, have**
25 **you?**

1 A. I think I mentioned to you earlier that I
2 have not quantified the hands-on experience and some of
3 the qualitative factors that we assess.

4 **Q. I believe that you were -- in your earlier**
5 **testimony, and correct me if I'm wrong, you were actually**
6 **discussing, it seemed to be, the economic benefit of**
7 **hiring a local contractor. Was that -- am I**
8 **understanding that correct?**

9 A. I did mention that there are economic
10 development benefits of using a local contractor and
11 having construction jobs and things in that --

12 **Q. So --**

13 A. -- area.

14 **Q. -- have you quantified any economic**
15 **development benefits of this project?**

16 A. Specific to this project, no. Although I
17 think --

18 **Q. Thank you.**

19 A. -- it's rather intuitive.

20 **Q. Now, Mr. Ives, you agree that GMO filed its**
21 **CCN application in November of 2015; right?**

22 A. Yeah, I believe it was the 12th of November.

23 **Q. You were in the hearing room this morning**
24 **when Mr. Anyanwu testified; correct?**

25 A. I was here, yes.

1 **Q. And he testified that he hadn't read the**
2 **application in November. Do you recall that?**

3 A. I believe I heard him say that.

4 **Q. And you were in the room when Mr. Ling**
5 **testified earlier, weren't you?**

6 A. I was.

7 **Q. And you recall hearing him testify that he**
8 **had not read the application?**

9 A. I believe I heard him say that as well.

10 **Q. Mr. Ives, I believe you're the last GMO**
11 **witness. Have you read the application filed in**
12 **November?**

13 A. I have read the application.

14 **Q. And you would agree that the application**
15 **mentioned -- that November application mentioned that**
16 **certain things were not available and would be filed**
17 **later; correct?**

18 A. I believe that's correct. I think I
19 attempted to address some of those in my direct
20 testimony.

21 **Q. And you would agree that GMO did not file**
22 **those additional documents until December 15th of 2015;**
23 **right?**

24 A. In regards to the plans and specifications, I
25 believe they were filed in December. The letter from

1 Jackson County that said we did not need a permit, I
2 think was filed at that time. So, yeah, those pieces.

3 **Q. So those additional -- you agree those**
4 **additional documents were not filed until December 15th?**

5 A. Right. I agree that's the date those were
6 filed in this proceeding.

7 **Q. And you agree that you have not read the**
8 **details of that later filing; correct?**

9 A. I have not reviewed the specific plans and
10 specifications of the facility, if that's your question.

11 **Q. When the Company filed its application, it**
12 **attached an affidavit signed by Mr. Tim Rush; correct?**

13 A. I believe that's correct.

14 **Q. And GMO is not offering Mr. Rush as a witness**
15 **in this hearing; correct?**

16 A. He is not here today, that's correct.
17 Mr. Rush does report directly to me and works under my
18 direction.

19 **Q. And, Mr. Ives, you did not know that you were**
20 **going to be a witness in this case until after the**
21 **Commission issued its procedural schedule; right?**

22 A. Until we started in this case and it was
23 contested, I didn't know we were going to do witness
24 testimony in this proceeding, that's correct.

25 **Q. And so your answer is you did not know you**

1 were going to be a witness until after the Commission
2 issued its procedural schedule?

3 A. Until we determined there would be witnesses,
4 that's correct.

5 Q. Now, I understand that GMO hopes to have its
6 employees learn skills and experience from this solar
7 project; would you agree?

8 A. Yes, that's correct.

9 Q. However, GMO does not actually have
10 employees; right?

11 A. That's correct. All of our employees are
12 KCPL employees.

13 Q. And -- and all of the employees that are KCPL
14 employees, they're the ones that perform services for
15 GMO; right?

16 A. Probably not all of the KCPL employees, but
17 ones that would be involved in this project would be --
18 would be providing service to GMO.

19 Q. Are there GMO employees that are not KCPL
20 employees?

21 A. There are no GMO employees.

22 Q. However, if the Commission approves this CCN,
23 GMO will seek rate recovery for the project; correct?

24 A. That's correct.

25 Q. And it will seek to recover the entire cost

1 **of the project from GMO customers only?**

2 A. That's correct. I might add that KCPL
3 employees --

4 **Q. There's no question pending.**

5 A. Okay.

6 **Q. Mr. Ives, you agree that GMO will use**
7 **Sungevity as a contractor to construct this project?**

8 A. That is the contractor we selected for this,
9 assuming that we receive a CCN and proceed.

10 **Q. And you agree that Sungevity will utilize**
11 **Mark One as the subcontractor for maintenance work?**

12 A. They have identified Mark One as that
13 subcontractor, yes.

14 **Q. And you would agree that Sungevity has**
15 **knowledge and understanding of solar tie-ins and the**
16 **impacts on the system?**

17 A. They certainly have familiarity in -- in
18 developing solar installations. I'm probably not the
19 person qualified to discuss their ability to tie in to
20 our system. I believe our employees will actually do
21 that work.

22 **Q. And you agree that -- would you agree that**
23 **Sungevity has the requisite knowledge to do maintenance**
24 **on the utility-scale solar project?**

25 A. I'm not a hundred percent convinced, but I

1 think Mark One might be doing that work. So I would say
2 Sungevity or their subcontractor has the requisite
3 knowledge to do that work.

4 **Q. And you agree that GMO employees will work**
5 **alongside the vendors; correct?**

6 A. I agree that KCPL employees providing
7 services to GMO will be working alongside them and
8 gaining knowledge and gaining hands-on experience.

9 **Q. And you agree that Company employees could**
10 **probably gain the knowledge necessary to operate a**
11 **utility-scale solar facility without actually building**
12 **the facility; correct?**

13 A. I agree they could gain some knowledge. I
14 believe our engineering witness testified that he thinks
15 it would not be as good of experience as hands on from a
16 generation perspect-- or from an engineering perspective.
17 I would take his word for it.

18 **Q. Would you look at page 82 of your deposition**
19 **for me, please.**

20 A. I'm there.

21 **Q. Beginning on line 19, the question is asked:**
22 **Could the Company employees gain the experience -- gain**
23 **the knowledge necessary to operate a utility-scale solar**
24 **facility without actually building one?**

25 **Answer: I don't know. I would say generally**

1 **there are probably avenues to do that.**

2 **And, Mr. Ives, you agree that one way to have**
3 **employees gain knowledge would be to send employees to**
4 **work with other utilities that have utility-scale solar?**

5 A. In my deposition I indicated that as a
6 possibility, yes.

7 Q. And do you agree with -- that the Company
8 could have its employees gain experience by sending them
9 to work with other utilities that have utility-scale
10 solar?

11 A. I do. I think you heard --

12 Q. Thank you.

13 A. -- from our engineering witness today
14 differently though.

15 Q. Mr. Ives, you are not aware of all the
16 specific requirements that GMO must follow under the
17 Renewable Energy Standards; correct?

18 A. I probably cannot recite all those
19 requirements to you.

20 Q. In fact, you are not the Company's expert
21 witness on the specifics of Renewable Energy Standards;
22 correct?

23 A. That would probably be a correct statement.

24 Q. And you do not specifically know the level of
25 costs that GMO spends to comply with its Renewable Energy

1 **Standards?**

2 A. Other than what I've been told by the group
3 that is responsible for that, that's correct.

4 **Q. But you do know that the majority of GMO's**
5 **renewable energy compliance costs are related to solar**
6 **rebates; right?**

7 A. I would say for the components of the costs
8 that flow through GMO's RESRAM, that is true. GMO also
9 has a PPA for wind facilities that provides renewable
10 credits towards the Renewable Energy Standards that --

11 **Q. Mr. Ives --**

12 A. -- RESRAM.

13 **Q. -- could you turn to page 25 of your**
14 **deposition, please. And beginning at line 3, the**
15 **question is asked: Do you know the level of costs to**
16 **comply with the Renewable Energy Standards that GMO**
17 **incurs?**

18 **Answer: Well, not specifically, but I can**
19 **tell you that the majority of the costs that we have**
20 **considered to be Renewable Energy Standards compliance**
21 **costs at GMO have been driven by the solar rebates.**

22 A. I see that answer, yes.

23 **Q. And, Mr. Ives, you would agree that the costs**
24 **so far of that solar compliance is over \$50 million;**
25 **right?**

1 A. I would say the cost for the rebates is over
2 50 million. That would exclude the cost of wind that
3 ultimately provides RECs that meet compliance as well.

4 **Q. So you agree that the cost of the solar**
5 **rebate compliance is over \$50 million then?**

6 A. For GMO right now --

7 **Q. For GMO.**

8 A. -- they have paid over \$50 million in
9 rebates, yes.

10 **Q. And even though you don't know the specifics,**
11 **you agree that GMO is meeting the requirements of the**
12 **Renewable Energy Standards?**

13 A. I am aware that we are meeting the
14 requirements currently, yes.

15 **Q. And you agree that you are not the Company's**
16 **specific expert in the area related to S-RECs?**

17 A. Depends on what your question is, I suppose.

18 **Q. Would you agree that Mr. Burton Crawford is**
19 **the Company's expert related to S-RECs?**

20 A. I would agree that Mr. Burton Crawford's team
21 has responsibility for tracking and assuring compliance
22 with S-RECs. Whether or not it's Mr. Burton Crawford or
23 not, I'm not sure I would say that. His team -- he has
24 responsibility over the team that does that, if -- if
25 that helps.

1 **Q. And neither Mr. Crawford nor anyone from his**
2 **team is a witness here today; correct?**

3 A. They're not. And we're not asserting that
4 S-REC compliance is the reason for this project.

5 **Q. Mr. Ives, would you agree that wind is a**
6 **renewable energy resource?**

7 A. I would agree with that.

8 **Q. And you agree that GMO has wind generation**
9 **and the Company considers it to be economic generation?**

10 A. They do through a Purchase Power Agreement
11 for a facility, yes.

12 **Q. And the Company considers wind to be economic**
13 **generation; correct?**

14 A. At this stage I believe we consider all of
15 our wind that we have in place to be economic, yes.

16 **Q. But when it comes to defining what is**
17 **economic, you agree that goes beyond your expertise;**
18 **correct?**

19 A. I would agree that we have people that are
20 more focused on that than I am, yes.

21 **Q. Would you turn to page 29 of your deposition,**
22 **please.**

23 A. I'm there.

24 **Q. On line 5 the question is asked: When you**
25 **say economic, what do you mean by it's economic?**

1 **Answer: You're getting beyond my level of**
2 **expertise.**

3 **Mr. Ives --**

4 A. I see that. There was more to that answer.
5 But, yes, I see where you said there.

6 **Q. Mr. Ives, you do know, however, when**
7 **evaluating economic costs for generation, that a net**
8 **present value evaluation is performed; right?**

9 A. It is a component of our IRP process, yes.

10 **Q. And you believe that one was performed**
11 **related to this solar project?**

12 A. This solar facility or a similarly-sized
13 facility was included in our IRP filing.

14 **Q. But you did not perform that analysis;**
15 **correct?**

16 A. I did not. That is not under my area of
17 responsibility.

18 **Q. And that kind of analysis would require an**
19 **economic model; right?**

20 A. It does.

21 **Q. Mr. Ives, you're aware that this week the**
22 **Supreme Court issued an order halting implementation of**
23 **the Clean Power Plan; right?**

24 A. Yeah. I think they refer to it as a stay.
25 But, yes.

1 **Q. And so you would agree that it can't be the**
2 **Clean Power Plan that requires GMO to build this project;**
3 **right?**

4 A. I would not agree with that.

5 **Q. So you -- so even though the Supreme Court**
6 **has stayed the Clean Power Plan, you don't agree that**
7 **that is -- that it's not the Clean Power Plan compliance**
8 **that's driving this project?**

9 A. I don't agree with that.

10 **Q. Okay. Now, let's -- let's consider that the**
11 **Clean Power Plan would go into effect. Under that Clean**
12 **Power Plan there is a possible incentive that will apply**
13 **to renewable generation; correct?**

14 A. That -- that's unknown at this point,
15 particularly for the state of Missouri.

16 **Q. But you do know that the Clean Power Plan has**
17 **a possible incentive that would apply to renewable**
18 **generation built between 2018 and 2021?**

19 A. I know there is -- there is that language in
20 the Clean Power Plan that will be up to the states to
21 determine whether they implement or not.

22 **Q. And if this proposed solar facility is built**
23 **in the time frame proposed by GMO, it would not qualify**
24 **for that incentive that's in the language of the Clean**
25 **Power Plan?**

1 A. As it's currently in the plan, it would not
2 qualify for that incentive.

3 Q. Thank you.

4 MR. OPITZ: That's all the questions I have.
5 Thank you.

6 JUDGE WOODRUFF: Questions from the bench?

7 CHAIR HALL: I have a few. Thank you.

8 QUESTIONS BY CHAIR HALL:

9 Q. Good afternoon, Mr. Ives.

10 A. Good afternoon, Chairman --

11 Q. When you --

12 A. -- Hall.

13 Q. Sorry to interrupt. When you talk about
14 price parity of solar with other technologies, you're
15 talking about the price to construct generation and the
16 price to operate; correct?

17 A. Yes. Be -- be the price for a customer to
18 get generation from solar compared to the price they
19 could get generation from us or from any other resource.

20 Q. Okay. So the Company's hope is to get the
21 CCN, construct this -- this 3-megawatt facility, learn
22 how to design, construct, and operate solar facilities,
23 and then build more, if -- if it determines that it's
24 cost effective?

25 A. Yeah, I think that's a fair assessment, yes.

1 **Q. So if -- if the price for this generation,**
2 **this 3 megawatts, was more expensive than other options,**
3 **that in and of itself does not concern you, if it allows**
4 **you to learn how to design, construct, and operate solar**
5 **facilities then at some point in time will be -- will be**
6 **more cost competitive?**

7 A. Yeah, I think that's fair. The only thing I
8 would add is it's not just design, construct, and
9 operate. It's also to make sure that we understand kind
10 of the implications on the distribution system from
11 the -- from the intermittency, which can help us not only
12 with future installations of solar, from our perspective,
13 but future installations of solar that customers might
14 put on or communities might put on.

15 So all of that is learning and experience
16 that will help us as we moved forward in -- in this
17 environment.

18 **Q. Do you have any specific plans at all for**
19 **additional projects or for expansion of this project?**

20 A. Well, a couple of things I would share. I
21 think if you look at the site map for Greenwood, we've
22 identified Phase 1 as the 12 acres that we would build on
23 this farm. There is more capacity at Greenwood that we
24 could utilize, if we want to move forward with additional
25 solar out there. So that would be something we would

1 consider, as we gain knowledge and -- and determine what
2 our need is for renewables and generation mix.

3 We have -- we have provided a 60-day notice,
4 I believe, to the -- to the Commission regarding a
5 potential filing for commercial and industrial rooftop
6 solar. I mentioned that in my testimony as the second
7 phase of where we would think we would like to move from
8 a solar adoption.

9 And I think it's likely, based on the
10 recommendation of our team and the strategy that we've
11 set, that we will pursue some sort of community solar,
12 whether it's in relation to this Greenwood facility
13 coming back and asking the Commission to look at that or
14 whether it's a next solar installation.

15 Mr. Ling said it well. But, you know, we
16 don't think 3 megawatts and done is a solution to -- to
17 turning our portfolio to kind of a sustainable future.
18 We have to do a lot of things, energy efficiency, solar,
19 wind, in order to get where we need to be long term.

20 **Q. Now, you've mentioned a couple of times, as**
21 **has your counsel, this concept of a sustainable future.**
22 **And then you also, in response to questions from Public**
23 **Counsel on cross, indicated that this project was not --**
24 **that the CPP was not the driving factor for this project;**
25 **is that correct?**

1 A. I would say in and of itself it's not the
2 driving factor. It's a component of the consideration.
3 What I tried to share with Counsel was there are a number
4 of things we consider in kind of a strategic direction of
5 the Company and the move of the portfolio. Compliance in
6 general is one.

7 When we look across the country of what's
8 been happening at federal/state level, we think it's
9 pretty clear that there's going to continue to be
10 pressure on fossil fuel-related resources and movement
11 towards more renewable, more sustainable future. We've
12 been very outwardly public that as a company we know we
13 need to move that direction. So I don't think that
14 should be a surprise to anybody in this room.

15 **Q. When you talk about the need to move towards**
16 **a sustainable future, is that separate and apart from**
17 **regulatory mandates or is it solely a function of**
18 **regulatory mandates?**

19 A. I don't think it's solely a function. I
20 think it's a component of it. I think part of it is what
21 we see from direction at the state level, generally
22 through discussions of the Missouri State Energy Plan and
23 things like that, what we see at the federal level on
24 efforts to reduce carbon intensity, as well as other
25 pollutants.

1 **Q. Yeah, I'm trying to -- I don't mean to**
2 **interrupt. I'm trying to understand -- obviously there**
3 **are some state and federal regulatory mandates that --**
4 **that are pushing utilities to find clean energy solutions**
5 **to -- to meet load. But what I'm trying to understand is**
6 **are there -- are there forces in play that are pushing**
7 **that same development separate and apart from any**
8 **regulatory mandates?**

9 A. Yes, I think there are a lot of stuff. Just
10 corporate stewardship, environmental stewardship. If you
11 look -- if you look at kind of our overarching corporate
12 objectives, and -- you can look at one of the things that
13 we say we're responsible to do as a company is be good
14 stewards of our environment.

15 It is becoming clearer and clearer across
16 this country and across the world that there's an
17 interest in removing fossil-fire generation at the
18 concentration levels that we have. So I think there's --
19 there's a general corporate responsibility to do some of
20 that. There are federal regulations and mandates that
21 play into that. There are state. There are customer
22 desires. A number of things factor into when we sit down
23 and think about what it is ahead, what plays into that.

24 **Q. So you mentioned customer interest, you**
25 **mentioned corporate stewardship, you mentioned state and**

1 **federal mandates. Are there al-- are there also issues**
2 **with profit motive? I mean, as the -- as the price of**
3 **these technologies goes down, isn't there also a price --**
4 **a profit motive to invest in that kind of generation?**

5 A. Well, I mean, the short answer would be, you
6 know, as -- as a management team for an investor-owned
7 utility, there's probably always a profit motive to make
8 sure that we're providing earnings and returns to our
9 investors. I would not say it's a driver for our move
10 to our portfolio mix.

11 I mentioned in my testimony or response to
12 one of the Staff, we have a lot of capital investment we
13 have to make just to maintain our system and the
14 reliability we have today. We don't have a shortage of
15 places to spend capital.

16 **Q. Has KCP&L considered construction of a**
17 **utility-scale solar facility?**

18 A. We have. That was all -- it's all kind of
19 intertwined, in our view, of the regulated strategy.
20 There were a couple of things that drove us to pursue it
21 at GMO first. One was the availability of site. It's a
22 very good site, it's clean, it's farmland, it's next to
23 an operating facility that we have, and it adds a lot of
24 value. GMO has a different capacity profile and mix than
25 KCPL. KCPL has a higher concentration of wind than GMO

1 does today, has higher overall capacity than GMO does
2 today. So it made sense to start at GMO.

3 I mean, I think Mr. Ling would tell you, but
4 we're going to have to kind of rebalance our portfolio
5 across both utilities over time. So I believe we'll be
6 in at some point for solar at KCPL.

7 **Q. OPC has made the point a couple of times that**
8 **GMO doesn't have any employees, so it's going to be KCP&L**
9 **employees that will be gaining this knowledge around the**
10 **design, construction, and operation of the facility. Is**
11 **that true?**

12 A. That's true.

13 **Q. But it's going to be only GMO customers that**
14 **will pay for that knowledge?**

15 A. Only GMO customers will pay for the facility
16 that provides that knowledge, yes.

17 **Q. But that -- does that seem fair to you?**

18 A. It -- it seems like the situation we're in
19 on -- on everything in regards to KCPL and GMO right now.
20 What I was going to elaborate to Counsel when he asked
21 the question is KCPL employees provide the support for
22 our Sibley generating facility, that's a GMO facility
23 today, which means that the cost of service, the cost of
24 the payroll gets allocated to GMO, but KCPL cuts the
25 initial check. Every piece of our operation today is a

1 KCPL employee billing to GMO for that service. We're no
2 different here.

3 **Q. Right. But here we've got a project paid for**
4 **by GMO customers that will directly benefit KCP&L and GMO**
5 **customers, in terms of providing KCP&L employees with**
6 **this particular knowledge. So I'm wondering if there --**
7 **is there some way to -- to make it more fair for GMO**
8 **customers in that regard so that the cost is somehow**
9 **allocated to KCP&L?**

10 A. I think if you start parsing things there, I
11 don't -- I'm not sure where it ends. Here's the example
12 I would give you. We had AMR meters at KCPL since the
13 early '90s. When we acquired GMO in 2008, they had none.
14 We upgraded KCPL's system to AMI meters, a quality
15 two-way meter. We went there first with the AMI rollout
16 and the system adoption. Now we're doing GMO. Did GMO
17 benefit because we started all that adoption at KCP&L
18 with KCP&L's employees, but yet not pay for any of that
19 experience by the time we got to go put those meters in
20 at GMO? Likely. I mean, it makes sense to me.

21 So if we parse it here, do we go back and do
22 we parse it there? And then do we parse it when we do
23 dynamic voltage control on the wires, which KCPL started
24 years in advantage of GMO? I just don't -- I don't think
25 there's value in doing that, if we're providing service

1 consistently and it's working bi directional .

2 **Q. So, in other words, this might just be a**
3 **problem related to the corporate structure, and maybe**
4 **it's an example of why some type of merger between the**
5 **two companies might be in order?**

6 A. I guess where I would differ with you is I
7 don't see it as a problem. I mean, if we have one set of
8 employees that all of our Missouri utilities are
9 benefiting from experiences gained, I'm not sure that
10 it's a problem. And --

11 **Q. Well, I mean --**

12 A. -- it works -- it works the same today --

13 **Q. Yeah.**

14 A. -- as it would under a merger scenario.

15 **Q. Well, if the two companies were merged, then**
16 **KCP&L customers would be paying for the knowledge gained**
17 **by KCP&L employees?**

18 A. I'm not -- I'm not sure that I necessarily --

19 **Q. Well --**

20 A. -- agree. Let me give you an example real
21 quickly. We could merge the companies today and have no
22 change in jurisdictions. I mean, if you look at Kansas
23 and what Westar had with -- with their two electric
24 utilities, they were one company that had separate
25 jurisdictions for almost 20 years before they got them

1 combined.

2 **Q. Switching gears, do you know how this project**
3 **compares to the Ameren O'Fallon project in terms of cost?**

4 A. I don't. And probably the reason for that
5 is, just like our cost number is proprietary in our
6 documents, I'm sure Ameren's was as well. I don't have
7 visibility to what they spent --

8 **Q. Okay.**

9 A. -- or how it worked. I mean, the only thing
10 I can say to you is we did do -- we did do a market-sized
11 RFP process and sent it out to a number of vendors, so we
12 feel confident that we got a price that was competitive.

13 **Q. How much work has been done so far, in terms**
14 **of the -- or how much money has been expended so far for**
15 **the project, in terms of a percentage of the total cost?**

16 A. I don't have the specific number. My
17 understanding is there is -- there's been some
18 procurement done for panels and equipment, in
19 anticipation of starting, that, long story short, if we
20 don't receive a CCN and begin construction, we'll have
21 to -- we'll have to find a place to sell off or utilize
22 that equipment someplace else.

23 **Q. And all the design work has been done?**

24 A. There's been some design work. I don't
25 believe that that's a material cost of the project, that

1 design work. But it is a component, sure.

2 **Q. Are you conversant in the ITC, tax credit?**

3 A. I am -- I am generally familiar with it.

4 **Q. That tax credit would provide the Company a**
5 **tax credit of, is it 20 or 30 percent of the cost of**
6 **construction?**

7 A. Right now, the way I understand it, there's a
8 few different ones. The one that we would expect to get
9 is a 30 percent one-time credit of the construction cost.
10 And you can -- you can elect to apply that credit after
11 the facility goes in service. So if it went in service
12 here in '16, we would be able to apply for that credit at
13 the 30 percent level.

14 **Q. And when would you anticipate redeeming those**
15 **tax credits?**

16 A. Well, so -- so the tax credits -- it's my
17 understanding from talking with our tax team that the tax
18 credits have to be utilized by the consolidated tax group
19 and, because of prior NOLs that we have and the effects
20 of the extension of bonus depreciation, it will probably
21 be after 2021 until we can, as a consolidated group,
22 utilize those tax credits.

23 So what happens, the way I understand it, is
24 we elect the credit; right after it goes in service, we
25 basically set up a regulatory liability for customers and

1 a deferred tax asset; and then when that credit can be
2 utilized, when those NOLs are gone, we can start flowing
3 that back to customers, and you flow it back from the
4 time you utilize it until the end of the remaining life
5 of the facility.

6 So, for example, if -- if we -- if we utilize
7 a credit in 2021, that full value of that credit would
8 start flowing back to customers at that point and would
9 flow back ratably between 2021 and the end of the
10 estimated life of the facility.

11 **Q. And would -- would it flow back to customers**
12 **at the reduction of the cost of service?**

13 A. It would be a reduction to cost of service,
14 yes.

15 **Q. And there's no question that -- that -- okay.**
16 **Strike that.**

17 CHAIR HALL: I think that's all I have.
18 Thank you, Mr. Ives.

19 THE WITNESS: Thank you.

20 JUDGE WOODRUFF: I just have a couple of
21 clarifying questions.

22 EXAMINATION BY JUDGE WOODRUFF:

23 **Q. What the chairman just -- about the tax base**
24 **used the letters N-O-L.**

25 A. Nonoperating losses.

1 **Q. Okay. Again, I wanted to be clear on that,**
2 **so I --**

3 A. I'm sorry. It's an acronym-intensive
4 industry. Sometimes I --

5 **Q. It absolutely is, and we get those flowing**
6 **all the time.**

7 CHAIR HALL: Actually, I have one -- I'm
8 sorry.

9 JUDGE WOODRUFF: Go ahead.

10 CHAIR HALL: One other question about that,
11 about the tax credit.

12 FURTHER QUESTIONS BY CHAIR HALL:

13 **Q. Right now the 30 percent amount is set for**
14 **another three years; is that correct?**

15 A. Yeah, with the extenders package that got
16 approved in December, I think the 30 percent level runs
17 through 2019 now.

18 **Q. So it is possible that 2020 that the tax**
19 **credit would be reduced?**

20 A. My -- and I don't remember the exact terms,
21 but it starts to ratchet down after 2019 for a four or
22 five-year period, until it gets back to a 10 percent
23 level is how it was written in the extenders package.

24 CHAIR HALL: Okay. Thank you.

25 JUDGE WOODRUFF: I have a couple more

1 questions.

2 FURTHER EXAMINATION BY JUDGE WOODRUFF:

3 Q. There was a lot of talk about the battery.
4 Did GMO come -- or, I'm sorry, I guess it would be KCPL.
5 Did they come to the Commission for a Certificate of
6 Convenience and Necessity to obtain that or was that part
7 of a larger CCN?

8 A. I don't think we did a CCN specific for the
9 battery. I think it was part of the broader Smart Grid
10 project that was undertaken kind of in conjunction with
11 the DOE grant.

12 Q. Okay. Then I had a question about the --
13 well, it's about the dispatch order for the solar
14 facility in -- just in general terms. It's my
15 understanding that, and correct me if I'm wrong on this,
16 GMO would basically sell all the power to SPP, Southwest
17 Power Pool, and then Southwest Power Pool would decide
18 how to use -- how the resource would be dispatched; is
19 that correct?

20 A. I think that would generally be true if we
21 were connecting the generation facility at the
22 transmission level like most of it does. Because we're
23 connecting it to 12 kV distribution side, the facility
24 will generate and move energy onto that distribution
25 circuit that we've attached to. So what it really does

1 is it means we don't need that level of generation to
2 come onto that circuit from another resource. So it
3 doesn't work under the SPP dispatch like the --

4 **Q. So it would never go -- it would not be**
5 **dispatched by SPP?**

6 A. Wouldn't be dispatched by SPP.

7 **Q. And you would just use it at full capacity**
8 **whenever you could?**

9 A. Yeah. Right now it would just run as it's
10 on, and it would support that circuit and -- and reduce
11 the requirements needed from other generator resources.

12 **Q. Okay. And I just had a -- I was curious**
13 **about the intermittent nature of it that you mentioned.**
14 **I assume when there's sun shining on it, it's going at**
15 **full capacity; is that correct?**

16 A. That's correct. I think where you get into
17 the intermittency is, you know, it's only about an
18 18 percent capacity factor over the entire duration,
19 where wind is more like 45 or so and, you know, coal is
20 up at 80 percent or something like that.

21 **Q. What do you mean --**

22 A. But --

23 **Q. What do you mean by the 18 percent?**

24 A. Well, so -- so it's only -- I think the best
25 way of saying it's only available to provide capacity

1 about 18 percent of the time, because it's not working at
2 night. It's --

3 **Q. -- when it's cloudy?**

4 A. -- those hours. When it's cloudy. And I
5 think cloudy and -- you know, our witness, Anyanwu,
6 addressed it a little bit. I mean, weather patterns are
7 going to make a difference in our service territory, I
8 mean, understanding kind how that cloud cover affects it.
9 Because if you think about it, if you're running a
10 3-megawatt facility full load and then all of a sudden
11 for five minutes or ten minutes it drops to virtually
12 zero because there's significant cloud cover and then it
13 pops back up when those clouds move, you've got a lot of
14 variability that's hitting our distribution system that
15 you don't have from a base-load generation resource.

16 JUDGE WOODRUFF: Okay. Thank you very much.

17 THE WITNESS: Thank you.

18 JUDGE WOODRUFF: Recross based on questions
19 from the bench, beginning with Division of Energy?

20 MR. ANTAL: No questions. Thank you.

21 JUDGE WOODRUFF: UFM?

22 MR. LINTON: Yeah, I have a few.

23 RECROSS-EXAMINATION BY MR. LINTON:

24 **Q. Mr. Ives, in response to the questions**
25 **from the hearing examiner, this would be basically**

1 **behind-the-meter generation-reducing load; is that right?**

2 A. I don't think it's quite behind the meter.
3 It's on our distribution side of the 12 kV, but I don't
4 think it's -- I don't think it's like rooftop solar where
5 it's behind the customer meter. It's serving that entire
6 circuit for us.

7 Q. And you don't bid it in, okay, to the SPP
8 market. Have you looked at whether there is congestion
9 leading to this node? I guess a better way to ask the
10 question would be would the LMP, locational marginal
11 price, at the node where this generator is located, would
12 that be higher than the surrounding area?

13 A. I'm not sure that I'm the best person to
14 answer that question. But I'm not sure that there would
15 be much of an impact at the node, because we're down on
16 the 12 kV side of it, the distribution. So I'm not sure
17 the congestion at that point would be an issue. If it
18 were, I'm quite sure it's part of that interconnection
19 study work that our witness, Anyanwu, indicated we've
20 done the work on.

21 MR. LINTON: Okay. Thank you. No further
22 questions.

23 JUDGE WOODRUFF: For Staff?

24 MR. WESTEN: Actually, yes, I do have just a
25 couple small questions.

1 RE CROSS-EXAMINATION BY MR. WESTEN:

2 Q. Judge Woodruff's mention of SPP brought this
3 to my attention. The Greenwood facility would be
4 located -- the Greenwood solar panel facility would be
5 located next to CT generators that are already at the
6 Greenwood site?

7 A. Yeah, it's in close proximity.

8 Q. And that's actually one of the questions that
9 GMO has presented that are the benefits to locating solar
10 facilities in your existing power plants; right?

11 A. Yes.

12 Q. Yes. Okay.

13 A. Sorry.

14 Q. No, you're fine. And there was a data
15 request made by Staff about will the proposed solar
16 facility impact operations or dispatch of Greenwood
17 Energy Center. Are you aware of the response to that DR?

18 A. Not off the top of my head.

19 MR. WESTEN: If I may approach?

20 JUDGE WOODRUFF: You may.

21 BY MR. WESTEN:

22 Q. Do you have DR 27 with you?

23 A. I don't. I thought maybe I did, but I don't.

24 Q. What I'm looking at is the response. And if
25 you would just read along with me. It says, It is not

1 anticipated that the solar facility will have any impact
2 on the dispatch of the four combustion turbines at the
3 Greenwood Energy Center. The Southwest Power Pool
4 dispatches all GMO generation assets, and it appears the
5 Greenwood combustion turbines operate primarily for
6 spinning reserve. Since the solar facility cannot
7 provide any reserve, it is not anticipated to replace the
8 generation of that combustion turbine.

9 Did I read that correctly?

10 A. Yep.

11 Q. Okay. So this -- this response by GMO states
12 that actually one of the -- one of the effects of having
13 this here is that there -- there may not be one, because
14 SPP dispatches those turbines. It's not like GMO can
15 directly dispatch those turbines in response to the
16 intermittency of the solar on that plant -- GMO directly
17 cannot change the dispatch of that plant, those CTs?

18 A. I -- I agree with that, I believe.

19 Q. Okay. Thank you.

20 MR. WESTEN: No more questions. Thank you.

21 JUDGE WOODRUFF: Public Counsel?

22 MR. OPITZ: No questions, Judge.

23 JUDGE WOODRUFF: Redirect?

24 REDIRECT EXAMINATION BY MR. FISCHER:

25 Q. Mr. Ives, you've been up there for a couple

1 of hours, so I'm going to try to be brief.

2 A. Thank you.

3 Q. Would it make any economic sense to you at
4 this stage of the game to build a 3-megawatt solar
5 facility at each of your rate jurisdictions to get the
6 firsthand knowledge about operating needs that you're --
7 you're hoping to get from this facility?

8 A. No, I don't think that would make any sense
9 to do them concurrent.

10 Q. There was also some talk about a merger and
11 how that might impact that issue. Do mergers or even
12 consolidations of rate jurisdictions often raise
13 complicated rate impact questions?

14 A. They certainly can.

15 Q. Is GMO currently looking at that kind of an
16 issue related to the St. Joe, or what we call the -- call
17 the St. Joe division and the MPS division?

18 A. We are. One of the things that we agreed to
19 in GMO's last rate case was to evaluate the possibility
20 and the impacts of combining the LMP and MPS rate
21 jurisdictions. We are doing that work. And I guess
22 without letting the cat out of the bag, I would
23 anticipate that we will file a case that provides for an
24 avenue to do that for the GMO jurisdictions in our
25 upcoming GMO case filing.

1 It is not simple. I think any of the parties
2 that have been in our preliminary meetings on this
3 understand that rate consolidation is a very complicated
4 process.

5 **Q. Public Counsel asked you and referred to your**
6 **deposition, I think, three times during his cross?**

7 A. I believe that's right.

8 **Q. Did you notice that each of those times your**
9 **entire answer wasn't read into the record?**

10 A. I did. I mentioned it once, but I think it
11 happened every time.

12 **Q. Okay. I'm not going to go through that. But**
13 **thank you.**

14 **Is there any question in your mind that there**
15 **was -- I think there was some discussion about whether**
16 **the additional improvement would justify the cost. I**
17 **think Counsel for Staff may have asked you a question**
18 **along that line, about referring to the CCN and the**
19 **public -- being used for public service and whether --**
20 **whether the investment justified the cost?**

21 A. I remember that.

22 **Q. Is there any question in your mind that the**
23 **additional improvements at the Greenwood solar facility**
24 **would justify the costs?**

25 A. There's no question in my mind that this is

1 the right project to do and this is the right time or we
2 wouldn't have filed for it and asked for it.

3 **Q. And there was also some questions about the**
4 **\$7 million battery, a pilot project. Do you recall**
5 **those?**

6 A. I do.

7 **Q. Do you happen to know off the top of your**
8 **head of other pilot projects that the Company has**
9 **routinely done over the years?**

10 A. You know, I think there are -- I think there
11 are a number of projects. And it's a point that I would
12 have made, which probably should have made earlier. Part
13 of the long-range planning of a system like ours is you
14 need to continue to evaluate, innovate, and look at
15 technologies. We're here today because this particular
16 -- particular evaluation is a generation supply resource.
17 When we installed dynamic voltage control in the early
18 stages of adoption on our wire system, we didn't have to
19 come in for a CCN for that, so we did it. It probably
20 wasn't at the lowest cost that those -- those -- that set
21 of equipment has ever been offered at; but we did it, and
22 it's turned out to be a great impact for our system.
23 It's part of our job to evaluate the path forward and
24 manage our system to meet the future needs of our
25 customers.

1 MR. FISCHER: Thank you. That's all I have,
2 Judge.

3 JUDGE WOODRUFF: All right. Then thank you.
4 And you may step down.

5 (Witness excused.)

6 JUDGE WOODRUFF: And we will take a break
7 here. But before I do, I assume this is the end --
8 concludes --

9 MR. FISCHER: Yes, this would conclude the
10 witnesses from the Company.

11 JUDGE WOODRUFF: Okay. Concludes your
12 direct?

13 MR. FISCHER: Yes.

14 JUDGE WOODRUFF: Okay. We'll take a break.
15 We'll come back at ten minutes till 4:00.

16 (Off the record.)

17 JUDGE WOODRUFF: All right. We're back from
18 intermission. We're going to get going again.

19 The next party to present evidence will be
20 Division of Energy. You may call your witness.

21 He's not -- I see the witness, but I don't
22 see his attorney.

23 MR. HYMAN: Yes, he may still be outside.

24 JUDGE WOODRUFF: Okay. We won't make you
25 testify without your attorney.

1 MR. HYMAN: I appreciate it.

2 JUDGE WOODRUFF: All right. Welcome back,
3 Mr. Antal.

4 MR. ANTAL: Thank you. Thank you for waiting
5 for me.

6 JUDGE WOODRUFF: Thank you.

7 Please raise your right hand. I'll swear you
8 in.

9 MARTIN HYMAN,
10 after having been first duly sworn, was
11 examined and testified on his oath as follows:

12 JUDGE WOODRUFF: Thank you.

13 You may inquire.

14 DIRECT EXAMINATION BY MR. ANTAL:

15 Q. Mr. Hyman, would you please state your name
16 and your address for the court reporter.

17 A. Martin Hyman. M-A-R-T-I-N. H-Y-M-A-N. And
18 that's 301 West High Street, Suite 720, Jefferson City,
19 Missouri 65102.

20 Q. Mr. Hyman, how are you employed?

21 A. I'm employed as a Planner 2 Energy Policy
22 Analyst with the Missouri Division of Energy.

23 Q. And how long have you been employed with the
24 Missouri Division of Energy?

25 A. Since September of 2014.

1 **Q. What are your job responsibilities as a**
2 **Planner 2?**

3 A. They include testifying in cases before the
4 Missouri Public Service Commission, working on other
5 case-related matters in working dockets. I was involved
6 with the Missouri Comprehensive State Energy Plan, and as
7 well as with work related to the Clean Power Plan.

8 **Q. Okay. And what specific efforts were you**
9 **involved in regarding the Comprehensive State Energy**
10 **Plan?**

11 A. I was involved with much of the data analysis
12 that went into the Comprehensive State Energy Plan.

13 **Q. Okay. Any other aspects?**

14 A. Yes. I was also there for some of the
15 initial discussions on the policy recommendations.

16 **Q. Okay. What about your -- what were your --**
17 **was your specific involvement regarding the Clean Power**
18 **Plan, or CPP?**

19 A. I was involved with the interagency modeling
20 effort, and that included the Staff of the Commission and
21 the Department of Natural Resources. That was in what
22 was called a Policy Academy with National Governors
23 Association and Resources for the Future, looking at the
24 potential impacts of the Clean Power Plan. I've also
25 reviewed some documents and some webinars on the plan.

1 **Q. Okay. And you've testified in Commission**
2 **cases before?**

3 A. Yes.

4 **Q. And which cases were those?**

5 A. So those were the Ameren MEEIA Cycle 2 case.
6 That was E0-2015-0055; the KCPL rate case, the most
7 recent one, that was ER-2014-0370; and then I have
8 submitted direct testimony in the Missouri American Water
9 case, which is labeled both as WRO -- sorry, WR-2015-0301
10 and SR-2015-0302.

11 **Q. On what issues did you file testimony in each**
12 **of those cases?**

13 A. In the Ameren MEEIA case I was -- my initial
14 testimony was focused on the adequacy of Ameren
15 Missouri's initial MEEIA Cycle 2 submittal; and then,
16 subsequently, during the supplemental testimony, I was
17 support -- my testimony was in support of the agreement
18 that DE signed, along with the Company and other
19 signatories.

20 In the Kansas City Power & Light rate case,
21 my testimony was with regard to the Company's customer
22 charge proposal -- residential I should add, residential
23 customer charge proposal, its time-of-use rate proposals,
24 and the clean charge network proposal.

25 And in the American Water case, my testimony

1 to date has been on a demand side efficiency mechanism
2 proposal and rate design, specifically customer charges,
3 volumetric charges, and uncollectibles.

4 **Q. Okay. And have you participated in other**
5 **Commission cases?**

6 A. Yes, I have participated in working
7 dockets --

8 **Q. Okay.**

9 A. -- and IRP -- and IRP-related matters.

10 **Q. Where were you employed prior to working for**
11 **the Division of Energy?**

12 A. My prior employment includes work as a
13 student services contractor with the U.S. Environmental
14 Protection Agency, Council for Regulatory Environmental
15 Modeling, and I've also worked as a graduate/research
16 assistant at Indiana University-Bloomington.

17 **Q. Okay. Do you have any master's degrees?**

18 A. I do.

19 **Q. And what are those degrees?**

20 A. My master's degrees are in public affairs and
21 environmental science.

22 **Q. And in your master's programs did you have**
23 **any courses related to energy?**

24 A. Yes. My concentration was in energy policy.

25 **Q. Okay. What is the purpose of your testimony**

1 **today?**

2 A. The purpose of my testimony today is to
3 provide DE's recommendation for approval of the
4 Certificate of Convenience and Necessity, or CCN,
5 application by GMO for the Greenwood project.

6 **Q. Okay. Are you familiar with the conditions**
7 **five-factor test for evaluating CCN applications?**

8 A. Yes, I am. As stated in the case In Re
9 Tartan Energy, the five factors are, one, the necessity
10 of the service; two, the qualifications of the applicant;
11 three, the financial ability of the applicant; four, the
12 economic feasibility of the proposal; and, finally, the
13 public need -- or public benefit, I should say, of the
14 service.

15 **Q. Has the Commission restated these criteria in**
16 **the context of a CCN for a central solar facility?**

17 A. Yes, in the Ameren Missouri's application in
18 EO-2 -- sorry, EA-2014-0136 for its O'Fallon solar farm,
19 the Commission's report and order approving the amended
20 nonunanimous stipulation and agreement restated these
21 criteria.

22 **Q. Okay. Now, I understand that in response to**
23 **Chairman Hall's question about the comparison of pricing**
24 **between these two, you've been able to come up with a**
25 **calculation during this proceeding?**

1 A. Yes, I was doing some quick
2 back-of-the-envelope, if you will, calculations. I would
3 note that that is using HC information from both cases,
4 though.

5 MR. ANTAL: Okay. Before we get into those
6 specific numbers, I guess we might be -- it might be
7 advisable that we go in-camera.

8 JUDGE WOODRUFF: All right. We can go
9 in-camera. If there's anyone in the audience who needs
10 to leave that cannot see HC material, please do so. If
11 the parties would look around and let me know if there's
12 anybody that needs to leave.

13 (Off the record.)

14 JUDGE WOODRUFF: Okay. Are we ready to go?
15 At this point we're in-camera.

16 (IN-CAMERA SESSION BEGINS - SEE VOLUME 3)

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1 JUDGE WOODRUFF: Okay. We're back in regular
2 session.

3 BY MR. ANTAL:

4 Q. Mr. Hyman, I'd like to now turn to the topic
5 of necessity of service. What is your understanding of
6 the standard for determining the need of this type of
7 project?

8 A. So the need of this type of project, the
9 Commission in In Re Tartan Energy cited back to the
10 Appellate Court decision in State Ex Rel. Intercon Gas,
11 and the Court's standard there was that the -- that a
12 service did not need to be absolutely necessary but that
13 the incremental benefit would justify the cost.

14 Q. Okay. And you're not an attorney. But in
15 your expert opinion, does this necessarily require a
16 quantitative cost benefit analysis?

17 A. No, I don't think it requires a full cost --
18 quantitative cost benefit analysis, but a qualitative
19 judgment.

20 Q. Okay. Turning now to the Company's
21 Integrated Resource Plan, or IRP, has the Company
22 previously indicated its intent to construct this type of
23 facility?

24 A. Yes, it did. If you look back at the most
25 recent triennial IRP filing, there was a 3-megawatt

1 central station solar facility for 2016; and this is also
2 provided for in its 2015 Renewable Energy Standard, or
3 RES, compliance plan.

4 **Q. Okay. And is the lowest cost the only**
5 **consideration in selecting a preferred plan?**

6 A. No.

7 **Q. What other factors are considered in**
8 **selecting a preferred plan?**

9 A. When you look at the Commission's IRP rules,
10 it can be -- lowest cost is one factor, but it is also
11 considered in combination with reliability and probable
12 environmental compliance costs.

13 **Q. Okay. Did the Company's IRP planning reflect**
14 **the need for additional renewable resources in**
15 **transitioning to a cleaner generating fleet?**

16 A. Yes. I mean, for example, they included this
17 3-megawatt facility.

18 **Q. Has the Commission made any findings with**
19 **regard to the Company's IRP filing?**

20 A. Yes, the Commission's report and order
21 ultimately found that this -- that their triennial filing
22 was in compliance with the IRP rules.

23 **Q. And what would be the result of a delay or**
24 **cancellation of this project, with respect to the**
25 **Company's IRP filing?**

1 A. Per the IRP rules at 4 CSR 240-22.80(12), the
2 Company would be required to file that it was modifying
3 its preferred plan.

4 **Q. Turning now to the Renewable Energy Standard,**
5 **are you familiar with Missouri's Renewable Energy**
6 **Standard, or RES?**

7 A. Yes, I am, broadly.

8 **Q. Okay. What are the minimum requirements for**
9 **solar and nonsolar renewable energy?**

10 A. So by 2021 investor-owned utilities must
11 procure 15 percent of their renewable energy as a
12 percentage of their sales and, of that 15 percent,
13 2 percent must come from solar energy.

14 **Q. And this has been discussed earlier today,**
15 **but I'll ask you anyways. Does GMO need the Greenwood**
16 **solar facility to meet RES compliance requirements at**
17 **this time?**

18 A. No.

19 **Q. Notwithstanding the current RES requirements,**
20 **if the RES portfolio standards were increased by**
21 **legislation, could GMO also use the S-RECs generated by**
22 **this facility?**

23 A. Yes, subject to the limitations in the
24 statute in terms of time.

25 **Q. Okay. Will the facility produce more Solar**

1 **Renewable Energy Credits, or S-RECs, since it is an**
2 **in-state resource?**

3 A. Yes, per the statute, an in-state resource
4 produced 1.25 S-RECs as the amount of generation --

5 **Q. Okay.**

6 A. -- on a kilowatt-hour basis.

7 **Q. Can the Company add renewable and/or solar**
8 **resources above the RES-specified portfolio requirements?**

9 A. Yes, the RES is simply a set of minimum
10 requirements.

11 **Q. And are there states with higher renewable**
12 **portfolio stated requirements than Missouri's RES?**

13 A. Yes.

14 **Q. Turning now to Clean Power Plan compliance.**
15 **I assume you're familiar with the CPP, from your previous**
16 **statements?**

17 A. Yes.

18 **Q. And, again, this has been discussed earlier**
19 **today, but is your understanding that the Supreme Court**
20 **has issued a stay of the CPP pending the final**
21 **litigation?**

22 A. Yes, I am aware of that.

23 **Q. In your opinion, should this affect how a**
24 **utility plans for compliance with the CPP?**

25 A. No, I -- I think the utility should still

1 plan for compliance with the Clean Power Plan.

2 **Q. And under the Clean Power Plan there's a**
3 **number of different compliance -- or at least two**
4 **different ways for a state to comply. What would be**
5 **required with a mass-based compliance approach under the**
6 **final rule?**

7 A. So under a mass-based compliance approach, an
8 affected generating unit must demonstrate the reduction
9 of carbon dioxide emissions at its stack through the
10 surrender of what are -- of equivalent what are called
11 emissions allowances.

12 **Q. Okay. And what type of implementation plan**
13 **has the State of Missouri submitted to EPA prior to the**
14 **Supreme Court stay?**

15 A. Well, to clarify, nothing has been submitted
16 yet. But it was back in December -- and this is -- you
17 know, this is publicly -- publicly -- public knowledge,
18 the state indicated that it was fairly certain it was
19 going to submit a mass-based plan.

20 **Q. Okay. Will the Company's project result in a**
21 **reduction of total carbon dioxide emissions from the**
22 **stacks of the Company's affected generating units?**

23 A. Yes.

24 **Q. How will such reductions occur?**

25 A. So the reductions would either occur through

1 offsetting the need to build additional fossil-fuel
2 emitting -- or fossil-fuel-using resources or through
3 offsetting the need to use current fossil-fuel-using
4 resources.

5 **Q. Turning now to the issue of diversity of**
6 **supply. On what generation resources does GMO depend?**

7 A. If you look at their IRP filing, it's
8 primarily natural gas and coal.

9 **Q. In your opinion is this a diverse generation**
10 **portfolio?**

11 A. No, not at this time.

12 **Q. Do you agree with Brightergy's statement of**
13 **position that -- where it contends that diversity of**
14 **GMO's energy supply is at issue in this case?**

15 A. Yes, absolutely.

16 **Q. Did the Comprehensive State Energy Plan**
17 **discuss the diversity of energy supply?**

18 A. Yes. There are numerous mentions of
19 diversity of energy supply and the benefits of moving
20 towards a more diverse energy supply. For example, the
21 plan talked about how virtually all the coal that is used
22 for generation in the state of Missouri is imported and
23 how there are -- there is very little domestic natural
24 gas within the state of Missouri. So moving towards
25 these in-state resources, such as the solar being

1 considered in this application, would reduce the need for
2 expenditures on out-of-state fuels.

3 MR. ANTAL: Okay. If I could distribute an
4 exhibit?

5 JUDGE WOODRUFF: All right. And this will be
6 Exhibit Number 1.

7 MR. OPITZ: I'm going to object to this
8 exhibit.

9 JUDGE WOODRUFF: I haven't seen it yet. You
10 might want to wait until he tells us what it is.

11 (DE Exhibit 1 marked for identification.)

12 MR. OPITZ: Public Counsel had a data request
13 to the Division of Energy requesting all exhibits -- that
14 they provide all exhibits for this case.

15 As you know, Judge, Commission Rule 4 CSR
16 240-2.090(2)(F) requires that any party responding to a
17 data request notify the party requesting that information
18 if the response changes. Counsel for Division of Energy
19 has not notified us that they have this exhibit. They've
20 not provided us this exhibit ahead of time. There has
21 been no notice of this exhibit, and on that basis I would
22 object to it.

23 JUDGE WOODRUFF: And your response,
24 Mr. Antal?

25 MR. ANTAL: Counsel for the Office of Public

1 Counsel's data request specifically requested documents
2 that Mr. Hyman had compiled or created specifically for
3 this case. This document was not compiled or created by
4 Mr. Hyman for this case. This is a publicly-available
5 document. It's about an issue that we responded that he
6 would be potentially testifying on in this proceeding.

7 JUDGE WOODRUFF: Just to make the record
8 clear, the document is entitled Missouri Comprehensive
9 State Energy Plan.

10 Mr. Opitz, do you have further response?

11 MR. OPITZ: To the -- to the extent that he
12 collected it for this case, I believe that fits under the
13 definition of compiling something for the case. This is
14 an exhibit that we have no notice of, and -- and Counsel
15 for Division of Energy could have and should have
16 provided that in response to this data request.

17 JUDGE WOODRUFF: Mr. Antal, any further
18 response?

19 MR. ANTAL: Again, under, yeah, my
20 understanding of the compile or creates, this would not
21 fall under it.

22 JUDGE WOODRUFF: You agree that that was the
23 language, compiles or creates?

24 MR. OPITZ: Judge, I have a copy of the data
25 request, and --

1 JUDGE WOODRUFF: You want to just read it
2 into the record?

3 MR. OPITZ: Yes. Data Request 50: Provide
4 any and all reports, documents, memoranda, and exhibits
5 that Mr. Martin Hyman has compiled or created for this
6 case.

7 JUDGE WOODRUFF: I think under the
8 circumstances this falls as compiles.

9 MR. ANTAL: Okay. Then I will withdraw the
10 exhibit.

11 (DE Exhibit 1 withdrawn.)

12 JUDGE WOODRUFF: Okay.

13 BY MR. ANTAL:

14 Q. Mr. Hyman, we were discussing prior -- just
15 previously the Comprehensive State Energy Plan's
16 recommendations regarding diversity of energy supply. In
17 your opinion are there reasons, other than environmental
18 regulatory compliance, for the state to pursue diversity
19 of energy supply?

20 A. Certainly. I think we've talked about
21 fulfillment of the IRP, we've talked about the RES, we've
22 talked about the Clean Power Plan. I think generally --
23 and we talked about diversification. I think as -- you
24 know, we can go into more detail in a bit. There are
25 also benefits to public health to not using traditional

1 generation resources that would use fossil fuel. There
2 are economic development benefits. And so I think those
3 are all considerations.

4 **Q. Okay. And did the CSEP indicate that other**
5 **states near Missouri had more diverse generation**
6 **portfolios?**

7 A. Yes, it did.

8 **Q. Okay. Do businesses want a more diverse**
9 **energy portfolio?**

10 A. Yes, the CSEP specifically mentions an
11 agreement among businesses in which the signatory -- and
12 this was -- this was including major businesses such as
13 Ikea and Walmart -- specifically were targeting the
14 procurement of, I believe it was a collective -- it was
15 over -- I can't remember the exact number, but it was
16 something around 8 million megawatt hours per annum, and
17 the number of signatories has tripled or had tripled as
18 of the time of the CSEP.

19 **Q. Okay. Would it be safe to say that a more**
20 **diverse generation portfolio could increase the economic**
21 **competitiveness of the state in the view of such**
22 **companies?**

23 A. Yes.

24 **Q. Would adding a utility-owned central station**
25 **solar facility to GMO's portfolio increase the diversity**

1 **of its generation portfolio?**

2 A. Yes, given the Company's current portfolio
3 mix.

4 **Q. From a diversity of supply perspective, are**
5 **there differences between solar and wind generation?**

6 A. Yes. I think some of these were discussed
7 earlier. But to that I would add that solar tends to be
8 a bit more closely aligned with peak generation, at least
9 during the summer months -- or with peak load, I should
10 say. And as we know, as was discussed before, solar and
11 wind are not the same resource.

12 **Q. Based on all these considerations, is the**
13 **Company's CCN application required for the public**
14 **necessity, in your opinion?**

15 A. Yes. The public necessity would be fulfilled
16 based on the Company's preferred plan, based on
17 compliance with potential future environmental
18 requirements, and increasing the diversity of the
19 Company's generation portfolio.

20 **Q. Turning now to the issue of the Applicant's**
21 **qualifications. Has GMO indicated that it wishes to gain**
22 **hands-on experience with the project?**

23 A. Yes.

24 **Q. Okay. I'm going to skip over a few of these,**
25 **because they've been well covered earlier today. I want**

1 to be mindful of the Commission's time.

2 In your opinion, is GMO qualified to manage
3 this project?

4 A. Yes. They already have -- they're going to
5 site this on land they already own, next to one of their
6 existing generation facilities, near their distribution
7 system, and they have other generation facilities.

8 Q. Okay. In the past has the Commission
9 approved a CCN application for a utility's central solar
10 project when the utility has had no prior large-scale
11 solar experience?

12 A. Yes. If you look back at the Ameren O'Fallon
13 CCN case, Ameren had no experience with solar at anything
14 that size.

15 Q. Okay. Are there central station solar
16 facilities in Missouri besides those already discussed?

17 A. Yes. There are facilities in Butler near
18 Springfield and Macon. And there is another one, ground
19 was recently broken on a facility in Rolla. And there
20 are some others planned as well.

21 Q. And are you familiar with any small-scale
22 solar facilities with which the Company has experience?

23 A. Yes. I think that's been discussed today,
24 that there are some smaller distributed generation level,
25 if you will, on solar facilities with which the Company

1 has experience.

2 **Q. Okay. Turning now to financial ability. How**
3 **has the Company indicated that it will fund the project?**

4 A. Without going into any of the proprietary
5 details, basically the Company has said it will use
6 general funds and the -- it will try to take part in the
7 Investment Tax Credit --

8 **Q. Okay.**

9 A. -- or ITC.

10 **Q. And as stated earlier, the ITC has recently**
11 **been extended?**

12 A. Yes, it has.

13 **Q. And should this impact the timeline for the**
14 **project?**

15 A. No, it should not.

16 **Q. Okay. If you know, what is the -- how long**
17 **do Investment Tax Credits retain their full value?**

18 A. I'm not entirely confident on that question.
19 I might defer to some of the other folks --

20 **Q. That's fine.**

21 A. -- in the room.

22 **Q. Assuming the CPP is upheld, could the Company**
23 **delay the start of the project in order to participate in**
24 **the Clean Power Plan's Clean Energy Incentive Program?**

25 A. Possibly. But the issue there is that the

1 state -- and this was already discussed by one of GMO's
2 witnesses. It's not clear that the state will ultimately
3 participate in the Clean Energy Incentive Program.

4 **Q. Okay. Would the Commission approval of this**
5 **CCN application preclude the Company from building**
6 **additional solar facilities, if the CPP is upheld and the**
7 **state does not decide to participate in the CEIP?**

8 A. Well, if it does -- if it does or it doesn't
9 decide to participate in the CEIP, I think the Company
10 certainly could build more solar facilities.

11 **Q. Based off these considerations, do you find**
12 **that the project is financially feasible?**

13 A. Yes. The Company intends to use its general
14 funds, it intends to participate in the Investment Tax
15 Credit, and these are far more certain considerations
16 than any potential possibility of participating in the
17 Clean Energy Incentive Program.

18 **Q. Okay. Turning now to the issue of economic**
19 **feasibility. It's been well established by other parties**
20 **that this is not the least-cost, new supply side option.**
21 **Do you agree with that?**

22 A. Yes, I think that's been discussed quite a
23 bit.

24 **Q. Okay. Is the Company required to pick the**
25 **least-cost option in its preferred plan --**

1 A. No.

2 Q. -- IRP?

3 A. No. I think we -- as I noted earlier, that
4 there are other considerations, such as reliability. I
5 mean, if you look at the Commission's IRP rule, there's
6 also the matter of safe and adequate service. The kinds
7 of considerations you would usually think of.

8 Q. Okay. If the goal of this project is to
9 reduce carbon dioxide emissions in anticipation of
10 proposed environmental rules, could that goal be met by
11 purchasing or building more wind?

12 A. Potentially. But the -- that would not
13 necessarily fulfill any sort of need to diversify the
14 Company's generation portfolio.

15 Q. And must the Commission make a determination
16 regarding the prudence of the project in a CCN case?

17 A. No. If you look back at the Tartan case, the
18 Commission excluded considerations of the prudence or
19 ratemaking treatment of the Tartan project from its
20 report and order.

21 Q. Okay. In the CCN case for Ameren's solar
22 project, did the parties agree to a prudence
23 determination for Ameren's project?

24 A. No, the parties actually left that out of
25 their amended stipulation and agreement.

1 **Q. And in that decision did the Commission make**
2 **any finding regarding the prudence or the ratemaking**
3 **treatment of Ameren's project?**

4 A. So the Commission reserved its judgment on
5 the prudence and ratemaking treatment of the project
6 until Ameren's rate case.

7 **Q. Should the economic feasibility of this**
8 **project be considered, in combination with the public**
9 **necessity?**

10 A. Yes. As I recall, one of the questions in
11 the -- for the position statements was impact to
12 ratepayers. And I think that has to be looked at not
13 just from the cost perspective, i.e., the negative, but
14 from the positive perspective, i.e., you know, what are
15 the other benefits, the needs.

16 **Q. Okay. And what are the some of the benefits**
17 **or needs, as you see them?**

18 A. As I see them and as DE sees them, I would
19 say it's a matter of the Company's preferred plan, what's
20 stated there, in its RES compliance plan; compliance with
21 potential environmental requirements; diversification of
22 its portfolio; public health; economic development.

23 **Q. Okay. Since prudence in ratemaking treatment**
24 **need not be considerations in this case, what do you**
25 **recommend with regards to consideration of the economic**

1 **feasibility of this application?**

2 A. Well, given that prudence and ratemaking
3 would be deferred as considerations, I would say that the
4 project should be considered economically feasible, based
5 on the balancing of these criteria.

6 **Q. Turning to the public interest. Does the**
7 **project fulfill the public interest requirement stated in**
8 **In Re Tartan?**

9 A. Yes, the public interest requirement, as I
10 think has been discussed before, tends to follow from an
11 affirmation of the other criteria.

12 **Q. Do other factors weigh in favor of a public**
13 **interest determination?**

14 A. Yes. And those are a lot of the other
15 factors that I have discussed, such as impact -- you
16 know, avoidance of negative impacts to public health or,
17 as I interchangeably say, positive impacts, economic
18 benefits, and so on.

19 **Q. And based on your evaluation of the project**
20 **with respect to the Tartan criteria, does DE recommend**
21 **that the Commission approve this project?**

22 A. Yes.

23 MR. ANTAL: Okay. That's all the questions I
24 have.

25 JUDGE WOODRUFF: Okay. For cross then, we

1 begin with GMO.

2 MR. FISCHER: Thank you, Your Honor.

3 CROSS-EXAMINATION BY MR. FISCHER:

4 Q. Good evening -- afternoon, Mr. Hyman.

5 A. Evening.

6 Q. Is the role of the Division of Energy here in
7 the state government to provide opportunities to assist,
8 educate, and encourage Missourians to advance the
9 efficient use of diverse energy resources, with a goal of
10 achieving economic and environmental benefits?

11 A. Yes, it is.

12 Q. Is one of the recommendations of the Missouri
13 Comprehensive State Energy Plan that you discussed in
14 your testimony to expand the Division of Energy's role in
15 that regard?

16 A. Yes, it is.

17 Q. Is there any other role that the Division of
18 Energy has as far as establishing statewide energy
19 policy?

20 A. Well, there are a number of recommendations
21 in that plan, and I think that a lot of them follow with
22 what we -- what I've been talking about in terms of what
23 I do and, you know, what we already do. There are some
24 legislative proposals in there as well, in terms of the
25 Renewable Energy Standard and in terms of net metering.

1 MR. FISCHER: Judge, for purposes of
2 cross-examination, I'd like to have the Missouri
3 Comprehensive State Energy Plan marked as an exhibit.

4 JUDGE WOODRUFF: All right. Previously
5 marked as number 1, but we'll mark it again as number 2.

6 (Company Exhibit 2 marked for
7 identification.)

8 MR. FISCHER: Okay. May I approach?

9 JUDGE WOODRUFF: You may.

10 BY MR. FISCHER:

11 Q. Is this an exhibit that -- Exhibit 2, the
12 Missouri Comprehensive State Energy Plan, that you
13 discussed in your testimony?

14 A. Yes, this is the -- sorry. This is the
15 executive summary.

16 Q. And you were involved in development of
17 that --

18 A. Yes.

19 Q. -- work?

20 A. Sorry. Yes. In the data analysis and in
21 some of the discussion of the initial recommendations.

22 MR. FISCHER: Judge, I'd move for the
23 admission of Exhibit 2.

24 JUDGE WOODRUFF: Exhibit 2 has been offered.
25 Any objections to its receipt? Hearing none --

1 MR. OPITZ: Judge, I --

2 JUDGE WOODRUFF: Go ahead.

3 MR. OPITZ: I would raise the same objection
4 I had previously. I believe this is -- this was an
5 exhibit that Division of Energy attempted to put in on
6 direct testimony and did not properly provide this in
7 response or notice of the change of their data request
8 response.

9 MR. FISCHER: Judge, I would suggest that I
10 have the opportunity to do cross-examination, provide
11 exhibits as is needed for that.

12 JUDGE WOODRUFF: Okay. I'm going to overrule
13 the objection. It will be received.

14 (Company Exhibit 2 received into evidence.)

15 BY MR. FISCHER:

16 Q. Mr. Hyman, would you turn to the executive
17 summary, the first page there? Does the first paragraph
18 indicate that Missouri requires abundant, affordable,
19 sustainable, and secure supplies of energy to power homes
20 and businesses, to fuel transportation systems, and
21 advance opportunities for economic development and
22 growth?

23 A. Yes, that's how it reads.

24 Q. Do you think that the Company's proposal in
25 this case is consistent with that goal?

1 A. I think it moves the state towards that goal,
2 yes.

3 Q. And would you turn to page 7 of that
4 Comprehensive Energy Plan? The second paragraph under
5 Diversity and Security of Supply states, Diversifying the
6 energy sources utilized and consumed in Missouri will
7 make the state less reliant on imported energy, increase
8 economic development, and provide a hedge against future
9 price volatility. The state should make efforts to
10 diversify its energy portfolio, using existing processes
11 and establishing new opportunities for discussion and
12 planning. Do you see that?

13 A. Yes.

14 Q. Do you believe that the Company's proposal
15 would be consistent with that goal?

16 A. Yes.

17 Q. The next sentence indicates, Recommendations
18 include expanding standards and policies that support
19 renewable and alternative energy and other in-state
20 resources fostering the growth of technologies and
21 systems that contribute to resilience and reliability and
22 building upon current successful collaborations related
23 to energy assurance and emergency planning. Do you see
24 that?

25 A. Yes.

1 **Q. Do you -- would you agree that the Company's**
2 **proposal in this case would be consistent with that goal?**

3 A. Yes, I would say that it does support
4 renewables, emerging technologies, and per from what I've
5 understood of the Company's learning objectives, it would
6 also aid with its understanding of reliability and
7 resiliency.

8 **Q. And if I understand what you testified in the**
9 **deposition, this is now approved in final plan; is that**
10 **correct?**

11 A. Yes. We finalized the Comprehensive State
12 Energy Plan or released the final version in October of
13 2015.

14 **Q. Thank you for your testimony.**

15 MR. FISCHER: I have no other questions.

16 JUDGE WOODRUFF: All right. UFM?

17 MR. LINTON: A few, Your Honor.

18 CROSS-EXAMINATION BY MR. LINTON:

19 **Q. Good afternoon, Mr. Hyman.**

20 A. Good afternoon.

21 **Q. Referring to the Missouri Comprehensive State**
22 **Energy Plan, could you turn to page 2. And on the second**
23 **column there, it says, Diversifying and Promoting**
24 **Security and Supply; right?**

25 A. Yes. The first bullet?

1 **Q. Right.**

2 A. Okay.

3 **Q. Missouri must identify and capitalize on**
4 **opportunities to maximize in-state clean energy resources**
5 **and increase (sic) dependence on imported fossil fuel**
6 **energy sources. Is that what that says?**

7 A. Yes.

8 **Q. Could you tell me what is the primary value**
9 **in diversifying fuel types?**

10 A. Well, I believe I discussed a lot of that in
11 my direct testimony. But to -- to recap, it includes
12 less -- fewer -- fewer, I should say -- fewer
13 expenditures on fuel costs, which are primarily
14 out-of-state fuels, as well as aiding in probable --
15 with -- compliance with probable environmental mandates,
16 benefits to public health, and some of those
17 considerations.

18 **Q. Would this bullet point suggest that**
19 **diversifying fuel types, the primary value is having a**
20 **fuel type and source of energy that's available that**
21 **could displace another fuel type in the event it is not**
22 **obtainable?**

23 A. Yes.

24 **Q. With that being the case, if GMO can't obtain**
25 **gas for a CT, could solar provide the resources necessary**

1 **to displace or to fulfill the gas energy source?**

2 A. I'm not sure if I can speculate on that
3 without knowing all the circumstances at the specific
4 time you're talking about.

5 Q. Okay. Let's -- let's say that -- you had
6 said already that coal and gas are the primary sources
7 for GMO's fuel type. They're the primary fuel type for
8 GMO's generation; correct?

9 A. Yes.

10 Q. So let's just say 50/50. Is that -- for
11 purposes of a hypothetical, would that be close to right?

12 A. It's close.

13 Q. Okay. So if they couldn't get gas for their
14 CTs, they couldn't generate 50 percent of what they
15 needed to provide capacity for their customers; correct?

16 A. Well, if you're assuming -- so are you
17 assuming that there would be no gas for any of their
18 turbines?

19 Q. Well, let's say that there's no gas for half
20 of their turbines --

21 A. Well, in that case --

22 Q. -- or, therefore, they would be -- their
23 capacity would be down 25 percent.

24 A. Right. That's what I was going to say, about
25 25. Although even less, given the actual -- actual

1 portfolio.

2 **Q. Right. Could solar then produce that**
3 **25 percent?**

4 A. I think it's kind of hard to evaluate, unless
5 all the other circumstances are known.

6 **Q. What is -- what is the capacity factor for a**
7 **solar power plant, the one we've been talking about here**
8 **in particular?**

9 A. My understanding is it's 18 percent.

10 **Q. So it only runs 18 percent of the time?**

11 A. Yes.

12 **Q. That's due to the fact that wind -- the sun**
13 **doesn't shine at night, it could be cloudy?**

14 A. Yeah, that's -- that's one of the
15 considerations, yes.

16 **Q. So if -- if KCP&L/GMO couldn't get the gas or**
17 **the coal or whatever for its power plant -- those power**
18 **plants run pretty much a hundred percent of the time?**

19 A. Not a hundred percent. And I think gas
20 plants run even less than coal plants typically, under --
21 under normal circumstances.

22 **Q. 80 to 90 percent of the time?**

23 A. Gas plants, no, I don't think they typically
24 do. That's -- that's my understanding.

25 **Q. Okay. 70?**

1 A. Probably closer to 60, 70. But, again, this
2 is -- I'm not primarily focused on that aspect in this --
3 for this direct testimony.

4 Q. So the 15 percent wouldn't come anywhere
5 close to the 60 percent, would it?

6 A. I believe the prior number was 18 percent.

7 Q. 18 percent. I apologize.

8 A. Well, I'm not sure that you're comparing the
9 correct numbers in this instance.

10 Q. How so?

11 A. So to compare the capacity factors ignores
12 exactly when the plants -- these two comparative plants
13 would be needed, in addition to some of the other -- some
14 of the other things that we've heard about today, such as
15 reliability. So I don't think that simply taking a
16 capacity factor number and saying it is larger or smaller
17 makes sense for comparison purposes.

18 MR. LINTON: Thank you. I have no further
19 questions.

20 JUDGE WOODRUFF: For Staff?

21 MR. WESTEN: Thank you, Your Honor. May I
22 inquire from --

23 JUDGE WOODRUFF: You may.

24 MR. WESTEN: -- counsel table?

25 CROSS-EXAMINATION BY MR. WESTEN:

1 **Q. Mr. Hyman, you were personally involved in**
2 **the development of the Comprehensive State Energy Plan?**

3 A. Well, as I hesitated to my counsel to --

4 **Q. Yes? Yes or no, please.**

5 A. Yes, parts of it.

6 **Q. Thank you. And the CSEP is -- it was a plan**
7 **that was undertaken by the direction of the Division of**
8 **Energy?**

9 A. Well, it was undertaken at the direction of
10 the governor actually.

11 **Q. But -- okay. And the Division of Energy then**
12 **developed that plan; correct?**

13 A. Yes, in collaboration with numerous
14 stakeholders.

15 **Q. Thank you. And that plan is, in part, about**
16 **the diversification of energy sources?**

17 A. In part.

18 **Q. And you're testifying -- testifying on behalf**
19 **of the Division of Energy today; correct?**

20 A. Yes.

21 MR. WESTEN: I have no further questions.

22 JUDGE WOODRUFF: For Public Counsel?

23 MR. OPITZ: Yes, Judge. May I inquire?

24 JUDGE WOODRUFF: You may.

25 CROSS-EXAMINATION BY MR. OPITZ:

1 **Q. Good afternoon, Mr. Hyman.**

2 A. Good afternoon.

3 **Q. I understand at the beginning of your direct**
4 **testimony you discussed some calculations that you**
5 **performed; correct?**

6 A. Yes.

7 **Q. And when did you perform those calculations?**

8 A. These calculations particularly I was working
9 on just now. I think I was mentioning, in my deposition
10 we talked about --

11 **Q. When did -- my question is when did you**
12 **perform the calculations you talked about in your direct**
13 **testimony?**

14 A. These particular calculations, just now.

15 **Q. Thank you. And prior to performing that**
16 **calculation, you had already reached your conclusions in**
17 **this case; correct?**

18 A. Yes, many of my conclusions.

19 **Q. Would you look at page 2 of what is marked as**
20 **Exhibit 2? And on page 2 would you agree that there are**
21 **bullet points that list goals of the Missouri**
22 **Comprehensive State Energy Plan?**

23 A. I think what it states is, in conducting our
24 analysis and soliciting public input during the plan,
25 development process, it became apparent that Missouri's

1 pathway to achieving these goals is grounded on. So it's
2 what the basis of the goals are.

3 **Q. So these themselves are not the goals?**

4 A. I think they are related to the goals.

5 **Q. Is ensuring affordability one of the goals of**
6 **the Comprehensive State Energy Plan?**

7 A. Yes.

8 **Q. Mr. Hyman, you became aware of this case in**
9 **January of 2016; correct?**

10 A. Yes.

11 **Q. And in this case you did not send out any**
12 **data requests to any of the parties; correct?**

13 A. Based on the information that I had, I --

14 **Q. In this --**

15 A. -- did not.

16 **Q. -- case you did not send out any data**
17 **requests?**

18 A. Based on the information I had --

19 **Q. In this case --**

20 A. -- I did not.

21 **Q. -- you did not send --**

22 MR. ANTAL: Objection, argumentative.

23 BY MR. OPITZ:

24 **Q. -- out any data requests?**

25 JUDGE WOODRUFF: No. Please answer the

1 question that's asked.

2 THE WITNESS: I did not.

3 BY MR. OPITZ:

4 Q. Thank you. And, Mr. Hyman, you have never
5 testified in a CCN case before; correct?

6 A. No.

7 Q. Mr. Hyman, you would agree that GMO does not
8 need S-RECs to comply with the RES requirements until
9 after 2026?

10 A. I would have to have the exact calculations
11 as an exhibit. But, yes, subject to check.

12 Q. Mr. Hyman, you were involved in the
13 Comprehensive State Energy Plan; correct?

14 A. I believe I've already said yes.

15 Q. And would you agree that the Comprehensive
16 State Energy Plan recommends increases to the RES
17 requirements?

18 A. Yes.

19 Q. Would you agree that those -- those increased
20 RES requirements are not in effect right now?

21 A. They are not.

22 Q. Would you agree that even if the requirements
23 for solar generation were increased to the levels
24 recommended in the State Energy Plan, that GMO would
25 still be able to comply until 2025?

1 A. I would need to see a specific exhibit to
2 that effect.

3 Q. Mr. Hyman, do you have a copy of your
4 deposition with you?

5 A. I do.

6 Q. Would you please turn to page 60? Are you
7 there?

8 A. I am.

9 Q. Beginning at line 6, the question is asked:
10 Let's start with their solar.

11 Answer: So they would probably be okay past
12 2025, but it would push forward the need for solar RECs.

13 Question: GMO, you're saying?

14 Answer: Yes, GMO.

15 Question: Okay. So even with increasing to
16 the level that's recommended in a State Energy Plan, GMO
17 would be able to comply until 2025?

18 Answer: Through, yes.

19 A. And right after it says, Through 2025. So up
20 to 2026? I don't know exactly when --

21 Q. There's no question pending, Mr. Hyman.
22 Mr. Hyman, you do not know if this project will cause the
23 Company to take some of their current generation offline;
24 correct?

25 A. I have not -- I was not part of the Company's

1 IRP process, no.

2 Q. So you do not know if this project will cause
3 the Company to take some of their current generation
4 offline?

5 A. It could enable that.

6 Q. So you do not know if this project will cause
7 the Company to take some of their current generation
8 offline?

9 A. It could enable them to lower their need to
10 generate as much with current resources.

11 Q. Again, Mr. Hyman, you do not know if this
12 project will cause the Company to take some of their
13 current generation offline?

14 A. I am not certain.

15 Q. Is there a difference between not -- being
16 not certain and not knowing?

17 A. No.

18 Q. Mr. Hyman, what current resources, if any,
19 would be offset by this project?

20 A. It would depend on the time of solar
21 generation. But most likely it would be either their
22 coal or their natural gas.

23 Q. Can you tell me any specific resources --
24 generation resources of the Company that would be offset
25 by this project?

1 A. I cannot. That would be a Company decision.

2 Q. Mr. Hyman, you would agree that utilities are
3 not required to comply with the Clean Power Plan until
4 2022; correct?

5 A. I would.

6 Q. And I understand that you've given testimony
7 about the Tartan factors in this case. Do you agree with
8 that?

9 A. Yes.

10 Q. And your opinion is that GMO has met those
11 Tartan factors?

12 A. Yes.

13 Q. And you would agree that one factor is
14 whether there is a need for the service?

15 A. Yes.

16 Q. You did not perform any quantitative analysis
17 prior to reaching that conclusion, did you?

18 A. No.

19 Q. But you agree that such a quantitative
20 analysis is possible?

21 A. It is possible, but not necessary.

22 Q. And had you performed such a quantitative
23 analysis, you would examine certain factors, including
24 reductions to probable environmental costs, impacts to
25 public health, economic development benefits, and

1 **fulfillment of IRP plans?**

2 A. Yes.

3 **Q. Prior to reaching your conclusion in this**
4 **case, you did not perform a quantitative analysis of any**
5 **of those, did you?**

6 A. As previously stated, no.

7 **Q. And you did not perform any quantitative**
8 **analysis of the retail rate impact that would result from**
9 **this project?**

10 A. In light of our position that the prudence
11 and ratemaking treatment are not at issue in a CCN case,
12 no.

13 **Q. Mr. Hyman, you did not perform any**
14 **quantitative analysis of the retail rate impact that**
15 **would result from this project?**

16 A. No.

17 **Q. You did not perform any quantitative analysis**
18 **on any tax credits that might be credited to the Company?**

19 A. No.

20 **Q. And you did not perform any quantitative**
21 **analysis about the economic feasibility of this project?**

22 A. No.

23 **Q. In fact, prior to today the only analysis you**
24 **performed related to project costs was to look at the**
25 **cost number within the Company's application and then**

1 **look at the cost number within the Company's IRP?**

2 A. That was my primary focus.

3 MR. OPITZ: That's all the questions I have,
4 Judge.

5 JUDGE WOODRUFF: Questions from the bench.

6 CHAIR HALL: I have no questions. Thank you.

7 JUDGE WOODRUFF: All right. No questions
8 from the bench, so no need for recross.

9 Any redirect?

10 MR. ANTAL: Yes. Just one.

11 REDIRECT EXAMINATION BY MR. ANTAL:

12 **Q. Mr. Hyman, do you have your deposition still**
13 **in front of you?**

14 A. I do.

15 **Q. And are you on page 60?**

16 A. I can get back to it. I'm there.

17 **Q. Okay. Counsel for the -- for OPC was**
18 **discussing whether or not GMO had sufficient -- we were**
19 **talking about this, the RES requirements; and you were**
20 **trying to respond when you were cut off. Would you mind**
21 **responding how you intended to respond?**

22 A. Yes. So per that discussion, the rest of the
23 exchange in that deposition was:

24 **Q. Through 2025. So up to 2026?**

25 A. I don't know exactly when. But, yeah.

1 Or I don't recall offhand. But, yes.

2 MR. ANTAL: Okay. Thank you very much. No
3 further questions.

4 JUDGE WOODRUFF: All right. Then you can
5 step down.

6 (Witness excused.)

7 JUDGE WOODRUFF: And we'll take a break and
8 come back at 5:00.

9 MR. FISCHER: Judge, before we go off the
10 record, does the court reporter need Exhibit 2 or do you
11 have that?

12 COURT REPORTER: I have it.

13 MR. FISCHER: Thank you.

14 (Off the record.)

15 JUDGE WOODRUFF: All right. Let's come back
16 to order, please.

17 All right. Mr. Beck, please raise your right
18 hand.

19 DANIEL BECK,
20 after having been first duly sworn, was
21 examined and testified on his oath as follows:

22 JUDGE WOODRUFF: Thank you.

23 You may inquire.

24 MR. WESTEN: Just a moment, Your Honor.

25 MS. MUETH: My apologies. Have you already

1 been sworn in?

2 THE WITNESS: I have.

3 JUDGE WOODRUFF: He has.

4 DIRECT EXAMINATION BY MS. MUETH:

5 Q. Please state your name and spell it for the
6 court reporter.

7 A. Daniel I. Beck. And that's D-A-N-I-E-L,
8 B-E-C-K.

9 Q. How are you employed?

10 A. I am the manager of engineering analysis for
11 the Missouri Public Service Commission Staff.

12 Q. And how long have you been employed for the
13 Staff of the Missouri Public Service Commission?

14 A. Over 28 years.

15 Q. Are you a professional engineer in Missouri?

16 A. I am.

17 Q. And what's your educational background?

18 A. I have a BS degree in industrial engineering
19 from the University of Missouri -Columbia.

20 Q. Please describe your position and duties at
21 the Public Service Commission.

22 A. As manager of engineering analysis, I oversee
23 a group of engineers. There is also one technical --
24 utility technical specialist position. The -- myself and
25 the engineers that work for me have heavy involvement in

1 electric cases. In addition, we have some involvement in
2 gas cases, water cases, and sewer cases as well. The --
3 several of the engineers are specialists in depreciation.
4 Others do things like production cost modeling, Renewable
5 Energy Standard work, a variety of topics.

6 **Q. Have you testified in front of the Commission**
7 **before?**

8 A. Yes, I have.

9 MS. MUETH: Your Honor, I'd like to have
10 marked an exhibit for this witness.

11 JUDGE WOODRUFF: This is number 3.

12 MS. MUETH: And we'll come around and pass
13 around exhibit packets for the parties.

14 (Staff Exhibit 3 marked for identification.)

15 BY MS. MUETH:

16 **Q. So do you recognize this document?**

17 A. I do.

18 **Q. What is this document?**

19 A. In the good old days we used to call them
20 resumes. I think curriculum vitae is the chosen phrase
21 these days.

22 **Q. Is this a fair and accurate depiction of your**
23 **CV?**

24 A. It is. I guess one thing I would state just
25 for clarity is this is a list of cases -- this includes a

1 list of cases that I presented testimony in and prepared
2 testimony in. There's also a number of cases that I
3 filed Staff recommendations, so -- you know, that I
4 didn't bother to include here.

5 **Q. Okay. Thank you.**

6 MS. MUETH: Your Honor, I'd like to offer
7 Exhibit 3.

8 JUDGE WOODRUFF: Exhibit 3 has been offered.
9 Any objection to its receipt? Hearing none, it will be
10 received.

11 (Staff Exhibit 3 received into evidence.)

12 BY MS. MUETH:

13 **Q. Are you familiar with the application for a**
14 **Certificate of Convenience and Necessity that GMO has**
15 **filed in this case?**

16 A. Yes, I am.

17 **Q. Have you evaluated the application?**

18 A. Yes.

19 **Q. What did you do to evaluate the application?**

20 A. I worked with several other Staff members.
21 We reviewed the application itself, sent a large number
22 of data requests to gather more information, followed the
23 proceeding throughout -- throughout this time period,
24 including the depositions of the various witnesses. And
25 also then I -- as a part of this, I took the time to

1 review some of the previous cases that I worked on,
2 the -- GMO's last Integrated Resource Plan filing,
3 documents like that.

4 **Q. And based on your evaluation, were you able**
5 **to reach a position with a reasonable degree of**
6 **professional certainty regarding whether or not the Staff**
7 **should recommend approval of the application?**

8 A. Yes. I, along with my other staffers, agree
9 that we do -- we believe that the Commission should not
10 grant the CCN.

11 **Q. Are you aware of something called the Tartan**
12 **factors?**

13 A. Yes.

14 **Q. Did Staff consider these factors in**
15 **evaluating its position in this case?**

16 A. Yes, we did.

17 **Q. I'd like to walk through each Tartan factor**
18 **with you. In your expert opinion does GMO need this**
19 **solar facility?**

20 A. No.

21 **Q. Would you say that GMO is short on capacity?**

22 A. I think that, you know, that characterization
23 is reasonable. They do purchase -- they do have -- or at
24 least historically and the planning shows that they plan
25 on doing what's called PPAs, Purchase Power Agreements,

1 for capacity in the near future.

2 **Q. So just to be clear, when you say short --**
3 **that GMO is short on capacity, you mean that they do not**
4 **have enough generation to meet the needs of their**
5 **customers without purchasing additional?**

6 A. With the clarification that I guess I'd say
7 to meet the needs. What need they're really meeting is
8 they're meeting the requirements of the capacity for
9 their customers, plus whether you want to call it a
10 reserve margin or capacity margin, and -- and that margin
11 is -- is set by, in this case Southwest Power Pool, SPP.
12 And so to -- they have enough -- on paper they have
13 enough capacity to serve their load, but that additional
14 reserve margin is -- is -- you know, they need additional
15 megawatt hour -- megawatts, excuse me, to meet that
16 requirement.

17 **Q. How much of an impact will this project have**
18 **on GMO's capacity needs?**

19 A. A very small amount. Without -- the IRP
20 filing shows a number. But without going into it, it's
21 just a fraction of the 3-megawatt number that's been
22 thrown around here.

23 **Q. So it -- will this project enable GMO to stop**
24 **making purchases of its capacity from the market?**

25 A. No, it will not.

1 **Q. Is GMO qualified to provide the proposed**
2 **project services?**

3 A. In cases like this, including the O'Fallon
4 one that's been discussed earlier, you know, my position
5 has been that -- that utilities like GMO have power
6 plants that are much more complicated than a solar plant
7 to operate and maintain. And so, in my mind, that is
8 proof of their ability to operate a solar facility like
9 this.

10 I will say that, given the emphasis the
11 Company has put on the topic and, you know, even, you
12 know, one witness that most exclusively just on that
13 topic of what they don't know, that sort of perplexes me.
14 But in the end I still come up with the same
15 recommendation, which is that they do have the ability to
16 operate this plant.

17 **Q. Has GMO provided, either in its application**
18 **or elsewhere, any learning objectives or tangible goals**
19 **it expects to reach as a result of this project?**

20 A. There's been, you know, some references to
21 things here today generally. And I think what I did hear
22 was is a commitment by the Company to -- to put together
23 a more comprehensive list, but at this point we don't
24 have that.

25 **Q. Can you say with a reasonable degree of**

1 **professional certainty that GMO will gain valuable**
2 **knowledge or experience if it builds this project?**

3 A. I can say that any time you operate a
4 facility, a system, you know, you gain knowledge. It's
5 the word valuable that I'm -- that I'm kind of hung up
6 on. And, you know, I have to confess as an engineer that
7 engineers just love new equipment and to operate it and
8 see what -- how it works. In fact, maybe a technical
9 name that we sometimes refer to is we might call that a
10 toy. We love toys. But, you know, at the end of the
11 day, placing a large value on that, I just don't see that
12 -- that's a huge number.

13 And, you know, the discussion about its
14 effect on the distribution system, you know, the reality
15 is is that -- that the Company experiences voltage dips,
16 sags, spikes, all the time. I say all the time. But
17 it's not an uncommon occurrence dealing with -- they deal
18 with large industrial customers that have processes that
19 go on and off. And it's -- you know, it's just part of
20 the operational reality of the distribution system that
21 they have to deal with. And they're quite good at it,
22 quite frankly, through years of experience, knowledge,
23 and equipment. And so I wouldn't expect any difference
24 here.

25 **Q. So just to kind of summarize what you just**

1 **said, it sounded like you just said the Company will gain**
2 **some knowledge and experience, but it's a minimal amount?**

3 A. Yeah, I don't see that the -- and, you know,
4 I didn't mention, for example, that, you know, the -- so
5 GMO has paid out a large amount of money in rebates,
6 solar rebates. And if you use the highest number that
7 they paid out, which was \$2 per watt, what you determine
8 is is that there's at least 25 megawatts of -- of solar
9 on their system through customer-owned systems that
10 they've paid rebates for.

11 So when you're comparing that 25 megawatts
12 that they're -- that they're experiencing today with this
13 3-megawatt project, it doesn't -- it doesn't seem quite
14 as stark that the -- that -- you know, that they have no
15 experience. And so I feel like that -- there's a lot of
16 value that they've already learned there as well.

17 **Q. Is the -- what -- what -- strike that. The**
18 **amount of knowledge and experience GMO would gain from**
19 **doing this project, is that enough to justify the cost of**
20 **this project?**

21 A. When you say the cost, I guess, you know, the
22 way I'm kind of looking at it is is there's already been
23 a lot of talk about the least-cost option. And it --
24 certainly, you know, myself and a future witness,
25 Dr. Proctor, were a couple of the people that helped

1 develop the first rule on integrated resource planning
2 here in the state of Missouri. And, you know, from day
3 one Staff has always been -- had the position that least
4 cost is not the only criteria that you should use to pick
5 out your preferred plan; however, it's that how much
6 additional cost are you getting value for that additional
7 cost.

8 And in this case the -- the cost of solar is,
9 you know, multiple times higher than the cost of wind on
10 a per kWh basis. And that's what -- that's what I
11 struggle with is, yeah, I just don't see why you would
12 pay multiple times just to get a little bit more
13 experience on your distribution system.

14 **Q. Does GMO have the financial ability to**
15 **provide the project services?**

16 A. I think so. And Staff witness, Karen Lyons,
17 who is an accountant, probably would be the best person
18 to give the final -- these comments by Staff.

19 **Q. Is GMO's proposed project economically**
20 **feasible?**

21 A. I do not believe it is. Again, Karen Lyons
22 has done some work on this. I have too. And I think
23 really everything that we've done together as a Staff
24 indicates that. In my case the work I did was review the
25 Integrated Resource Plan filing to try to get a

1 compare -- comparison of the least-cost option to -- to
2 the solar PV fixed concept that is being proposed here.

3 **Q. All right. Well, let's expound on that a**
4 **bit. The Integrated Resource Plan, or IRP, was filed in**
5 **E0-2015-0252; is that correct?**

6 A. That's correct.

7 MS. MUETH: Your Honor, I'd like to ask the
8 Commission to take notice of E0-2015-0252.

9 JUDGE WOODRUFF: What aspect of it?

10 MS. MUETH: Judicial notice.

11 JUDGE WOODRUFF: The entire case or is there
12 a particular document?

13 MS. MUETH: The IRP specifically. What I'd
14 like to discuss is Volume 1 and 4 of the IRP, if you need
15 us to be that specific.

16 JUDGE WOODRUFF: I would appreciate that.
17 Otherwise --

18 MS. MUETH: Sure.

19 JUDGE WOODRUFF: -- we would have to include
20 the entire --

21 MS. MUETH: Sure. And so --

22 JUDGE WOODRUFF: -- case filing into the
23 record of the case. So --

24 MS. MUETH: So Volumes 1 --

25 JUDGE WOODRUFF: -- we're talking about

1 Volumes 1 --

2 MS. MUETH: -- and 4 --

3 JUDGE WOODRUFF: -- and 4 of --

4 MS. MUETH: -- of the IRP and --

5 JUDGE WOODRUFF: And this would be GMO's IRP
6 in that case number?

7 MS. MUETH: Yes, that is correct.

8 JUDGE WOODRUFF: Okay.

9 MS. MUETH: And, Your Honor, I ask that we go
10 in-camera for this next line of questioning.

11 JUDGE WOODRUFF: Okay. And for the
12 in-camera, this is only GMO's information; right?

13 MS. MUETH: That's correct.

14 JUDGE WOODRUFF: Okay. So it's not the
15 situation we had earlier with Ameren?

16 MS. MUETH: Correct.

17 JUDGE WOODRUFF: Okay. I said that because
18 some are people starting to leave that probably don't
19 need to leave.

20 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
21
22
23
24
25

1 BY MS. MUETH:

2 Q. Were you involved in the --

3 JUDGE WOODRUFF: Just a moment. Let me get
4 back here.

5 MS. MUETH: I'm sorry.

6 JUDGE WOODRUFF: Okay. We're back in public
7 session.

8 MS. MUETH: Thank you.

9 BY MS. MUETH:

10 Q. Were you involved in the O'Fallon Ameren
11 Missouri solar CCN case?

12 A. Yes, I was.

13 Q. And is that case number EA-2014-0136?

14 A. It is.

15 Q. How is that case similar to this case?

16 A. It is a CCN for a -- what I would refer to as
17 a utility-sized solar facility. It -- you know, it also
18 was going to be connected to a distribution system, and I
19 see that as being similar. And both would be owned by
20 the utility that -- that, in essence, would be the host
21 of that facility.

22 Q. And how is that O'Fallon Ameren case
23 different from this case?

24 A. It's funny that, you know, someone who's been
25 here for 28 years would say that that was two years ago

1 and that seems like a lifetime ago, and it does to me.
2 Two years ago the Production Tax Credit at that time was
3 set to expire at the end of 2014, which would mean that
4 the plant had to be completed and operational by the end
5 of 2014 to -- to get the full 30 percent tax credit.

6 By the way, I need to be clear that at that
7 time it would have dropped to 10 percent was the way that
8 the -- the production tax -- or the Investment Tax
9 Credit, excuse me, worked at that time. I think I said
10 Production Tax Credit earlier; and, I'm sorry, but it is
11 an Investment Tax Credit.

12 In addition, that was right about the time
13 that -- that the utilities, Ameren Missouri, KCPL, and
14 GMO, had all entered into stipulation and agreements and
15 the Commission had just approved them regarding the level
16 of solar rebates that they would be offering.

17 Just a few months earlier before that was --
18 the legislature revised the Renewable Energy Standard to
19 change the -- both the level of solar re-- solar rebates
20 over time, and another important change -- there were
21 several others, but an important change was that they
22 also went ahead and changed the -- the -- I'm drawing a
23 blank here. Hold on just a second. I'm not finding it
24 here.

25 But the -- so they changed the level of the

1 rebates, but then at the same time the concept was
2 introduced where the utility got to keep the S-RECs from
3 the units that they paid for -- paid rebates for the
4 first ten years. So even though the customer generator
5 owns the facility, those rebates would be -- or those --
6 excuse me, those S-RECs would be kept by the company.
7 And that was a significant change before -- in fact, the
8 legis-- I believe the legislation specifically said that
9 those S-RECs were the property of the customer generator.
10 And so with that change, then the company's ability to
11 comply with the Renewable Energy Standard regarding solar
12 changed dramatically also, and that was the primary
13 source that they were using.

14 However, different utilities agreed to
15 different levels of -- stipulated levels of total solar
16 rebate payments. And my calculations at that time show
17 that Ameren Missouri still needed S-RECs in the near
18 future, and it partially has to do with the fact that the
19 Renewable Energy Standard had built in increments of
20 additional requirements. And my calculations at the time
21 showed that at 10 percent -- at the 10 percent
22 requirement level, they would need additional S-RECs.
23 And, of course, at 15 percent they'd need even more. So
24 the analysis showed that they needed a lot of S-RECs.

25 The other thing that the -- I think needs to

1 be put in perspective, about that time was the simple
2 fact that Ameren Missouri is the only utility that
3 offered something called standard offer contracts, when
4 they -- which is -- was a program where they were buying
5 the S-RECs from the customers. When they first offered
6 that a few years earlier, they offered that at the \$100
7 per S-REC level. When they came in the second year, they
8 offered it at \$50 an S-REC. And at the third year they
9 offered it at \$5 per S-REC. And then once the statute
10 changed, they stopped that offer because they didn't need
11 those S-RECs immediately anymore.

12 And so, you know, it was a time when -- when
13 we were truly in our infancy in terms of our knowledge of
14 what the value of an S-REC was. And as you can tell by
15 those numbers, it was changing dramatically at that time.

16 **Q. So when that CCN case -- that Ameren O'Fallon**
17 **CCN case was being decided, Ameren had a need for S-RECs?**

18 A. Yes.

19 **Q. Does GMO have a need for S-RECs?**

20 A. Not until 2027, based on our calculations.

21 **Q. And at the time of the Ameren decision, the**
22 **Investment Tax Credit was set to drop by the end of the**
23 **same year; is that right?**

24 A. Yes. And, you know, it was, you know, we --
25 one of the things that this case has brought about is the

1 idea of a hurried schedule. That was also a concern in
2 that case. I believe it was approved in the mid April
3 time frame, and the Company believed that they -- that
4 they could build a facility by the end of the year. And
5 I think actually we determined that it was in service in
6 November of that year.

7 So -- but it was -- you know, it was close
8 enough where we're -- that issue of the tax credits are
9 about to expire or the 30 percent level of tax credits
10 are about to expire and it needs to get done sooner not
11 later was a big part of that case.

12 **Q. Okay. We'll move off of that case. In your**
13 **expert opinion does GMO's proposed project promote the**
14 **public interest?**

15 A. No. I think -- my view of promoting the
16 public interest is is that the other four Tartan criteria
17 help, and so -- help shape that public interest
18 determination. And, you know, so, likewise, the input
19 from all the Staff members helps make that determination.
20 But I do not believe it is in the public interest.

21 **Q. Should the impact on ratepayers be considered**
22 **by the Commission when it decides whether or not to grant**
23 **the CCN?**

24 A. I think the impact on ratepayers should, and
25 I would say that -- that the way I view that is is that,

1 therefore, the cost of the facilities and the benefits of
2 those facilities then are -- are what I think make up the
3 impact to ratepayers and should be considered.

4 **Q. If the Commission were to decide to grant the**
5 **CCN in this case, does the Staff offer any economic**
6 **alternatives or economic considerations that would help**
7 **mitigate Staff's concerns about the cost to ratepayers?**

8 A. It's certainly Staff's position that -- that
9 it should not be granted. But, you know, one of the
10 things that I believe Staff's role is is to provide
11 information to the Commission. And so we thought --
12 thought through the idea of, you know, what would be some
13 options. And so in our -- in our Staff's position
14 statement, we list out two alternatives.

15 The first one I think is -- you know, is a
16 simple statement that -- well, that if GMO were to
17 request recovery of the project costs in its next rate
18 case, the Commission should disallow the costs from being
19 recovered in rates. The second one is maybe a little bit
20 more complicated, but the last sentence kind of sums it
21 up: All costs above the least-cost alternative would be
22 borne by GMO's shareholders.

23 And then, you know, trying to, as -- as this
24 has been sort of a moving process on us, trying to --
25 and, for example, the discussions about community solar

1 and that type of thing has become more pronounced in this
2 discussion, you know, we thought about it, and maybe a
3 third option would be that -- that, you know, while there
4 is this additional cost, if there was a mechanism that
5 could help recover that, such as customers signing up to
6 support this solar project, that that might be a way
7 to -- to help address some of the concerns. And maybe
8 that sounds odd to some people, but -- but I guess I
9 would point to Ameren Missouri's Pure Power Program is a
10 program where customers paid extra to -- because they
11 wanted to support renewables. There's a lot of -- been a
12 lot of testimony on that topic in other cases. But kind
13 of the short version of it is is that Ameren had a
14 subcontractor that did that work and spent a lot of
15 effort on administrative things and advertising, and only
16 a fraction of those dollars actually went to the actual
17 developers of renewable projects. But there was a
18 fraction of that money that did go under -- under this
19 design -- or my -- what we were talking about here, I
20 hope that the vast majority of the money would not be
21 tied up with administrative costs and would, instead,
22 flow directly to the shareholders. But that's -- we were
23 just trying to provide alternatives.

24 MS. MUETH: Thank you. I have nothing
25 further. I tender the witness.

1 JUDGE WOODRUFF: Okay. Cross-examination,
2 and we begin with Public Counsel.

3 CROSS-EXAMINATION BY MR. KRETZER:

4 Q. Good evening, Mr. Beck.

5 A. Good evening.

6 Q. I want to cover some of the questions that
7 Ms. Mueth -- some responses to some of the questions that
8 Ms. Mueth had asked you. When you were discussing the
9 qualifications of GMO in your direct testimony and you
10 talked about GMO's claim that they want hands-on
11 experience with this type of project, would you agree or
12 would you say that they have to have a 3-megawatt
13 facility in order to gain some of that hands-on
14 experience?

15 A. I don't. I think, again, for -- you know, in
16 my answer then, it was I believe that a lot of the
17 experience that they already have working with industrial
18 customers, working with distributed solar facilities
19 owned by customers is beneficial. But, you know,
20 realistically, some of the lessons learned here, I don't
21 know -- there's nothing I've seen and nothing I can think
22 of that makes 3 megawatts the magic number; that, you
23 know, 1 megawatt, for example, wouldn't do the same
24 thing. That -- that's my conclusion.

25 Q. And you also agree that there are no specific

1 **tangible goals in place with regard to this facility at**
2 **this point?**

3 A. That's correct.

4 Q. You would agree GMO has already experienced
5 **some of the flux issues that they claim they would need**
6 **this project in order to get the hands-on experience**
7 **with?**

8 A. That -- yes, I agree with that.

9 Q. And when looking at the least-cost
10 **alternative, you made it clear that that's not the only**
11 **issue when looking at this case; it's whether or not that**
12 **least cost outweighs the other benefits that come from**
13 **that; is that correct?**

14 A. That's correct.

15 Q. And in this case you've been able to conclude
16 **that those costs do not outweigh those least-cost**
17 **options?**

18 A. That's correct.

19 Q. There's been a lot of comparison throughout
20 **the presentation of this case with the Ameren facility**
21 **and the CCN. Would you agree that there are significant**
22 **differences between that 2014 CCN and this CCN process --**
23 **or application here today?**

24 A. I would.

25 Q. And some of those specific differences that

1 **you mentioned in direct include the need for S-RECs?**

2 A. Yes.

3 **Q. And GMO does not need any S-RECs well into**
4 **the next decade, do they?**

5 A. That's correct.

6 **Q. And one of the other differences you discuss**
7 **and -- in comparing the Ameren case to this one is that**
8 **there was this -- this rush, this sense of urgency**
9 **because of these tax credits; that's correct?**

10 A. Yeah. I will say that when this case was
11 first filed, I was under the impression that there was a
12 similar rush to meet an end of 2016 operational date.
13 But obviously that changed in mid December when the
14 Investment Tax Credit was extended.

15 **Q. So that rush isn't present in this case?**

16 A. No.

17 **Q. And, in fact, if the Company, GMO, were to**
18 **take advantage of any incentives that may go into effect**
19 **if the Clean Power Plan went into effect, they would, in**
20 **fact, have to wait to a certain period of time in 2018 in**
21 **order to benefit from those incentives?**

22 A. That -- that's true. And I guess there's an
23 extra waiting topic, and that is for them to simply use
24 the tax credits that they would get if they installed the
25 facility this year. There's a significant wait before

1 they -- they can actually use them. Karen Lyons is the
2 true expert on those. But that also was not the case for
3 Ameren, that they had, you know, a significant, in
4 essence, backlog of tax credits.

5 **Q. Would you agree with me that the only real**
6 **rush in this case is the upcoming rate case that GMO is**
7 **proposing?**

8 A. I -- that's certainly my understanding now.

9 **Q. Were you in the room when Mr. Ives offered**
10 **his direct and cross testimony?**

11 A. I was.

12 **Q. And is it your understanding, based on that**
13 **testimony, that the only way GMO will do this plant is if**
14 **they're able to turn around and put those costs on the**
15 **ratepayers?**

16 A. That -- I believe that's a fair
17 characterization of his entire testimony.

18 **Q. And so if the Commission were to grant the**
19 **CCN subject to the conditions that Staff would recommend,**
20 **in that to disallow it in -- in recovery in costs, GMO's**
21 **not going to do this -- do this project, are they?**

22 A. That -- that is also my understanding of his
23 testimony.

24 **Q. And that even if they went with option two,**
25 **that the costs in addition to the least cost would be**

1 **borne by the shareholders, GMO's not going to do the**
2 **project then with that condition?**

3 A. That's my understanding.

4 **Q. Are you familiar with any studies or reports**
5 **that indicate customers want and have interest in**
6 **renewable sources of energy but are not willing to pay a**
7 **premium or pay a price for those?**

8 A. I think, you know, what I've -- the analysis
9 that I've seen in the past is is that -- is that people
10 are willing -- some people are willing to pay a premium,
11 others aren't. And it's rather diverse. And the more
12 that that premium goes up, the fewer customers are
13 willing to participate.

14 **Q. And have you seen any specific data or heard**
15 **any evidence from GMO with regard to their customers'**
16 **desire to pay that premium in this -- in this project?**

17 A. I have not. And I guess I -- you know, if I
18 had it to do over, one question I would have liked to ask
19 was GMO is the only utility in the state of Missouri that
20 has a RESRAM, which includes a separate line item charge
21 on the bill. And I got to believe, based on my past
22 experience, that any line item charge on a bill gets
23 customers that call and complain about it. And I got to
24 believe that GMO experiences that as well. But I
25 honestly don't know the answer to that question.

1 **Q. And there's been no evidence or even data**
2 **requests in response to that issue, has there?**

3 A. No.

4 **Q. You would agree that and you've testified**
5 **that GMO's proposed project's not the least-cost**
6 **alternative in this case?**

7 A. Correct.

8 **Q. And that other renewable streams, such as**
9 **wind, would be a heck of a lot cheaper?**

10 A. Yes.

11 **Q. You would agree that costs for solar**
12 **electricity generation have gone down significantly in**
13 **the past couple of years?**

14 A. Yes, I would.

15 **Q. And you would agree that that trend is**
16 **expected to continue at least in the foreseeable future?**

17 A. I think so. There is kind of one discussion
18 item, it's -- that that -- the -- when this project RFP
19 went out, the perception was at that time that the
20 Investment Tax Credit was going to go away. And so, in
21 my mind at least, if I was a contractor bidding on that,
22 I would have to factor in that that may -- that that may
23 result in some premium that I need to ask for because of
24 this rush to get facilities built in 2016. So we may
25 well have that kind of built into the cost of this

1 project.

2 But -- you know, so that idea of this -- the
3 Production Tax Credit is ending and this rush to fund it
4 or to get the project done would seem more prevalent in
5 the old way of 2016. Because under the new scheme, even
6 after 2019, there is going to be a slow phase down. It's
7 not going to be a simple one-time step from 30 percent
8 down to 10 percent; but, instead, it's goes to be a slow
9 phase. So it's not going -- it's not going to have that
10 rush.

11 We've experienced that rush in Missouri
12 with -- with regard to solar rebates and deadlines for
13 those rebates, and we've seen how -- how that can truly
14 charge a market. But this is not -- you know, this --
15 this is, in my opinion, a better plan of that -- of
16 avoiding that rush.

17 **Q. So you're suggesting that contractors may**
18 **have increased their bidding amounts, knowing that GMO**
19 **may be up against the wall and they can take advantage of**
20 **that deadline?**

21 A. It's -- certainly they would have to, in
22 essence, commit resources to -- in the 2016 time frame,
23 you know. And that should be the same time frame that
24 they were expecting to build a lot of other facilities.
25 But I have no quantification of that.

1 **Q. If you would have been given an opportunity,**
2 **would you have been able to explore that in greater**
3 **detail with GMO's RFPs and the bids that went through**
4 **that process?**

5 A. I don't know if, you know, examining the RFPs
6 themselves would have given a person the ability to fully
7 explore that issue. You know, it is quite common in
8 bidding processes that there's like a best and final
9 offer process, and that might have made sense. But I --
10 again, I think my understanding is that there's -- that
11 some facilities have already been purchased at this
12 point. So it's probably too late to go back and review
13 that process.

14 **Q. There's been a lot of testimony today about**
15 **GMO's claim for the need for hands-on experience. You**
16 **agree that GMO doesn't have any employees that actually**
17 **get hands-on experience?**

18 A. There are -- there are no GMO employees.

19 **Q. And that any hands-on experience that KCP&L**
20 **gains are not for the benefit of GMO customers?**

21 A. That the -- the benefits that subsequently
22 are used by KCPL, that doesn't benefit GMO customers.

23 **Q. And GMO customers are the ones who would pay**
24 **for that hands-on experience?**

25 A. That's correct.

1 **Q. And nothing in the CCN or plan outlines any**
2 **specific reduction or retirement of any CO2-generating**
3 **plants?**

4 A. No.

5 MR. KRETZER: Nothing further.

6 JUDGE WOODRUFF: All right. Then for UFM?

7 MR. LINTON: Just a couple.

8 CROSS-EXAMINATION BY MR. LINTON:

9 **Q. Good evening, Mr. Beck.**

10 A. Good evening.

11 **Q. I'd like to ask you a few questions about**
12 **fuel diversity.**

13 A. Okay.

14 **Q. Let me ask -- just ask a question. What is**
15 **the primary value in fuel diversity?**

16 A. I think that any time you can have a more
17 diverse set of fuels, you lower the risk of a price spike
18 in any one fuel that -- that then, you know, has to be
19 passed along to customers or -- or eaten by the Company.

20 **Q. So the value would be in displacing**
21 **generation with a fuel source that either has a high cost**
22 **or is unavailable; is that -- did I understand your --**
23 **your answer correctly?**

24 A. I -- I think in -- you know, in terms of
25 the -- you know, the ability here to -- to substitute

1 solar for some other facility, I mean, that's exactly
2 what you do is is you -- you have what's referred to as a
3 stacking order where you -- that's always your goal is to
4 run the least-cost op-- facilities. And then if they're
5 not available, then you run the higher-cost facilities.

6 **Q. So with that as a primary value of fuel**
7 **diversity, what is -- what is the value of this solar**
8 **project, this proposed solar project, from a fuel**
9 **diversity standpoint?**

10 A. It -- the system is -- the facility is so
11 small, it's hard to, you know -- that it's a large
12 number. But, I mean, I think it does -- you know, it
13 will provide some megawatt hours, and those megawatt
14 hours at least provide the possibility that some of the
15 higher-cost options don't have to run, you know. And in
16 this case, once you've made the commitment to pay the
17 significant upfront costs of the solar facility, you're
18 going to run the unit full out. It's not going to be
19 dispatchable, as you've already heard, by SPP. So -- you
20 know, so at that point the economic term is that
21 it's al -- that most of the cost is sunk, and you've
22 already spent it.

23 But, otherwise, you know, if you just look at
24 it a dollar-per-megawatt basis, you know, solar wouldn't
25 be offsetting, you know, much of any of the other fuel

1 choices.

2 **Q. And Mr. Hyman corrected me, it's 18 percent.**
3 **But the capacity would only be available 18 percent of**
4 **the time, is that correct, to offset a higher priced?**

5 A. That -- I believe that was the value that --
6 that was actually used and presented for this. The
7 number's slightly different for -- for their Integrated
8 Resource Plan filing. But it's very, very close.

9 MR. LINTON: Thank you. No further
10 questions.

11 JUDGE WOODRUFF: All right. Then for
12 Division of Energy -- Division of Energy?

13 CROSS-EXAMINATION BY MR. ANTAL:

14 **Q. Hello, Mr. Beck.**

15 A. Good afternoon -- or good evening.

16 **Q. Good evening to you as well.**

17 A. It pains me to say that.

18 **Q. If I could have you turn to Exhibit 4 for a**
19 **few questions. Are you there?**

20 A. Which --

21 MS. MUETH: Your Honor, I believe this is an
22 HC exhibit.

23 JUDGE WOODRUFF: Yes, it is. We can stay
24 in-cam -- or we can go in-camera or we can stay out as
25 long as you're not asking about specific numbers.

1 MR. ANTAL: I am not going to ask about any
2 speci fi c numbers.

3 THE WITNESS: Okay.

4 BY MR. ANTAL:

5 Q. Okay. I guess the second half of the page,
6 called Table 15 Modified, third column over, the subject
7 heading is Nominal Utility Cost Including Probable
8 Environmental Cost. Do you see that?

9 A. Yes. And, I mean, the Company made the whole
10 table in its entirety HC. So if there's any concerns,
11 I -- okay. Yes.

12 Q. Okay. If you know, do those probable
13 environmental costs include all -- all probable
14 environmental costs or just the probable environmental
15 compliance costs?

16 A. It -- it is the probable environmental costs
17 estimated by the Company. I guess -- I think -- I think
18 different people could -- could differ about what is or
19 is not an environmental cost.

20 Q. Okay. Would that number, if you know,
21 include associated public health impacts?

22 A. I do not believe it does.

23 Q. Okay. And is it safe to say that that number
24 does not include econom-- economic development benefits?

25 A. I mean, if it's -- it's a -- it's a cost

1 number. So, no, it wouldn't include benefits.

2 Q. Okay. So if the Commission wanted to
3 consider such things as public health impacts and
4 economic development benefits, it couldn't solely rely on
5 this table?

6 A. That's correct.

7 Q. Okay. You spoke with Staff Counsel about
8 your involvement in the Ameren O'Fallon case?

9 A. Yes.

10 Q. Okay. And just to clarify, what was your
11 involvement in that case?

12 A. I was one of two Staff witnesses that
13 provided rebuttal testimony in that case. The case
14 ultimately resulted in a stipulation agreement, but --
15 that was approved by the Commission, but -- but I did
16 develop rebuttal testimony.

17 Q. Okay. And it was Staff's recommendation that
18 the utility solar facility was needed because of Ameren's
19 need for S-RECs; correct?

20 A. That was one of the considerations.

21 Q. Okay. Was it also one of your considerations
22 that the solar facility would provide diversity for
23 Ameren's renewable generation portfolio?

24 A. I don't remember that being considered at the
25 time. I -- what I remember is that it would provide, you

1 know, the very specific renewable generation to meet the
2 solar requirements of the Renewable Energy Standard.

3 But...

4 MR. ANTAL: Okay. May I approach the
5 witness?

6 JUDGE WOODRUFF: You may.

7 BY MR. ANTAL:

8 Q. I'll hand that to you. Mr. Beck, if you
9 would please turn to page 5.

10 A. I'm there.

11 Q. Okay. Starting on line 13, the --

12 MS. MUETH: Your Honor, I'm going to object.
13 No foundation's been laid for this document. It hasn't
14 been identified on the record.

15 JUDGE WOODRUFF: If you could lay --

16 MR. ANTAL: Sure.

17 JUDGE WOODRUFF: -- lay some foundation.

18 BY MR. ANTAL:

19 Q. Mr. Beck, could you identify this document?

20 A. This appears to be the rebuttal testimony
21 that I was discussing earlier.

22 Q. Okay.

23 JUDGE WOODRUFF: Which case was that in,
24 Mr. Beck?

25 THE WITNESS: So that was in Case Number

1 EA-2014-0136.

2 JUDGE WOODRUFF: Thank you.

3 BY MR. ANTAL:

4 Q. If you could turn to page 5.

5 A. Yes.

6 Q. Starting on line 13, the last sentence -- the
7 last full sentence, starting the solar facility?

8 A. Yes.

9 Q. It says, The solar facilities would also
10 diversify Ameren Missouri's renewable generation
11 portfolio with generation located in Missouri?

12 A. Yes.

13 Q. Okay. Putting the issue of S-RECs aside -- I
14 know you've stated that GMO doesn't need S-RECs at this
15 point in time -- would the Company's solar facility
16 provide diversity to GMO in its renewable generation
17 portfolio?

18 A. The part I'm hesitating about, when I refer
19 to renewable port -- generation portfolio with generation
20 located in Missouri in this statement, I'm referring to
21 the Renewable Energy Standard. So I'm not sure -- I
22 mean, just from a general concept, yes, if you -- if
23 you're -- if the term renewable generation portfolio is
24 referring to the general concept of a renewable
25 generation portfolio, then the facility would do that.

1 It just doesn't fit with what I was saying here.

2 Q. Okay. Thank you for that clarification.

3 Now, you said that Ameren at that time needed S-RECs?

4 A. Yes.

5 Q. Was the O'Fallon solar facility the
6 least-cost compliance option that Ameren had to meet the
7 RES require -- S-REC requirements?

8 A. I don't remember any analysis one way or the
9 other on that. But I -- you know, there was this concept
10 that you could -- they could still buy S-RECs from other
11 states, for example, at very cheap cost. But there was a
12 significant policy concern about that that was also
13 weighing on us at the time.

14 Q. Okay. So they could have, at a less cost to
15 Ameren, continued to buy S-RECs from other states?

16 A. That's correct.

17 MR. ANTAL: Okay. That's all I had. Thank
18 you.

19 JUDGE WOODRUFF: GMO?

20 MR. FISCHER: Thank you, Judge. Just a few.

21 CROSS-EXAMINATION BY MR. FISCHER:

22 Q. Mr. Beck, I'd like to follow up on that last
23 line of questioning a little bit. As I recall, in the
24 O'Fallon case the Staff testified in favor of the CCN
25 grant; right?

1 A. That's correct.

2 Q. And as I understand your testimony, at the
3 time of that case Ameren had not met its solar
4 requirements under the Renewable Energy Standard;
5 correct?

6 A. They -- they were -- they were about to.
7 They were about to reach another step in the process
8 where they would no longer be able to re-- to meet that
9 requirement. You know, so at that moment in time, I
10 guess, they could. But within, I think it was
11 approximately a two-year period, they were going to be
12 unable to meet their requirement.

13 Q. Okay. Do you have your testimony that Mr. --
14 that Counsel for the Division of Energy asked you about
15 in that case, your rebuttal testimony?

16 A. I do.

17 Q. Would you turn to page 5 of your testimony?

18 A. Okay.

19 Q. There's a question there on line 4: Is there
20 a need for a utility-size solar facility? Do you see
21 that?

22 A. I do.

23 Q. Would you refresh your memory and read your
24 answer there? Have you read that?

25 A. I have.

1 Q. It's my impression from that answer -- and we
2 can read it in the record, if necessary -- but you have
3 two reasons for saying it was needed. The first reason
4 was that Ameren Missouri needs Solar Renewable Energy
5 Credits, or S-RECs, to comply with the Renewable Energy
6 Standard. That was one reason; right?

7 A. That's correct.

8 Q. And then down below, the last sentence says,
9 The solar facility would also diversify Ameren Missouri's
10 renewable generation portfolio with generation located in
11 Missouri; is that right?

12 A. That's correct.

13 Q. Those were the two primary reasons that you
14 found that there was a need for that facility; correct?

15 A. Yes. And I just -- you know, the second one,
16 the located in Missouri, is almost a whole other topic,
17 an extra, you know. So I guess if I really was going to
18 do a good job of breaking it down, I would say that it
19 diversifies Ameren's renewable portfolio, and it is
20 generation that is located in Missouri as a separate
21 item.

22 Q. And I believe you testified that Ameren had
23 the option to purchase these S-RECs out of state in order
24 to meet its solar requirements under the Renewable Energy
25 Standard statute; right?

1 A. Yes.

2 Q. And I believe you indicated those were quite
3 inexpensive?

4 A. That's correct.

5 Q. Do you know how much out-of-state S-RECs are
6 selling for today?

7 A. I've heard discussions here of the 1 to \$2
8 range per megawatt hour. And I would agree with -- with
9 those numbers. Although I -- I do have to caveat that
10 and say that I don't think any of our utilities have
11 purchased S-RECs in the last year or so. So I guess I'm
12 a little out of touch with the current market.

13 Q. Do you know if Ameren had purchased any
14 during the time of the O'Fallon case?

15 A. They -- during that -- during that year I'm
16 sure they did.

17 Q. Do you know roughly what those were costing
18 at that time? Weren't they pretty inexpensive?

19 A. They were. They were, you know, somewhere in
20 that -- in that range. Maybe just slightly higher.

21 Q. Yet Ameren chose to build a utility-scale
22 solar plant instead of buying those out-of-state S-RECs;
23 is that right?

24 A. That's correct. And, you know, but this --
25 you know what -- and I think the Company is saying that

1 for this facility that they're talking about. You know,
2 it is going to be -- if you make the decision to build a
3 facility like this, it is going to be a long-term string
4 of S-RECs that you're going to get. It's not just going
5 to be one year.

6 **Q. And even though they could have bought it at**
7 **a lot less out-of-state S-RECs, Staff supported Ameren's**
8 **request for a CCN in that case, even though they could**
9 **have done at a less -- much less cost, right, by**
10 **purchasing out-of-state S-RECs?**

11 A. Staff supported their -- their request.

12 **Q. Well, is it correct that Staff has had now**
13 **two years later -- you say in your testimony that two**
14 **years ago seems like a long time. Has Staff now had a**
15 **change of heart about solar technology?**

16 A. No, I don't think so at all.

17 **Q. Well, is it correct that your expert**
18 **testimony is that solar is not a resource that be -- that**
19 **should be pursued in Missouri at this time?**

20 A. That -- that is not my testimony.

21 **Q. But it's your testimony that GMO should not**
22 **pursue it at this time; is that right?**

23 A. For this project, correct.

24 **Q. Solar during the O'Fallon case had a**
25 **30 percent tax credit, and that made it economically**

1 **feasible in Staff's mind and in the public interest; is**
2 **that true?**

3 A. That was one component, yes.

4 **Q. And the other component was that it was a**
5 **Missouri plant?**

6 A. I would say that it was a Missouri plant;
7 that it cut down on the risk of future cost of S-RECs,
8 which at the time we perceived as being quite volatile.
9 That's -- that's some of the things that come to mind.

10 **Q. Let's look at your -- at Exhibit 4, the Table**
11 **15, where you're showing the differential between wind**
12 **and solar.**

13 A. Yes.

14 **Q. Wouldn't it be true that at the time of the**
15 **O'Fallon case, at the time the Staff was evaluating that**
16 **O'Fallon project, there would have been a similar table**
17 **for Ameren that showed a large gap between solar and wind**
18 **at that time?**

19 A. I'm sure there would have been.

20 **Q. Isn't it highly likely that at the time of**
21 **the O'Fallon case two years ago that that gap would have**
22 **been even bigger than this gap in our case?**

23 A. I really didn't have any direct involvement
24 in the Ameren Missouri IRP filing to even -- you know, I
25 can speculate that it would be likely, but I really just

1 did not have any involvement in that case.

2 **Q. But based on your expert opinion today, what**
3 **you knew about it at the time, isn't that likely to have**
4 **been the case?**

5 A. I think that the price of solar has been
6 coming down significantly, but I think that the -- the
7 price of wind has also been coming down significantly.
8 So in my mind both of those would be moving targets.

9 **Q. But you mentioned that Ameren was in -- I**
10 **think it had a standard offer that was dropping from the**
11 **first year \$100 per S-REC to 50 the second and 5 the**
12 **third. That -- doesn't that suggest to you that solar**
13 **was falling dramatically at that time?**

14 A. No, it really -- sadly it probably reflects
15 more of our inexperience with the S-REC market more than
16 anything.

17 **Q. When you say our inexperience, are you**
18 **talking about Staff?**

19 A. You know, since -- since ultimately Staff
20 supported that filing, I'm -- I'm taking blame for that,
21 yes.

22 **Q. Well, is it correct in this case that Staff,**
23 **and the Public Counsel I guess, are disagreeing with the**
24 **State Division of Energy that is charged with -- with the**
25 **development of Missouri's energy policy?**

1 A. We certainly disagree with Division of
2 Energy.

3 **Q. And I guess from an engineer's perspective,**
4 **would you suggest that the O'Fallon solar plant is an**
5 **engineer's toy?**

6 A. I mean, again, I guess you have to be an
7 engineer. My wife once famously told me that -- like for
8 an Ameren Missouri local public hearing, that I should
9 just apologize up front for being an engineer and liking
10 the things that engineers do.

11 But, you know, it, quite frankly, brings
12 engineers joy to visit a facility like that. And I
13 certainly enjoyed touring the facility.

14 **Q. But that's not really what you're suggesting**
15 **the Company's motivation is, is to have a toy that they**
16 **can play with and look at and...**

17 A. No, it's not.

18 **Q. But Staff does take -- has had a change of**
19 **heart about what's important, as far as solar policy in**
20 **the state is concerned, hasn't it?**

21 A. I -- I --

22 MS. MUETH: Objection, speculation.

23 JUDGE WOODRUFF: Overruled. You can answer
24 the question.

25 THE WITNESS: Okay. I -- I've always

1 perceived that the -- that the Renewable Energy Standard
2 did define the policy in the state of Missouri with
3 regard to renewable technologies. And -- and that --
4 that's been my perception, you know, as someone who's
5 worked on Renewable Energy Standard issues since -- since
6 literally before the initiative was even passed.

7 BY MR. FISCHER:

8 **Q. Well, is that primarily the concern that the**
9 **Staff has, is that GMO has the -- has met the RES**
10 **standard, the minimal standard included in the statute?**

11 A. That's certainly a significant concern.

12 **Q. Is there a more significant issue that you're**
13 **addressing?**

14 A. If -- if -- if the solar facility was least
15 cost or even anywhere near least cost than some of the
16 intangibles that have been discussed, might dissuade us,
17 but...

18 **Q. Is that a change of heart then from the**
19 **O'Fallon case?**

20 A. It -- I don't think it is. But I think our
21 perception of the S-REC market is significantly different
22 than -- than before.

23 **Q. But didn't you testify that at the time of**
24 **the O'Fallon case Ameren could have bought S-RECs out of**
25 **state at much less cost?**

1 A. And -- yes, I did.

2 **Q. You had some questions regarding, I think,**
3 **customer research or reaction to solar. Do you happen to**
4 **have the Staff packet of information that they -- they**
5 **handed out and --**

6 A. I do not.

7 MR. FISCHER: Counsel, could I ask you to
8 give the witness one?

9 MR. WESTEN: (Compl y i n g.)

10 BY MR. FISCHER:

11 **Q. Mr. Beck, would you turn to DR 13.3?**

12 A. I'm there.

13 **Q. And it's a rather large DR response, but the**
14 **last six pages there's a Customer Advisory Panel**
15 **PowerPoint. Do you see that?**

16 A. Is it six or is it five?

17 **Q. It may be five. I didn't -- I probably**
18 **miscounted. It's entitled Customer Advisory Panel Data**
19 **Collection 9-23 through 9-29 of 2015.**

20 A. Yeah, it looks like the numbering is 1
21 through 5.

22 **Q. Okay. Would you turn to page 2 of that**
23 **document? And what do you understand -- have you**
24 **reviewed this?**

25 A. I have not.

1 Q. You have not. Okay. This indicates the
2 panelists believe it's important for KCPL to use
3 alternative energy sources, and a fifth of the panelists
4 would be willing to pay more for an all-green rate for
5 renewable energy. Do you see that?

6 A. I do.

7 Q. Had you -- had you reviewed that before you
8 testified today?

9 A. No, I had not.

10 Q. Okay. Let's turn to page 3 where it
11 indicates, The majority of panelists believe it's
12 important that KCPL use alternative energy. Do you see
13 that?

14 MR. KRETZER: Objection, lack of foundation
15 and hearsay.

16 JUDGE WOODRUFF: What's the foundation?

17 MR. FISCHER: Well, I think it's the -- it's
18 a DR that the Company has provided to Staff regarding
19 customer research and reaction. Mr. -- Mr. Beck was
20 testifying about that. But my question was going to be
21 whether he had actually reviewed this before his test --
22 before he testified.

23 JUDGE WOODRUFF: I'll overrule the objection.

24 MR. KRETZER: I would also object on the fact
25 that it's assuming facts that are not in evidence. This

1 document has not been entered into evidence, and he's
2 asking him questions with regard -- by reading from this
3 document that's not been admitted into evidence.

4 JUDGE WOODRUFF: Response?

5 MR. FISCHER: My response, Judge, is I think
6 the Staff is about to introduce all of these documents
7 into evidence. And I can certainly introduce it if I
8 have to. It's a DR response in this case. I'm asking
9 whether he reviewed it before he testified.

10 MR. KRETZER: And he's testified that he did
11 not.

12 JUDGE WOODRUFF: Well, I don't believe he's
13 answered the question yet.

14 I'll overrule the objection at this point for
15 this question. You may come back with others.

16 So go ahead and ask your question --

17 BY MR. FISCHER:

18 Q. Had you reviewed that -- that document before
19 you testified today?

20 A. No.

21 Q. And that would be true of the entire Customer
22 Advisory Panel Study?

23 A. That is correct.

24 Q. Let's talk about your conditions a little
25 bit. Do you have a copy of the Staff's position

1 **statement?**

2 A. I do.

3 **Q. Let's look at the section of the Staff's**
4 **position statement that contains the conditions. I**
5 **believe that begins on page 8.**

6 A. Could I just --

7 **Q. Sure.**

8 A. In the interest of brevity, I mean, I could
9 address these and give my general opinion. Claire
10 Eubanks would be the best person to answer all of these.

11 **Q. Well, I asked you about them in a deposition.**

12 A. Yeah.

13 **Q. I think you went through them. I think I can**
14 **quickly go through them.**

15 A. Okay. I just didn't want to hold up
16 anything.

17 **Q. And I don't want to -- I don't want to delay**
18 **dinner either. Thank you. Did you hear testimony that**
19 **there aren't really any electric or telephone lines or**
20 **railroad tracks that are going to be involved in this**
21 **case out at O'Fal -- out at Greenwood?**

22 A. That's -- that was what we believed ahead of
23 time, and that's -- that's what I've heard here today.

24 **Q. And that would satisfy that condition in your**
25 **mind?**

1 A. It would.

2 Q. And did you also hear testimony that the
3 Company filed on December 15th in EFIS the plans and
4 specifications of Greenwood?

5 A. I hate to quibble, but I think Staff would
6 say that they -- that part of this plans and specs were
7 filed, but not all of them. We received a more complete
8 package in a data request response. And so it would be
9 our preference that that full package be entered into the
10 record.

11 Q. Okay. So if the Company did that, that would
12 satisfy that condition?

13 A. That's correct.

14 Q. And then did you also hear the testimony that
15 the Company understands that, with the exception of the
16 CCN, government approvals have been granted?

17 A. Yeah. The -- the problem there is is that
18 there may -- the Company may already have it, but there's
19 a DNR approval for land disturbance that we're aware of
20 that's -- that needs to be gotten in all matters like
21 this. And it's really minor in the scheme of things; but
22 to fulfill the rule requirement, we believe that that
23 would be the one document that we know of that's missing.

24 Q. What's your understanding of that
25 requirement?

1 A. It just basically is is that -- you know, my
2 general understanding is is that when you're going to do
3 land disturbance, you file that with -- that request with
4 DNR, and within a day or two it's usually approved. I
5 mean, it --

6 **Q. Okay. If the Company has that, then that**
7 **should satisfy that requirement; right?**

8 A. Yes. That's -- that's the one that I'm aware
9 of that's outstanding.

10 **Q. And you heard Mr. Ives testifying that the**
11 **Company's willing to do the interconnection study in**
12 **bullet 4?**

13 A. Yes.

14 **Q. And also bullet 5, the learning objectives?**

15 A. I think there is -- the way it's stated here,
16 it's prior to commencing construction. And I think what
17 I heard Mr. Ives propose was the concept of prior to
18 operation of the plant, if I -- if I'm correct. Is that
19 your understanding?

20 **Q. Well, let's assume that's the case.**

21 A. Okay.

22 **Q. Is that a problem with Staff?**

23 A. You know, I had a brief discussion with
24 Claire Eubanks, the other witness on this topic, and it's
25 my understanding that the -- that the two of us are in

1 agreement that that would be acceptable.

2 **Q. Okay. And then also did you hear the**
3 **testimony of Mr. Ives that the Company was willing to**
4 **provide an evaluation after five years?**

5 A. I did.

6 **Q. Was that acceptable to the Staff?**

7 A. We find it unacceptable that the -- that
8 prior to GMO's application for a CCN for its next
9 utility-scale solar being an option, that that's -- that
10 that is unacceptable to the Company (sic). We believe
11 that that condition needs to stay as it was.

12 **Q. So if the Company does another 3 megawatts**
13 **for KCPL next year, you would want that done by -- before**
14 **we commence that -- that facility?**

15 A. Well, I guess under that hypothetical, yes.
16 The reason why I'm struggling is is because the preferred
17 resource plan shows that there's going to be a ten-year
18 period of no additional solar facilities built.

19 **Q. Well, yeah, let's talk about that. That --**
20 **the 3-megawatt solar facility, as I understand your**
21 **testimony, was in the last IRP, the triennial filing;**
22 **correct?**

23 A. Correct.

24 **Q. And we didn't have a hearing where Staff**
25 **objected to that being included in the IRP; is that**

1 **right?**

2 A. Claire Eubanks would be the best witness for
3 this. But Staff had raised concerns about the -- about
4 the timing.

5 **Q. Well, and the concerns weren't regarding the**
6 **fact that it existed; you just wanted more op-- more --**
7 **well, you say didn't supply compliance benchmark plan**
8 **with -- had little variation in mixes and timing of**
9 **renewable supply resource additions. You wanted more**
10 **options to look at it; right?**

11 A. I -- you know, again, Claire Eubanks is the
12 best person. But my general understanding is by having
13 those -- that -- options, you then can identify a
14 separate cost for this facility and have a better
15 analysis of that.

16 **Q. But Staff didn't object to the concept of**
17 **having a utility-scale solar facility in 2016; right?**

18 A. Not -- I don't -- I'm not sure that -- I've
19 never perceived the IRP process as that being the
20 purpose. But that certainly wasn't something that we
21 made that statement.

22 **Q. Okay. Just in terms of your background,**
23 **you've been here at the Commission a long time with a lot**
24 **of experience. But have you ever had any experience with**
25 **actually planning a distribution system for a utility?**

1 A. No.

2 Q. No? Okay. Mr. Beck, would you agree with me
3 that the RES standards that are part of the statutes were
4 minimum requirements for the utilities across the state?

5 A. Yes.

6 Q. There wasn't an intention or a statement in
7 that statute that you know of that would suggest that
8 utilities shouldn't go above and beyond the minimum for
9 renewables?

10 A. There certainly wasn't that statement. And
11 I'm -- I'm pausing whether there was, you know, a
12 statement that, in essence, tried to clarify the fact
13 that it was just a minimum. But I can't specifically
14 recall --

15 Q. Is that the Staff's position, that utilities
16 in Missouri shouldn't go beyond the minimum as far as
17 Renewable Energy Standards or renewable energy resources?

18 A. No, that is not the Staff's position.

19 Q. What is the Staff's position on that?

20 A. The Staff's position is is that -- that the
21 utility needs to meet those standards at a minimum and
22 then additional renewables may well and -- and very --
23 even I would say possibly very likely to be least-cost
24 options or near least-cost options that might reduce
25 other risks and, therefore, should be pursued.

1 **Q. So that would only be pursued if it is the**
2 **least-cost option after you meet the minimum in the RES**
3 **standard; is that what Staff's position is?**

4 A. I think I specifically said or near least
5 cost.

6 **Q. Or near least cost?**

7 A. Yes.

8 **Q. Even if the state policy is generally to**
9 **encourage renewables to be put into the state system?**

10 A. The -- that is Staff's position.

11 MR. FISCHER: That's all I have, Judge.

12 Thank you.

13 JUDGE WOODRUFF: All right. I'm alone on the
14 bench, but Chairman Hall left me some questions to ask.

15 MR. KRETZER: And, Judge, I would inquire,
16 since there aren't any commissioners physically present,
17 do we have any commissioners on the phone that have any
18 questions or --

19 JUDGE WOODRUFF: No, no one's on the phone.

20 MR. KRETZER: Okay.

21 JUDGE WOODRUFF: They are, I'll say it again,
22 watching the telecast and occasionally sending me
23 questions.

24 MR. KRETZER: Okay. Thank you.

25 JUDGE WOODRUFF: And, of course, it's all

1 being recorded. They will all see it.

2 EXAMINATION BY JUDGE WOODRUFF:

3 Q. The first question that Chairman Hall left
4 with me was that Mr. Hyman for Division of Energy, when
5 he was on the stand, made some calculations comparing the
6 cost of the O'Fallon project with this project. Those
7 are highly confidential numbers, so I don't want you to
8 go into those numbers. But did you agree with his
9 calculations?

10 A. If I understood his calculations correctly,
11 he took the total cost of the facility and divided it by
12 the annual output of the facility. And that number,
13 quite frankly, makes no sense to me.

14 Q. Okay. And so then the chairman asked if
15 that -- how you'd square that number that he came up with
16 with the fixed solar costs that are in Exhibit 4? Would
17 there be any comparison then?

18 A. I think that's where -- why I'm -- the
19 numbers that he came up with -- these numbers, in
20 essence, are a total cost divided by total output of the
21 facility --

22 Q. Okay.

23 A. -- over the whole life of the facility.

24 Q. Which numbers are you talking about? His
25 numbers or your number?

1 A. Table 4.

2 Q. **Table 4. Okay.**

3 A. Our highly-confidential document 4.

4 Q. **Right.**

5 A. Okay. That makes sense to me, because that's
6 a number that I can then relate to, you know. And, you
7 know, sadly sometimes we here in the utility world love
8 to use mega -- dollar per megawatt hour as the units. If
9 you move the decimal place over three places, you get
10 dollars per kilowatt hour. But that's what people are
11 used to seeing on their bill and probably would be more
12 informative to the average person.

13 But making that slight adjustment, these
14 numbers mean something to me. I've just quite never --
15 unless I misunderstood, I don't know what dividing total
16 cost by just the output of one year really tells you
17 about anything. You really -- you want that --

18 Q. **Is that because the facility is going to go**
19 **on for more than one year?**

20 A. Yeah. You never make the investment
21 typically, you know, to get one year of output out of a
22 plant. You know, that just doesn't -- and -- and this
23 Table 4 -- or this document number 4 is trying to match
24 various types of facilities that can and do have
25 different lives as well. And so you need to get that --

1 get that right to have an apples-to-apples comparison.

2 **Q. Well, I think his comparison, though, is**
3 **between the O'Fallon facility and this facility that**
4 **GMO's planning.**

5 A. Yeah.

6 **Q. For that purpose would it be appropriate to**
7 **do what he did?**

8 A. Assuming that both plants were going to have
9 the same life -- and, you know, quite frankly, I don't
10 recall. They should have approximately the same life,
11 but I don't recall what lives they were estimated and --
12 you know, but ultimately when you come up with that total
13 cost, it's based on some assumption of what the life is.
14 And, you know, if it is -- if one of them, for example,
15 assumed 25 years and the other assumed 30, then -- then
16 you do have a mismatch that then gets reflected there.

17 **Q. Okay. Would you agree that it's appropriate**
18 **to do a pilot project before constructing a larger**
19 **facility or additional multiple facilities, just in**
20 **general?**

21 A. When -- when that option's available, I
22 guess. But, you know, for a lot of generating
23 facilities, there really is no pilot project that you
24 can -- you know, for a coal plant, for example, I guess
25 you could build a really small coal plant. But it

1 would -- it's really not logical. So, you know, most
2 generation technologies that I'm used to, you're either
3 in or you're out.

4 So -- I guess in this case, you would have
5 the flex-- more flexibility with solar panels because, in
6 theory at least, you could choose to add one more panel
7 or take one panel away.

8 **Q. Okay. Do you agree that the cost of solar is**
9 **going down and it will be competitive by 2020?**

10 A. This is a -- sort of a new topic to me too.
11 The -- the statement is is that it would be competitive
12 with retail rates. I'm used to thinking about it as
13 whether it's competitive with other technologies and --
14 and a -- you know, a source for electricity.

15 The type of competitive topic that's
16 discussed here is retail rates, which -- which implies
17 that that would then cause customers to en mass install a
18 whole bunch of solar facilities because retail rates were
19 higher than their costs.

20 **Q. Well, let me ask it this way. Take a look at**
21 **4HC --**

22 A. Okay.

23 **Q. -- your chart there at the bottom with --**

24 A. Yes.

25 **Q. -- ranking the wind to solar. Do you agree**

1 by 2020 the solar PV is going to be coming down closer to
2 wind, assuming wind stays the same?

3 A. I was going to say, I think closer. I don't
4 think it's going to come anywhere near the value of wind.

5 Q. Would it -- would it come down closer to the
6 cost of coal?

7 A. Again, closer probably. Might be right in
8 the -- I mean, again, to convert this to kW -- dollar per
9 kWhs, which is, you know, what people are used to seeing,
10 you know, what you're talking about here is the numbers
11 for coal, for example, are in the range of the average
12 dollar per kWh that customers pay. So, you know, if --
13 if their assumption that it's going to hit that mark,
14 then that would be consistent.

15 Q. Okay. And then is that something you would
16 accept as a reasonable expectation?

17 A. I just -- you know, I'd like to be really
18 optimistic that the -- that the price of solar panels is
19 going to continue to drop dramatically. I do think it's
20 going to drop significantly. But, you know, if I knew
21 that for sure, I wouldn't need a job, because I could
22 just go out and speculate and be rich. But I'm -- I've
23 been here 28 years instead.

24 Q. Assuming for the moment that solar will be
25 cost competitive by 2020, would at this point -- that

1 point make sense to do a pilot project at this point to
2 try and gather more information and experience so that a
3 larger project could be done in, say, 2020?

4 A. Well, it certainly isn't what their resource
5 plan is, you know, and I -- I mean --

6 Q. Well, resource plans can be changed though.

7 A. Yes, they can. I guess I just would like
8 to -- given the opportunity, I'd like to point out that,
9 you know, so -- so GMO's preferred resource plan -- you
10 mentioned 2020, you know. It's assuming that there's
11 going to be another 310 megawatts of wind installed by
12 2020. It's assuming that there's going to be
13 208 megawatts of demand side or energy efficiency
14 installed. The table actually doesn't quite show it
15 correctly, but it's assuming almost 200 megawatts of coal
16 are going to be retired at that time, and -- or by that
17 time. And so -- and it's showing that the resource plan
18 is for a total of 5 megawatts, 3 of which are this
19 proposal, are going to take place in -- in that same
20 five-year period, up to 2020. So, you know, the plan
21 itself is showing a whole lot of investment in other
22 technologies and very little in solar.

23 Q. Okay. If we approved the Certificate of
24 Convenience and Necessity, would there be any reason to
25 attempt to allocate some portion of the project cost to

1 **KCPL customers?**

2 A. There certainly would be a reason. You know,
3 the Company does not appear to be in favor of that.

4 **Q. Well, let me ask it this way: Would that be**
5 **something that Staff would recommend?**

6 A. It's something we've thought about. And I
7 think -- I guess to be -- so there's two more CCN cases
8 that GMO's filed a 60-day notice on, and those are
9 rooftop solar that would be a total of 5 megawatts shared
10 between GMO and KCPL. So this idea of somehow sharing
11 that between the two companies was possible there, but --
12 but apparently is not something the Company is interested
13 in here.

14 **Q. Okay. Last question from the -- from the**
15 **chairman. Do we know what the additional revenue**
16 **requirement of this project would be toward -- to GMO**
17 **customers? In other words, how much are our rates going**
18 **to go up if this were approved?**

19 A. We do not. That would -- that would be the
20 type of thing that you would have gotten out of the
21 analysis that we were hoping for from the IRP process
22 where you had one plan that included this option and one
23 that didn't; therefore, would give you the difference.

24 **Q. Okay. If they'd include that in the IRP, you**
25 **would know that --**

1 A. That's -- that's -- yeah, the analysis would
2 have been done then.

3 Q. And any ballpark figures? I don't want you
4 to speculate, but if you --

5 A. Yeah.

6 Q. -- can give me a range.

7 A. So as a part of Staff's opening statement, we
8 described the fact that the Company has a RESRAM and that
9 that RESRAM is designed to collect a little -- about
10 \$7 million, \$7.5 million a year, and that that rate then
11 reflects a 1 percent increase in rates. That's all tied
12 to the Renewable Energy Standard and the RESRAM and is
13 actually --

14 Q. Right. You're talking the RESRAM amounts to
15 1 percent?

16 A. Yeah. And so, you know, this -- this number
17 here, without sharing anything highly confidential or
18 whatever, is significantly below 1 percent rate impact.

19 JUDGE WOODRUFF: Okay. Well, thank you,
20 Mr. Beck. That's all the questions that the chairman
21 left. I don't have anything else.

22 So we'll move on to quest -- or recross based
23 on questions from the bench, beginning with Public
24 Counsel?

25 MR. KRETZER: I have no questions. Thank

1 you.

2 JUDGE WOODRUFF: UFM?

3 MR. LINTON: Just one, Your Honor.

4 RECROSS-EXAMINATION BY MR. LINTON:

5 Q. One of the questions from the bench was that
6 solar will get closer to coal -- will solar get closer to
7 coal in the year 2020. Do you remember that question?

8 A. Yes.

9 Q. When you answered that question, were you
10 assuming that the ITC, or the Investment Tax Credit, was
11 still in effect?

12 A. I actually hadn't given that any thought. So
13 in 2020 the Investment Tax Credit will be less than
14 30 percent, but it will still be significantly higher
15 than the 10 percent level. So my -- my guess is is that
16 that -- by 2020 that would be -- an impact wouldn't be
17 that significant. By the time you got to the 10 percent,
18 it may well be, which would be a couple years later where
19 it was reduced down to 10 percent, the tax -- the
20 Investment Tax Credit. I think that the number's around
21 23, 24 percent for the year 2020, is my remembrance.
22 And -- and Karen might have a better number on that.

23 Q. If I were smarter, I might say that you were
24 answering my question. But let me --

25 A. Okay.

1 **Q. Let me rephrase it so I understand it. Are**
2 **you saying that it would be -- that solar, taking into**
3 **consideration the change in the ITC, would or would not**
4 **be closer to coal at that point?**

5 A. I think it would -- certainly as long as the
6 Investment Tax Credit stays at 30 percent, I think it's
7 very likely to narrow that gap. I think sort of the
8 question ends up being then, if the Investment Tax Credit
9 in year 2020 starts to go away and -- you know, where you
10 have a 7 percent reduction in price. And that's -- it's
11 very hard to speculate whether the -- you know, it could
12 be that the price may well at best just stay even at that
13 point, when you compare year 2020 at that -- even if
14 you -- you'd have to have significant price reductions
15 just to match those less -- those lower tax credits.
16 So --

17 **Q. Are you saying that the margin would go --**
18 **would increase?**

19 A. I -- I think you could end up in that
20 situation too, especially -- there's -- there's a -- just
21 a -- for full information, I guess, I said that it would
22 go down to 10 percent. My understanding of the
23 Investment Tax Credit is is that there's an extra caveat
24 to that, and that is is that for residential customers it
25 would go to zero at that point. And so, you know, at

1 that point, which would be somewhere in the 2023, 2024
2 time frame, you know, you really would have this zero
3 Investment Tax Credit available for residential
4 customers. And so the picture would be different even
5 for a residential customer versus an industrial or a
6 commercial customer.

7 **Q. And then I suppose we also have an additional**
8 **uncertainty that Congress has four more years to change**
9 **that law; right?**

10 A. That's -- you know, that's their prerogative.

11 MR. LINTON: No more questions. Thank you.

12 JUDGE WOODRUFF: Thank you.

13 Then for Division of Energy?

14 MR. ANTAL: Yes, just a couple of questions.

15 RE-CROSS-EXAMINATION BY MR. ANTAL:

16 **Q. Mr. Beck, you were discussing with the Judge**
17 **the calculation that Mr. Hyman did earlier in this**
18 **proceeding. Hypothetically, if the O'Fallon and**
19 **Greenwood facilities had the same life expectancy, could**
20 **you multiply the energy output of both by the same**
21 **number?**

22 A. Assuming they had the same life expectancy, I
23 think -- and then assuming that the total costs are both
24 based on those life expectancies, then I think you could.

25 **Q. Okay. And I guess keeping those two things**

1 in mind, doing a calculation of the percent difference in
2 the costs then of those life expectancy numbers, those --
3 the life expectancies would cancel each other out?

4 A. Yeah, I think -- I think, in essence, you're
5 saying is if the numerator and denominator, if that value
6 was in both, then you would -- then it would cancel out.

7 Q. Okay. So with those assumptions, Mr. Hyman's
8 number has some -- can provide some basis on comparing
9 the two values?

10 MS. MUETH: Objection, Your Honor. Counsel
11 hasn't established that that is, in fact, the situation
12 in the example given.

13 JUDGE WOODRUFF: Are you asking that as a
14 hypothetical question?

15 MR. ANTAL: I'm asking as a hypothetical.

16 JUDGE WOODRUFF: Objection's overruled.

17 THE WITNESS: Under that hypothetical, I
18 think that it provides some information.

19 MR. ANTAL: Okay. Thank you very much.

20 JUDGE WOODRUFF: For GMO?

21 MR. FISCHER: Just briefly.

22 RECROSS-EXAMINATION BY MR. FISCHER:

23 Q. When you were asked the question about
24 comparing the cost of solar coming down and -- with coal,
25 when you answered that, were you considering the -- in

1 **the cost of coal the cost of compliance with the Clean**
2 **Power Plan?**

3 A. The -- I think, you know, the numbers we're
4 looking at here are based on what was termed probable
5 environmental cost. I do not believe, and I don't think
6 GMO believes, that they had clairvoyant powers to know
7 what the final cost of the Clean Power Plan's going to
8 be. They just did their best estimate at that time. So
9 I think when you factor in the Clean Power Plan, it
10 certainly could have a different impact.

11 **Q. And were you here when Mr. Ling testified**
12 **that the next IRP would address the clean power**
13 **compliance costs?**

14 A. Yes.

15 **Q. I guess is it also your understanding the**
16 **current numbers do not include that compliance cost in**
17 **the IRP?**

18 A. My understanding -- and when you look at the
19 numbers and you see that the -- that, for example, coal
20 units have the highest probable environmental cost adder,
21 is that -- that the -- that there certainly is some
22 attempt to reflect the cost of carbon, I would call it.

23 But, you know, the -- again, it's just not
24 reasonable to assume that GMO could accurately estimate
25 that cost before the rule came out. I don't think it's

1 even reasonable to assume they can accurately estimate it
2 today, despite the fact that the rule is -- has been
3 published.

4 **Q. And then on the question of sharing the cost**
5 **of the solar facility with KCPL customers, you -- I think**
6 **you went on to talk about there was a rooftop solar**
7 **project that 60-day notice had been filed on. Do you**
8 **recall that?**

9 A. That's correct.

10 **Q. Would you -- on the rooftop would the cost of**
11 **that rooftop solar follow the -- follow where the rooftop**
12 **is being located? Is that -- is that how you would**
13 **suggest that be done typically, or are you talking --**
14 **would you share that too?**

15 A. We've -- we've certainly never had a rooftop
16 solar proposal here in the state. But, you know, it
17 seems logical that that would be how you'd do it is if
18 that -- if that customer was a customer of one or the
19 other utilities, then it would be apportioned that way.
20 But that's -- you know, we -- I think we have a one-page
21 document for each of those saying that the 60-day notice
22 on rooftop solar is coming.

23 **Q. Would you agree that typically the way**
24 **investments are done now, if it's in the GMO territory,**
25 **that's where it's allocated -- or it is in GMO, and if**

1 **it's in KCPL, that's where we put it in the rate**
2 **jurisdiction? We don't share investments between the two**
3 **companies that way?**

4 A. Well, I struggle with -- the largest
5 generation plant investment is Iatan 1 and 2, which is
6 shared. So --

7 **Q. And they own those together; right?**

8 A. Yes, that's correct.

9 MR. FISCHER: Okay. Thank you.

10 JUDGE WOODRUFF: Redirect?

11 MS. MUETH: Briefly, Your Honor.

12 REDIRECT EXAMINATION BY MS. MUETH:

13 **Q. Mr. Beck, I don't recall who asked you the**
14 **questions. You were answering questions about the Ameren**
15 **O'Fallon solar facility. Do you recall questions --**

16 A. I do.

17 **Q. -- about that? And you indicated that you**
18 **take the blame for the Ameren O'Fallon facility. Do you**
19 **remember that?**

20 A. I think it was that -- the actual discussion
21 really was about the values that were being placed on
22 S-RECs that were then reflected in a standard offer
23 contract. And -- and, you know, that was something
24 that -- I was a part of the review team for Staff that
25 reviewed that at the time and recommended approval.

1 **Q. So if you knew then what you know now about**
2 **the value of S-RECs, would your position in that case**
3 **have been different?**

4 A. It would. I would have recommended much
5 lower -- especially the early-on filings, that the
6 standard offer contract was much lower.

7 MS. MUETH: Nothing further.

8 JUDGE WOODRUFF: All right. Mr. Beck, you
9 can step down.

10 (Witness excused.)

11 JUDGE WOODRUFF: And we've been going for two
12 hours again. Let's take a -- I'll be generous. We'll
13 take a 20-minute break this time and come back at 7:25.

14 (Off the record.)

15 JUDGE WOODRUFF: All right. It's 7:25, so
16 let's come back to order.

17 Staff's next witness, I believe, is
18 Ms. Eubanks.

19 MS. MUETH: That's correct. Staff calls
20 Claire Eubanks.

21 JUDGE WOODRUFF: Please raise your right
22 hand.

23 CLAIRE EUBANKS,
24 after having been first duly sworn, was
25 examined and testified on her oath as follows:

1 JUDGE WOODRUFF: You may inquire.

2 DIRECT EXAMINATION BY MS. MUETH:

3 Q. Evening.

4 A. Good evening.

5 Q. Please state your name and spell it for the
6 court reporter.

7 A. Claire M. Eubanks. C-L-A-I-R-E, M,
8 E-U-B-A-N-K-S.

9 Q. How are you employed?

10 A. I'm a Utility Regulatory Engineer 1 with
11 Missouri Public Service Commission.

12 Q. And how long have you worked for the Public
13 Service Commission?

14 A. Approximately three years.

15 Q. Are you a professional engineer in Missouri?

16 A. I am.

17 Q. What is your educational background?

18 A. I have a bachelor's of science in
19 environmental engineering.

20 Q. And please describe your position and duties
21 at the Public Service Commission.

22 A. My primary responsibilities are related to
23 the Renewable Energy Standard. Over the past couple of
24 years I've also been involved in some work groups related
25 to the Clean Power Plan.

1 MS. MUETH: And at this time I'll ask the
2 court reporter to mark this exhibit.

3 JUDGE WOODRUFF: You're up to number 6. Is
4 this her CV again?

5 MR. WESTEN: Yes.

6 MS. MUETH: Yes.

7 (Staff Exhibit 6 marked for identification.)

8 BY MS. MUETH:

9 Q. Ms. Eubanks, could you identify this
10 document?

11 A. That's my credentials.

12 Q. And is this a fair and accurate depiction of
13 that?

14 A. Yes.

15 MS. MUETH: Your Honor, I'd like to offer
16 this document.

17 JUDGE WOODRUFF: Okay. Exhibit 6 has been
18 offered. Any objections to its receipt? Hearing none,
19 it will be received.

20 (Staff Exhibit 6 received into evidence.)

21 BY MS. MUETH:

22 Q. Are you familiar with the application for a
23 Certificate of Convenience and Necessity that GMO has
24 filed in this case?

25 A. I am.

1 **Q. Have you evaluated the application?**

2 A. I have.

3 **Q. And what did you do to evaluate the**
4 **application?**

5 A. I certainly read the application and asked
6 DRs of the Company to get a better understanding of their
7 application, reviewed other Staff witness' DRs, a few of
8 the DRs that other parties asked.

9 **Q. Are you familiar with the Tartan factors?**

10 A. I am.

11 **Q. Which Tartan factors, if any, did you review**
12 **in your evaluation of this application?**

13 A. Primarily the need for the service, the
14 public interest.

15 **Q. And based on your evaluation, were you able**
16 **to reach a position with a reasonable degree of**
17 **professional certainty regarding whether or not Staff**
18 **should recommend approval of the application?**

19 A. I was.

20 **Q. And what is that position?**

21 A. Staff's position is the Commission should
22 deny GMO's application for a CCN in this case.

23 **Q. Are you familiar with the renew -- the**
24 **Missouri Renewable Energy Standard, or RES?**

25 A. I am.

1 **Q. Can you explain briefly what that is?**

2 A. Sure. The Renewable Energy Standard is a
3 requirement that the utilities meet part of their
4 generation portfolio for renewable energy resources.
5 It's expressed as a percentage of their electric sales.

6 I guess I'll just elaborate a little more,
7 though. The current standard is 5 percent, and it will
8 increase up in 15 percent in 2021. There's also a solar
9 carve-out -- I know we've talked a little bit about it
10 already today -- that's 2 percent of the total. And
11 there's also retail rate impact limit.

12 **Q. Is the service provided by this solar project**
13 **contemplated in the CCN needed in order for GMO to comply**
14 **with the solar portion of the RES?**

15 A. At this time, no.

16 MS. MUETH: Your Honor, I'd like to go
17 in-camera for this next set of questions.

18 JUDGE WOODRUFF: All right. We will go in
19 camera. And this is, again, involving GMO confidential
20 information?

21 MS. MUETH: That's right. And I'd like to
22 have --

23 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
24
25

1 JUDGE WOODRUFF: We're back in public
2 sessi on.

3 BY MS. MUETH:

4 Q. Ms. Eubanks, you mentioned that there are
5 S-RECs that may expire. Is GMO able to sell the S-RECs
6 that may expire?

7 A. For the customer-generated S-RECs, they are
8 not. That's part of the rule requirements, that they're
9 not allowed to be sold or traded. For the S-RECs from
10 this facility that we've been talking about, the proposed
11 Greenwood facility, they would be able to sell those
12 S-RECs.

13 Q. Has GMO assessed the market for selling
14 S-RECs from this project?

15 A. Based on the data request response, they have
16 not.

17 Q. Are there any organized markets for S-RECs?

18 A. Not in the Midwest. In the Northeast there
19 are a few states that do have what's considered an
20 organized market.

21 Q. Without an organized market in Missouri, how
22 would GMO go about selling the S-RECs from the proposed
23 project?

24 A. They'd likely need to find a direct buyer for
25 the S-RECs. Ideally it would be a long-term sale, since

1 they don't -- don't need them themselves for quite some
2 time.

3 **Q. Are you aware of any utilities in Missouri**
4 **that have bought or sold S-RECs?**

5 A. All of the utilities have bought S-RECs,
6 except for Empire I should say, to comply with the
7 Missouri Renewable Energy Standard. I don't believe
8 anyone has sold S-RECs specifically.

9 **Q. Do you know the going rate for S-RECs?**

10 A. I think we talked about that a couple times
11 today. About a dollar to \$2 is reasonable.

12 **Q. And that's for out-of-state generated?**

13 A. Yeah, that would be out of state.

14 **Q. What factors impact the value of S-RECs?**

15 A. I think one of the biggest impacts is the
16 geographic sourcing limitation of whichever state the RPS
17 is being used to comply with.

18 **Q. Sorry. What is RPS?**

19 A. Renewable portfolio standard. We call it
20 Renewable Energy Standard, but other states use
21 portfolio. So...

22 **Q. Thank you. Sorry.**

23 A. Sorry.

24 **Q. Continue. I -- I probably got you off track.**
25 **So my question was what factors impact the value of**

1 **S-RECs?**

2 A. Oh, primarily the geographic sourcing
3 limitations, and that would be dependent on the state in
4 which they were going to be retired for compliance.

5 **Q. So the state where the utility is getting the**
6 **S-RECs from?**

7 A. No. Wherever they would be -- so, for
8 example, if GMO chose to sell S-RECs to someone in, you
9 know, Illinois, then it would be based on their RPS
10 whether they would even accept them or not.

11 **Q. Okay. What is geographic sourcing? Is this**
12 **what you were just explaining?**

13 A. Yes.

14 **Q. Okay. Does Missouri have geographic**
15 **sourcing?**

16 A. No.

17 **Q. How does geographic sourcing impact the value**
18 **of an S-REC?**

19 A. I would say generally it increases the cost
20 of S-RECs. S-RECs, you know, buying them on the market
21 would -- the value would be higher.

22 **Q. Taking all this into consideration, is it**
23 **likely that GMO would recoup a significant portion of the**
24 **cost of this project through the sale of S-RECs?**

25 A. No, I think -- we didn't actually talk about

1 how many S-RECs would expire. But with the amount that
2 would expire and the dollar value they could possibly get
3 for it, based on the dollar to \$2 that's been discussed
4 today, no, that would be pretty insignificant.

5 **Q. Can you quantify how much of the project cost**
6 **would be able to be recouped through the sale of the**
7 **facility's S-RECs?**

8 A. Easily less than 1 percent.

9 **Q. Are Solar Renewable Energy Credits allowed to**
10 **be used for the nonsolar portion of the RES?**

11 A. They are.

12 **Q. Does GMO need any RECs, whether solar or**
13 **nonsolar, to comply with the RES?**

14 A. They do not.

15 MS. MUETH: And, Your Honor, I'd like to go
16 in-camera one more time.

17 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
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1 BY MS. MUETH:

2 Q. Is this project included in GMO's preferred
3 plan?

4 A. GMO's preferred plan did include a 3-megawatt
5 addition, solar addition in 2016.

6 Q. When was the preferred plan filed?

7 A. I believe April 2015.

8 Q. Did Staff have the opportunity to comment on
9 the preferred plan before it was approved by the
10 Commission?

11 A. We did.

12 Q. Did Staff express concerns about the
13 inclusion of this solar facility at the time GMO filed
14 its IRP?

15 A. Yes, Staff identified two deficiencies and
16 three concerns related to renewables in general, but also
17 solar.

18 Q. So this project would have been included in
19 those concerns?

20 A. The concerns and the deficiencies, yes.

21 Q. And deficiencies. Okay. Were those concerns
22 ever addressed?

23 A. Yeah, there was a joint filing made between
24 Staff, the Company, and I believe Sierra Club where the
25 Company had agreed to address Staff's concerns, as far as

1 the analysis went, in their 2016 IRP filing.

2 **Q. Has that 2016 IRP filing happened yet?**

3 A. It has not.

4 **Q. When was the joint filing made?**

5 A. I believe October 30th, 2015.

6 **Q. Was that before or after this CCN application**
7 **was filed?**

8 A. It was before.

9 **Q. So as of the time of that filing, would it be**
10 **fair to say that Staff was satisfied that these concerns**
11 **would be addressed at some point in 2016?**

12 A. I think that's fair, yeah.

13 **Q. Does GMO have future plans for additional**
14 **solar projects?**

15 A. Yes, the preferred plan includes a 5-megawatt
16 solar addition in 2026. And also, as we talked about
17 today, there's been a CCN application filed for a rooftop
18 project that would be 2 mega -- 2 megawatts of solar.

19 **Q. Is the project in this case needed for**
20 **compliance with the Clean Power Plan?**

21 A. I don't believe so, no.

22 **Q. Have you formed an opinion with a reasonable**
23 **degree of professional certainty as to whether the**
24 **project promotes the public interest?**

25 A. I have.

1 **Q. And what is your opinion?**

2 A. Consistent with Staff's position, we are --
3 we do agree that renewables are in the public interest,
4 but we don't believe that this project is.

5 **Q. So if renewables are in the public interest,**
6 **why is it your position that this project is not?**

7 A. When we were looking at public interest, we
8 thought about the, you know, first four Tartan criteria
9 that we talked a lot about today. And, you know,
10 weighing all the factors -- and I know Dan has addressed
11 a lot -- a lot of it already, and I've talked a lot about
12 the S-RECs and GMO's lack of need for the Renewable
13 Energy Standard. So all of those things. And then also
14 Karen Lyons is going to talk a lot about the economic
15 feasibility.

16 **Q. Are the Tartan factors the only things that**
17 **influence Staff's determination of public interest?**

18 A. Not -- no, not necessarily.

19 **Q. What other types of things do you look at to**
20 **determine public interest?**

21 A. I think we would consider the state policy --
22 state policies that are stated.

23 **Q. Would you say the benefits outweigh the costs**
24 **for this project?**

25 A. I would not.

1 **Q. And based on your conclusions that the**
2 **project is not needed to comply with the RES or the Clean**
3 **Power Plan and that it does not promote the public**
4 **interest, should the Commission approve the CCN in this**
5 **case?**

6 A. Staff believes that the Commission should
7 deny the application.

8 **Q. If the Commission were to issue the CCN,**
9 **would you recommend any conditions to be placed on the**
10 **Company or the project?**

11 A. I would.

12 **Q. And those were discussed by GMO's witness,**
13 **Mr. Ives; is that right?**

14 A. That's correct.

15 **Q. Were you here during his testimony?**

16 A. I was.

17 **Q. So you heard that discussion?**

18 A. Yes.

19 **Q. Were you satisfied with -- that the**
20 **conditions had been met after hearing his testimony?**

21 A. I think Dan did a really good job of
22 reviewing our concerns with some of the remaining
23 conditions. Specifically condition 2, the complete plans
24 and specifications. We just want them to file the
25 complete data request that we -- we received. Condition

1 3, relating to the appropriate permits, and -- that Dan
2 touched on, the land disturbance permit. There is also a
3 grading and drainage permit from Jackson County that
4 would also need to be filed.

5 So like Dan said, we don't really want to
6 quibble, but we just want to make sure it's there.

7 **Q. And just to clarify, when you say Dan, you**
8 **mean Mr. Beck?**

9 A. I'm sorry. Yes, Mr. Beck. Sorry.

10 **Q. That's okay.**

11 A. And then, finally, Dan outlined our issue
12 with condition 6, related to wanting to see the
13 evaluation of the solar facility prior to GMO's next
14 application for a CCN for a utility-scale solar facility.
15 Mr. Beck.

16 MS. MUETH: I have nothing further.

17 JUDGE WOODRUFF: For cross, begin with Public
18 Counsel?

19 CROSS-EXAMINATION BY MR. KRETZER:

20 **Q. Good evening, Ms. Eubanks.**

21 A. Good evening.

22 **Q. I'll give you a second to finish that --**

23 A. Thank you.

24 **Q. -- gulp of water. I want to cover a few**
25 **things on direct that were brought out. With regard to**

1 the Renewable Energy Standard, you were asked to explain
2 kind of some of the percentages that were involved with
3 the requirements of the solar carve-out in there?

4 A. Correct.

5 Q. And you indicated that that was 2 percent of
6 the 15 percent requirement?

7 A. That's correct.

8 Q. And I'm a lawyer, so I'm really bad at math.
9 But does that equate to three-tenths of a percent of
10 their total requirement?

11 A. I believe that sounds right.

12 Q. Okay. So 2 percent of the 15 percent needs
13 to be solar under the RES requirements, so that's
14 three-tenths of a percent?

15 A. That's correct.

16 Q. Is that a pretty small amount?

17 A. It is.

18 Q. Okay. Now, the charts that you prepared with
19 regard to 7, 8, 9, and 10 -- I won't get into the numbers
20 there, because I know they're HC. But do -- when you
21 plot those points, does that assume that there are not
22 additional plants put into service during that entire
23 time period that we're looking at?

24 A. I guess can you draw me to one specific chart
25 so I can maybe better answer your question?

1 **Q. Maybe I can ask it a better way. Does it**
2 **take into count -- account growth of the Company in its**
3 **generation over the years, or does it just look at what's**
4 **in service right now or what's proposed with this**
5 **Green -- Greenwood solar project?**

6 A. It takes into account the Company's
7 forecasted load, if that's what you're asking.

8 **Q. Okay. So it does take into account some of**
9 **the things that they plan to implement over the years**
10 **between now and, say, 2026 or 2030?**

11 A. It -- yes. I mean, for the first chart, for
12 example, it includes this proposed facility, if that's
13 what you're asking. But I didn't include, you know, the
14 next IRP addition, just for simplicity for discussion
15 today.

16 **Q. And to clarify that, if they kind of just sat**
17 **on their hands for the next ten years, they're going to**
18 **be good with these -- these credits; is that a fair**
19 **assessment?**

20 A. For the next ten years?

21 **Q. Till --**

22 A. Yes.

23 **Q. -- 2026?**

24 A. Till 2026, yes.

25 **Q. Now, you talked about the life of S-RECs. If**

1 they're not sold and they're not able to get credit for
2 them, what happens to them?

3 A. They expire.

4 Q. So if a company like GMO is building these
5 additional plants and getting these additional credits
6 when they don't need them and they don't sell them,
7 they're just wasted?

8 A. That's correct.

9 Q. Now, when you say you used information for
10 Exhibits 7, 8, 9, and 10 to plot those -- those charts --

11 A. Um-hum.

12 Q. -- you're not vouching for the authenticity
13 of those numbers, are you?

14 A. I'm not.

15 Q. You didn't do any independent investigation
16 to see if those numbers are accurate, did you?

17 A. I mean, I -- I guess it depends on which
18 numbers you're talking about. I should say that.

19 Q. The information you gleaned to plot those
20 charts came from the Company?

21 A. That's correct.

22 Q. I know we've talked about this a lot, but you
23 agree that GMO's proposed project is not the least-cost
24 alternative plan?

25 A. I agree.

1 Q. And, specifically, other renewable streams,
2 such as wind, would be a lot cheaper?

3 A. That is correct.

4 Q. And do you have any dispute with the idea
5 that the costs associated with solar electricity
6 generation have gone down in the past several years?

7 A. I -- I agree with that.

8 Q. And would you agree that they're expected to
9 continue to decline?

10 A. I would agree with that.

11 Q. Now, you talked about whether or not -- on
12 direct whether or not the plan would comply with the
13 Clean Power Plan. And I guess I'll qualify this first.
14 We don't know whether or not there's going to be a Clean
15 Power Plan in the future; correct?

16 A. That's correct.

17 Q. But even if it were, GMO would not need this
18 facility to comply with that plan?

19 A. I don't think they specifically need this
20 project.

21 Q. Is there anything with regard to this plan
22 that GMO proposes that would help GMO customers, fulfill
23 a need for GMO customers?

24 A. I can't think of anything.

25 Q. And would you agree that if their plan were

1 permitted to go forward, it has nothing in place to
2 retire or displace, for lack of a better word, any of
3 their CO2 emissions?

4 A. Can you repeat the question?

5 Q. Maybe I'll rephrase it. At this point they
6 have enough capacity to cover their customers; correct?

7 A. Correct.

8 Q. They purchase, through their PPA, some excess
9 to cover a margin that they're required to have; is that
10 correct?

11 A. That's correct.

12 Q. And by implementing this plant, none of those
13 sources of energy are going to be shut down, are they?

14 A. To my knowledge, no.

15 Q. And the companies or areas that they're
16 getting the additional information -- or energy for those
17 margins are still going to be producing those
18 electricity -- or that electricity?

19 A. As far as I'm aware.

20 MR. KRETZER: Nothing further.

21 JUDGE WOODRUFF: All right. For Division of
22 Energy?

23 MR. ANTAL: No questions. Thank you.

24 JUDGE WOODRUFF: GMO?

25 THE WITNESS: Thank you.

1 CROSS-EXAMINATION BY MR. FISCHER:

2 Q. Good evening, Ms. Eubanks.

3 A. Good evening.

4 Q. I'm over here. In that last exchange with
5 Public Counsel, you suggested that you didn't believe
6 that the Greenwood solar project would help, I think,
7 with compliance with the coal -- the Clean Power Plan.
8 Is that what you were saying?

9 A. I believe that's what I said.

10 Q. Okay. Well, how -- how do you say that when
11 you don't know what the state plan that's being developed
12 is going to say?

13 A. Well, I think what GMO said in one of the DR
14 responses and I think Mr. Ling said today, there's only
15 about 5,000 tons of emission reductions expected from
16 this facility. And to me that's minimal, in comparison
17 to what the state needs to do to comply with the Clean
18 Power Plan and likely what GMO needs to do to comply with
19 the Clean Power Plan.

20 Q. So you're kind of assuming what the state
21 plan may say?

22 A. I think that the EPA has set goals for the
23 state; and it is likely that if it goes through, that
24 those goals would be what the state would aim to do in
25 their state implementation plan.

1 **Q. Okay. I'm not an engineer, and I don't**
2 **always understand how the system works. But if you put**
3 **on 3 megawatts of solar that produces kilowatt hours and**
4 **assuming the load hasn't changed, can't you turn down one**
5 **of the plants so it doesn't have to produce so much**
6 **electricity from coal?**

7 A. Well, and I think that's what we were talking
8 about just a moment ago when I directed to Mr. Ling's
9 testimony today, that he -- he expected the solar
10 facility would offset about 5,000 tons of CO2 emissions.

11 **Q. Okay. So -- so it's not true that it's not**
12 **going to displace -- we may not have to turn down -- or**
13 **turn off a complete coal plant?**

14 A. Oh, correct. Right.

15 **Q. But we can turn it back, right, so it doesn't**
16 **produce as much electricity, doesn't have to?**

17 A. I think the -- I think renewable energy in
18 general will offset emissions, if that's what you're
19 asking.

20 **Q. Yeah, that's what I'm asking. And it just**
21 **wasn't clear to me from that exchange that you believed**
22 **that was the case.**

23 A. Okay.

24 **Q. Is that true?**

25 A. Yes, that's true.

1 **Q. Okay. And in answer to one of your counsel**
2 **questions, I believe you indicated that you, on behalf of**
3 **the Staff, felt that renewables are in the public**
4 **interest. And I just wanted to clarify, you -- are you**
5 **agreeing with what Mr. Beck was saying, that -- as I**
6 **understood it at least, that renewables are in the public**
7 **interest above the RES requirement, but only if it is**
8 **near the least-cost alternative?**

9 A. I -- I don't disagree with Dan -- what
10 Mr. Beck said. But, I mean, I guess I do believe that
11 renewables are generally in the public interest.

12 **Q. But is that true if it is above the**
13 **least-cost alternative?**

14 A. Well, and I think he did say least cost or
15 closer to near -- the least cost than, you know, what we
16 were talking about for this facility. I mean, I think
17 there is a limit to the cost of renewables in general. I
18 mean...

19 **Q. Well, that's what I'm trying to understand.**
20 **Because I understood in the Ameren case Staff supported**
21 **an application for solar -- for a solar facility even**
22 **though it wasn't the least-cost facility. Is that your**
23 **understanding?**

24 A. I think the facts and circumstances of that
25 case are different than this case.

1 **Q. But isn't that what the Staff recommended in**
2 **that case?**

3 A. The Staff recommended that the CCN be
4 granted, yes.

5 **Q. And the solar facility was not the least-cost**
6 **facil -- cost way of complying with the RES standards?**

7 A. That's correct.

8 **Q. So just to clarify, is it the Staff position**
9 **that renewables are in the public interest above the RES**
10 **standard only if they are at or near the least-cost**
11 **alternative?**

12 A. I think that's fair.

13 **Q. Okay. You were also talking with your Staff**
14 **Counsel about the last IRP filings, and you said that the**
15 **Staff had some concerns and some deficiencies related to**
16 **the solar -- the 3-megawatt solar facility?**

17 A. That's correct.

18 **Q. Now, again, I don't always understand the IRP**
19 **process. But isn't it true that what the Staff was**
20 **suggesting, just from a layman's perspective, is there be**
21 **more analysis around that and not that it was not a good**
22 **idea?**

23 A. I think what we were questioning is that the
24 analysis did not demonstrate that it was a good idea.

25 **Q. But you didn't say that we shouldn't include**

1 **it in the preferred plan?**

2 A. No. And I don't think Staff would typically
3 suggest to the Company what should be included or not
4 included in the preferred plan.

5 **Q. If the Company changed its preferred plan,**
6 **that would require a -- at least a notice filing with the**
7 **Commission; right?**

8 A. That's correct.

9 **Q. And that could be challenged too, right,**
10 **under the rule?**

11 A. I -- you know, I can't speak to that.

12 **Q. Okay. Okay. Do you know -- Ameren had a**
13 **fairly controversial rate case fairly recently with**
14 **Noranda Company. Do you remember hearing about that?**

15 A. Generally.

16 **Q. Do you know if there was any disallowance in**
17 **that case related to the O'Fallon solar plant?**

18 A. I was involved in that case as far as
19 actually doing in-service criteria on the O'Fallon
20 case -- on the O'Fallon facility. I don't recall there
21 being a disallowance, but...

22 **Q. And you would have been the one that would be**
23 **familiar with that; right?**

24 A. I -- I would think that the auditing staff in
25 St. Louis would be --

1 **Q. You -- you --**

2 A. -- primary on that. But, I mean, I wouldn't
3 be surprised if I knew about it.

4 **Q. You found that it was in service and met the**
5 **in-service criteria?**

6 A. I did.

7 **Q. And to your knowledge there was no**
8 **disallowance made in that case?**

9 A. To my knowledge there was not. But, again, I
10 would -- I'm not a hundred percent sure on that.

11 **Q. And that would be true even though it wasn't**
12 **the lowest-cost alternative to meeting the RES**
13 **requirement?**

14 A. Correct.

15 **Q. Whenever I looked at your resume, it looks**
16 **I like you've been at the Commission for a few years, and**
17 **before that you did some work on wastewater projects?**

18 A. Actually, a landfill design.

19 **Q. Oh, landfill. Okay. Thank you for**
20 **correcting me. Have you ever done any engineering for an**
21 **electric company on distribution system?**

22 A. No.

23 MR. FISCHER: Okay. That's all I have.

24 Thanks.

25 JUDGE WOODRUFF: All right. I do have one

1 question as a matter of curiosity, and I'm not sure you
2 can answer this without going in-camera. But I'll ask
3 it; and if it's going to be a problem, let me know.

4 THE WITNESS: Okay.

5 EXAMINATION BY JUDGE WOODRUFF:

6 Q. On your Exhibit 7HC there's a marked change
7 in the blue area around 2023. Can you explain the reason
8 for that without going in-camera?

9 A. Which -- what was the title of that one? I'm
10 sorry.

11 Q. That would be the customer-generated solar
12 production.

13 A. So in 2023 the reason that it drops off,
14 currently the customer-generated S-RECs that they're
15 getting are related to House Bill 142. So I think
16 there's been reference that GMO gets ten -- ten years
17 worth of -- supply of S-RECs essentially. So it will
18 drop off then because I would say 2013 and 2014 were the
19 largest supply coming in, and --

20 Q. Gotcha.

21 A. -- so they would last for ten years, and --

22 Q. So -- so --

23 A. -- they'd drop --

24 Q. -- that chart --

25 A. -- off after that.

1 **Q. -- is only showing the S-RECs or is that**
2 **actual production?**

3 A. For -- for this it's representing the S-RECs
4 for the customer generated.

5 **Q. So they're not saying that the generation**
6 **itself is going to stop; it's just that the S-RECs stop?**

7 A. Right. Exactly. Yeah. And that -- that was
8 something that actually I failed to mention. GMO would
9 have the ability to offer a standard -- standard offer
10 contract after that ten-year period, if they chose to.
11 So that could be another source of renewable -- Solar
12 Renewable Energy Credits.

13 JUDGE WOODRUFF: Okay. Thank you for
14 clearing that -- clarifying that for me.

15 THE WITNESS: Thank you.

16 JUDGE WOODRUFF: Any recross based on that
17 question? Redirect?

18 MS. MUETH: Just one.

19 REDIRECT EXAMINATION BY MS. MUETH:

20 **Q. Is offsetting emissions the same as reducing**
21 **emissions?**

22 A. I guess to me it is. But I don't know if
23 other people agree with that or not.

24 MS. MUETH: Nothing further.

25 JUDGE WOODRUFF: Okay. Then, Ms. Eubanks,

1 you can step down.

2 (Witness excused.)

3 JUDGE WOODRUFF: Go ahead and call your next
4 witness.

5 MR. WESTEN: Yes, Staff calls Ms. Karen
6 Lyons.

7 JUDGE WOODRUFF: Please raise your right
8 hand, and I'll swear you in.

9 KAREN LYONS,

10 after having been first duly sworn, was
11 examined and testified on her oath as follows:

12 JUDGE WOODRUFF: You may inquire.

13 DIRECT EXAMINATION BY MR. WESTEN:

14 Q. Good evening.

15 A. Evening.

16 Q. Would you please state and spell your name
17 for the court reporter.

18 A. Karen Lyons. K-A-R-E-N. L-Y-O-N-S.

19 Q. And how are you employed?

20 A. I'm a regulatory auditor with the Missouri
21 Public Service Commission.

22 Q. How long have you been employed with the
23 Public Service Commission?

24 A. Nine years.

25 Q. And what's your educational background,

1 **please?**

2 A. I have a bachelor of science in accounting
3 and a master's in business administration.

4 **Q. And you said you were employed with the**
5 **Commission for nine years?**

6 A. Yes.

7 **Q. Did you begin your employment with the**
8 **Commission after getting that degree?**

9 A. No.

10 **Q. No? Where did you work before the**
11 **Commission?**

12 A. AT&T.

13 **Q. Okay. How long were you there?**

14 A. Ten years.

15 **Q. Okay. Can you please describe your position**
16 **and your duties with the Public Service Commission?**

17 A. My primary responsibility is to evaluate
18 applications filed with the Commission that range from
19 formal and informal rate cases, infrastructure system
20 replacement surcharge cases, small water sewer cases, and
21 cases like what we're here tonight for, CCN.

22 **Q. Have you testified before the Commission**
23 **before?**

24 A. Yes.

25 MR. WESTEN: And at this time I would like to

1 go ahead and offer -- so it will be Staff's Exhibit -- or
2 not offer, but --

3 JUDGE WOODRUFF: It would be 11.

4 (Staff Exhibit 11 marked for identification.)

5 BY MR. WESTEN:

6 Q. And, Ms. Lyons, this is a copy of your resume
7 and your history with -- history of testimony with the
8 Commission?

9 A. Yes.

10 Q. And this is a fair and accurate copy of that
11 document?

12 A. Yes.

13 MR. WESTEN: At this time I'd like to offer
14 Exhibit 11.

15 JUDGE WOODRUFF: 11's been offered. Any
16 objections to its receipt? Hearing none, it will be
17 received.

18 (Staff Exhibit 11 received into evidence.)

19 MR. WESTEN: Thank you, Your Honor.

20 BY MR. WESTEN:

21 Q. Ms. Lyons, are you familiar with the
22 application for a Certificate of Convenience and
23 Necessity that GMO has filed in this case?

24 A. Yes.

25 Q. And how are you familiar with that

1 **application?**

2 A. Well, I was assigned to that case when the
3 Company filed the application. And I reviewed the
4 application, submitted data requests, reviewed responses
5 from the -- from the Company, as well as other data
6 requests from other parties, had several internal Staff
7 discussions regarding the applications.

8 **Q. And as part of your duties, did you evaluate**
9 **that application?**

10 A. Yes.

11 **Q. And what did you take -- what did you do to**
12 **evaluate the application?**

13 A. Well, like I just referred to, we did -- we
14 looked at -- submitted data requests, reviewed the
15 responses from the Company, as well as other data
16 requests from -- from other parties, and the discussions
17 with internal Staff.

18 **Q. Were you asked to review or did you review**
19 **any Tartan factors or criteria?**

20 A. Yes.

21 **Q. And which factors did you evaluate?**

22 A. I re -- reviewed or evaluated the financial
23 ability for the Company to fund the project and
24 economical feasibility of the project, as well as the
25 public interest.

1 **Q. Based on those evaluations, were you able to**
2 **reach a position to a reasonable degree of professional**
3 **certainty regarding whether or not the Staff should**
4 **recommend approval of this application to the Commission?**

5 A. Yes.

6 **Q. And what is that position?**

7 A. Staff's recommendation is that the Commission
8 deny GMO's request for the CCN.

9 **Q. I want to go through the different factors**
10 **that you reviewed. Let's start with finance ability.**
11 **Did you reach a conclusion as to whether GMO has the**
12 **finance ability to build the Greenwood solar generation**
13 **product -- project?**

14 A. Yes.

15 **Q. And what is that conclusion?**

16 A. Well, I would agree that GMO has the
17 finance -- financial ability, based on general funds, to
18 finance the cost of this projects -- project. However, I
19 would add that, you know, Staff -- Staff's position is
20 that GMO customers -- in the event that the Commission
21 grants the CCN and maybe subsequently allows some form of
22 recovery, that GMO customers should not be held
23 responsible for those costs, in part or in whole.

24 **Q. And, otherwise, the Company does have the**
25 **financial ability?**

1 A. Yes.

2 Q. What did you review to reach that conclusion?

3 A. I relied on the Company's response to a data
4 request asking how the fund -- the project would be
5 funded.

6 Q. Do you know how the project will be funded?

7 A. With general funds.

8 MR. WESTEN: Okay. I have one HC question,
9 Your Honor.

10 JUDGE WOODRUFF: Okay. We will go in-camera
11 then.

12 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
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1 JUDGE WOODRUFF: We're back in regular
2 session.

3 BY MR. WESTEN:

4 Q. Ms. Lyons, you say you also reviewed whether
5 or not the project is economical?

6 A. Yes.

7 Q. And did you reach a conclusion as to whether
8 the Greenwood project is economical?

9 A. Yes. As part of my review, I researched
10 solar prices that -- the historical data available, as
11 well as expectations going forward. I also researched
12 the innovations that are being done in the solar --
13 currently done in the solar industry, specifically
14 regarding efficiencies or improvements in those
15 efficiencies. And based off my research, solar prices
16 are expected to continue to decline, as they have done
17 historically over the last several years, and that the
18 efficiencies are also expected to improve over the next
19 several years.

20 Q. How does the cost of the technology
21 decreasing and efficiencies increasing affect whether or
22 not the project is considered economical?

23 A. Well, if -- if -- if the Commission was to
24 grant a CCN in this case and, again, subsequently include
25 those costs in a future rate case, the customers would

1 ultimately be paying for a project -- solar project that
2 is at a higher cost and a lower efficiency that it could
3 potentially get in the future.

4 **Q. Did you review anything else as part of your**
5 **economic evaluation, such as tax credits?**

6 A. Yes, I did -- did review the tax credits.

7 **Q. And which -- which credits did you review?**

8 A. The in -- the Investment Tax Credit.

9 **Q. And why -- why was that an item that would**
10 **affect whether or not the project is economical?**

11 A. Well, initially when the Company had filed
12 its application, one of the reasons they stated in their
13 application that they needed the solar facility was the
14 fact that the Investment Tax Credit was due to decrease,
15 if you will. It was going from 30 percent of qualified
16 costs to 10 percent of qualified costs in December of
17 2016. That has since been extended. So that is no
18 longer an issue, as far as the Company needing it to
19 build it right now.

20 **Q. So does that extension of the ITC make a**
21 **difference in Staff's evaluation?**

22 A. Well, yes, because, again, they had asked for
23 it -- or they had asked the application -- or filed the
24 application initially with the intention of not --
25 intention of building that plant in a quicker time frame.

1 Now, once that ITC was extended, it no longer was a
2 factor with -- I don't want to say Staff's evaluation,
3 but the Company's argument that they needed to build a --
4 build a plant.

5 **Q. If the tax credit had expired at the end of**
6 **2016, would Staff's position today be different?**

7 A. No, because the ITC, Investment Tax Credit,
8 with its extension -- there are several factors to
9 Staff's recommendation that include the items that
10 Mr. Beck and Ms. Eubanks had addressed, whether the
11 S-RECs come in or not. The S-RECs, the least-cost option
12 has been addressed several times today, you know, you --
13 you address the solar prices that are declining, the
14 efficiencies increasing. The income tax credit was just
15 one factor in that evaluation.

16 **Q. I don't recall if it has been said, but is**
17 **there a -- I think it actually might have come up during**
18 **Mr. Ives's testimony. Do you recall -- have you been**
19 **present all day?**

20 A. Yes.

21 **Q. And do you recall --**

22 A. Well, I should clarify. I have stepped out a
23 few times.

24 **Q. Okay. So have -- do you recall if there was**
25 **any testimony as to the first time when the Investment**

1 **Tax Credit could be used by the Company?**

2 A. I don't recall if Mr. Ives -- you're
3 referring to Mr. Ives's testimony?

4 **Q. I don't -- honestly, at this point I --**

5 A. Okay.

6 **Q. -- don't remember.**

7 A. I don't recall Mr. Ives addressed the time
8 frame. I know he did address it. But, regardless, the
9 time frame, based off of my understanding, is that they
10 cannot utilize the tax credit, if they, in fact, build
11 the facility, until sometime after 2021.

12 **Q. Why would that be the case?**

13 A. They currently have net operating losses that
14 is preventing -- preventing them from utilizing that
15 income tax credit. And what happens is a utility, when
16 they, you know, file their -- their income taxes, which
17 is a consolidated tax return for GMO and KCPL, they
18 have -- they have to have a cash income tax in order to
19 apply a credit to that. It wouldn't be any different
20 than an individual that has a credit. They actually have
21 to owe taxes before they can apply a -- the Investment
22 Tax Credit to the taxable -- the -- I'm sorry, the cash
23 income tax.

24 **Q. So these net operating losses are -- in**
25 **effect, they need to be used prior to the time the ITC**

1 **can be taken?**

2 A. Well, the -- they're deductions. Net
3 operating losses are deductions. And there's other
4 credits. And, you know, there's also the life of a
5 credit that can play into that. So it is -- you know, I
6 don't want to get too much into the weeds here, because
7 I'm not a tax specialist. But I'm sure the Company has a
8 group of individuals that determines the best time to
9 utilize those NOLs and the tax credits.

10 **Q. Based on your view of the technologies and**
11 **the tax credits, did you reach a position as to whether**
12 **or not this project was economical?**

13 A. Yes. It's -- it's not economical, based on
14 all the factors that Staff has mentioned this evening.
15 That include, from my perspective, the prices -- the
16 price decline, the historical price trend, the
17 expectations going forward, the declining -- or the
18 improvements, I'm sorry, in efficiencies. The income tax
19 credit certainly plays a factor in that.

20 **Q. Did you also review the public interest**
21 **factor?**

22 A. I did.

23 **Q. And have you reached a conclusion as to**
24 **whether or not GMO's Greenwood facility is in the public**
25 **interest at this time?**

1 A. Yes. I would say that, again, Staff is -- is
2 aware that the public is interested in solar. We don't
3 dispute that at all. But in this particular case, Staff
4 does not believe that the Greenwood facility is in the
5 public interest for GMO customers.

6 **Q. Have you looked into the public's interest in**
7 **solar?**

8 A. I have. There was one specifically, a data
9 request supplied -- or response supplied by GMO. And
10 they've referenced the survey several times today, I
11 believe. And in that survey there is --

12 MR. KRETZER: Objection. I believe she's
13 getting into an area that calls for hearsay.

14 MR. WESTEN: Should we -- would it be better
15 if we proffered exhibit?

16 BY MR. WESTEN:

17 **Q. So you're familiar with --**

18 JUDGE WOODRUFF: We've got an objection here,
19 and I need to make a ruling on it.

20 MR. WESTEN: I'm happy to withdraw the
21 question and --

22 JUDGE WOODRUFF: Okay.

23 MR. WESTEN: -- lay foundation for the
24 exhibit.

25 BY MR. WESTEN:

1 **Q. Karen, do you remember the DR number of**
2 **the --**

3 A. I think it's 13.3. I think. I'm sorry,
4 maybe -- yeah, 13.3.

5 MR. WESTEN: At this time I'd like to ask
6 that this exhibit be marked as...

7 JUDGE WOODRUFF: Number 12.

8 MR. WESTEN: Number 12. Thank you, Judge.

9 (Staff Exhibit 12 marked for identification.)

10 MR. WESTEN: And for everyone else, this is
11 actually in the packet we sent out. It's under tab 13.3.
12 BY MR. WESTEN:

13 **Q. Karen, just take a moment and look through**
14 **this, and let me know if you recognize these different**
15 **documents.**

16 A. I do.

17 **Q. And could you just briefly state what these**
18 **documents are?**

19 A. This was a response to a Staff data request.
20 The data request number is 13.3. And included in the
21 response were several links to customer surveys that were
22 done by various different industries. And, in addition,
23 there was some -- I believe these have been identified as
24 KCPL surveys, internal surveys regarding renewable
25 energy.

1 **Q. So --**

2 A. And I will say too that I think the links
3 here -- in fact, I know there's printed copies to those
4 articles.

5 **Q. So the other documents that are part of this**
6 **are actually the documents from those links in the data**
7 **request --**

8 A. Yeah --

9 **Q. -- except for the KC --**

10 A. Yes. Now, I think there was one -- just to
11 be clear, I think there was one article there that the
12 link is indicating it's from morningconsult.com, and that
13 was a dead link when I tried to click on that particular
14 one. So I don't think that one's there, but the others
15 are.

16 **Q. And you've gone through these documents. Are**
17 **these fair and accurate copies of the web pages and**
18 **documents that you --**

19 A. Yes.

20 **Q. -- saw attached?**

21 A. Yes.

22 MR. WESTEN: I would like to offer Staff's
23 Exhibit 12.

24 MR. KRETZER: And, Judge, I'll object, lack
25 of foundation. And I would seek leave at this point to

1 voir dire the witness with regard to some of these
2 exhibits.

3 JUDGE WOODRUFF: Go ahead and voir dire.

4 VOIR DIRE EXAMINATION BY MR. KRETZER:

5 Q. Ma'am, the articles that are referenced in
6 this proposed exhibit from Staff, are those articles that
7 you would use in your professional capacity in order to
8 come to a conclusion in cases such as these?

9 A. I believe that they would not be the only
10 source that I would use, but I would use similar sources.
11 In fact, I have used similar sources in coming to a
12 conclusion before.

13 Q. And I'm going to walk through each one of
14 these. The first one is -- appears to be a Solar Energy
15 Industries Association polling data --

16 A. Yes.

17 Q. -- is that correct?

18 A. Yes.

19 Q. Is SEIA an organization that you would find
20 helpful and something -- and reliable in your role as an
21 expert?

22 A. I -- I would.

23 Q. The second one, it appears to be an article
24 from Gallup?

25 A. That is correct.

1 **Q. Is that the same response with regard to --**

2 A. I believe Gallup is a reputable source for
3 polling, yes.

4 **Q. And then the next one, an article from**
5 **Forbes --**

6 A. Yes.

7 **Q. -- is that a reliable source for you to use?**

8 A. I use Forbes on a regular basis, yes.

9 **Q. And also U.S. News & World Report, it looks**
10 **like a three-page article.**

11 A. Um-hum.

12 **Q. Same reliability as --**

13 A. I have -- have reviewed articles there as
14 well.

15 **Q. And then we get into two, looks like,**
16 **PowerPoint presentations from the Company.**

17 A. Um-hum.

18 **Q. And those are not numbers or studies or**
19 **reflective of any studies that you yourself have**
20 **conducted, are they?**

21 A. That's correct.

22 **Q. And would you agree with me that those are**
23 **self-serving statements provided to you by the customer**
24 **in response to data requests?**

25 A. That is correct.

1 **Q. And you have no way of authenticating or**
2 **verifying the information that's contained in those**
3 **documents, do you?**

4 A. I do not.

5 MR. KRETZER: Judge, with regard to the
6 articles contained, OPC would not object to their
7 admission. But with regard to the information contained
8 in the PowerPoint presentations that are attached, OPC
9 would object with regard to hearsay and lack of
10 foundation.

11 MR. FISCHER: Judge, these -- could I
12 respond?

13 JUDGE WOODRUFF: Just a moment. Okay. Go
14 ahead and respond.

15 MR. FISCHER: Judge, these are DR responses
16 that were provided to the Staff, and they've obviously
17 been reviewed and relied upon by the Staff in reaching
18 some of their conclusions today.

19 They -- they also are business records that
20 are within the business record exception, I think, to the
21 hearsay rule. And I would suggest that these are clearly
22 admissible.

23 JUDGE WOODRUFF: Does Staff want to respond?

24 MR. WESTEN: Staff's happy to withdraw those
25 two PowerPoints and simply admit the -- and simply admit

1 the articles.

2 JUDGE WOODRUFF: It's up to Staff as to what
3 they want to offer.

4 MR. WESTEN: Staff's perfectly happy to just
5 admit the article -- or offer to admit the articles to IR
6 response and leave out the PowerPoint presentation.

7 JUDGE WOODRUFF: Okay.

8 MR. FISCHER: Judge --

9 JUDGE WOODRUFF: The Customer Advisory Panel
10 Sustainability is what you're asking to take out?

11 MR. WESTEN: Yes, Your Honor.

12 JUDGE WOODRUFF: Mr. Fischer.

13 MR. FISCHER: I can address it on cross,
14 Judge. I'm going to move that it be admitted, because
15 they have -- they clearly reviewed it and relied upon it
16 in their analysis, and I'll be asking her about that.

17 JUDGE WOODRUFF: Well, for now Staff hasn't
18 offered it. You can offer it --

19 MR. FISCHER: Yeah. Thank you.

20 JUDGE WOODRUFF: -- when you cross.

21 Okay. With that change, then Exhibit 12 is
22 received.

23 (Staff Exhibit 12 received into evidence.)

24 FURTHER DIRECT EXAMINATION BY MR. WESTEN:

25 Q. I think I was getting ready to ask you a

1 question, and that question has completely left my train
2 of thought. So I'm going to just keep going.

3 So you looked at these articles, and did
4 you -- I think you mentioned earlier on in your testimony
5 that you did some other research as well; is that
6 correct?

7 A. I did. But with regard to these -- these
8 particular articles, you know, I think Staff members have
9 stated tonight several times that we recognize that there
10 is a public interest. In the research that I have done,
11 you know, the Gallup poll, I had done that independently
12 without the Company providing that information.

13 The SEIA is a source that I reference. It's
14 a -- an organization that provides historical and, you
15 know, future trends of solar prices, efficiencies on
16 solar technologies, as well as information on -- on the
17 public interest regarding renewables in general.

18 So I had looked at these particular sources
19 prior to receiving these particular documents and
20 basically wanted to state that, yes, we do agree that
21 there is -- there is some benefit or public interest out
22 there regarding renewables, but at what cost is Staff's
23 concern.

24 And so, yes, there is some -- some data out
25 there that -- that supports, but I think those -- with

1 respect -- with respect to the actual polls that are
2 being taken, the customers are not being informed of the
3 cost. They're simply stating are you in favor of -- of
4 renewable energy, are you in favor of solar in general.
5 But they're not being informed.

6 And one of the articles that KCPL -- or, I'm
7 sorry, GMO provided was the Forbes article that
8 specifically identified a Harvard professor that has done
9 a 12-year study on renewables and the public interest.
10 And in that 12-year study he confirms that the public is
11 interested in renewables and solar energy, but he also
12 stated in another article -- and it was ironically
13 published the same day in Forbes, which we have that
14 article as well, but he states that -- that the public is
15 in favor of solar up to, in his article he said \$5.

16 Now, what he was stating in that article as
17 well as in another article from PV Magazine, which was
18 dated four or five days later, that -- that the consumers
19 are not informed; and if, in fact, they were informed of
20 the cost that they -- that he would -- that there would
21 likely be a decline in the public interest.

22 **Q. Did you actually find and locate those**
23 **articles that you're referring to?**

24 A. Yes.

25 MR. WESTEN: And I would please like to have

1 the next exhibit marked. Staff's...

2 JUDGE WOODRUFF: Exhibit 13.

3 (Staff Exhibit 13 marked for identification.)

4 BY MR. WESTEN:

5 Q. Karen, do you have a copy of these in front
6 of you?

7 A. I do.

8 Q. And do you recognize these documents?

9 A. I do.

10 Q. And what are these documents?

11 A. Well, the first one is the -- one of the
12 articles from -- where is this one from?

13 Q. This is the PV Magazine?

14 A. Yes, it is the PV Magazine. And this
15 particular article is one of the articles that I was
16 referencing that -- that references the same Harvard
17 professor that is a well-known energy analyst, from my
18 understanding.

19 Q. What -- what is the second document?

20 A. Oh, I'm sorry.

21 Q. That's okay.

22 A. Second document is a document that I relied
23 on from SEIA, simply discussing the trends in solar
24 prices.

25 Q. And what's the third document?

1 A. Very similar. It's a document -- it's the
2 third quarter 2015 data indicating solar trends.

3 **Q. And I believe there's just one other**
4 **document, the fourth document. What is that?**

5 A. Yes, that's the other article that I was
6 referencing from Forbes.

7 **Q. Are the Forbes article and the photovoltaic,**
8 **PV Magazine article, are those the kinds of articles and**
9 **information that you would rely on in reaching an**
10 **opinion?**

11 A. Yes.

12 **Q. And how about SEIA, is that the kind of**
13 **information -- the kind of information and organization**
14 **that you would rely on in reaching an expert opinion?**

15 A. Well, yes, as I stated earlier, this is
16 something that I looked at with regards to the economic
17 analysis, and it is also a source that the Company as
18 well as solar contractors use.

19 **Q. Are these articles fair and accurate copies**
20 **of the articles that you reviewed?**

21 A. Yes.

22 MR. WESTEN: At this time Staff would like to
23 offer Exhibit 13.

24 JUDGE WOODRUFF: 13 has been offered. Any
25 objections? Hearing none, it will be received.

1 (Staff Exhibit 13 received into evidence.)

2 BY MR. WESTEN:

3 Q. I think you spoke a little bit about one of
4 the articles already, Ms. Lyons, and I just want to make
5 sure. What was the reason you included these four
6 documents or that you felt these four documents were
7 important in response to the -- the DR response?

8 A. Well, I can tell you the SEIA documents were
9 simply in support of the historical so-- and expected or
10 future solar price data, so that that's all those
11 documents were -- were used for.

12 Now, the Forbes document and the PV document
13 I simply wanted to, you know, make sure the Commission
14 was aware that the public interest is out there, and
15 Staff does not deny that. However, there is concern with
16 consumers, if asked what the price of solar, how would
17 that would affect them.

18 Q. Did this kind of information help you reach
19 any conclusion on evaluate -- evaluating whether or not
20 this project is in the public interest?

21 A. Yes.

22 Q. And how so?

23 A. Well, I think it's important to -- again, for
24 the Commission to know that the pub-- with regards to the
25 public interest that, you know, there's more than just

1 one side of the story; that you have to ask the right
2 questions when asking the public about the solar and how
3 that's going to impact them financially or on an energy
4 basis where maybe that is something that they actually
5 want to do. They may want to put rooftop solar on. They
6 may want to put solar panels in their backyard. But I
7 think if you asked those questions, I think you would
8 find -- and that's what this Harvard professor found --
9 is that you would find that the solar -- or the public
10 interest would decline.

11 **Q. I just have a last couple of few questions**
12 **for you. The Staff has included in its purpose -- or**
13 **position statement and during open -- or its opening**
14 **statement today, there's a couple of conditions, economic**
15 **conditions, that the Staff is suggesting the Commission**
16 **consider. Are you familiar with those?**

17 A. Yes.

18 **Q. And could or should the Commission consider**
19 **those conditions and why?**

20 A. Well, I believe -- first of all, let me state
21 that Staff is not recommending that the Commission grant
22 the CCN. But in the event that they do, I think Staff
23 has an obligation to inform the Commission of some
24 economic considerations that can impact GMO's customers.
25 And that was Staff's intention, is -- was to inform them

1 of those. Staff is not recommending ratemaking treatment
2 regarding these particular economic considerations. You
3 know, it's my understanding that it's just the Commission
4 to understand that these are some options available in
5 the event that they do approve the CCN.

6 MR. WESTEN: Thank you, Karen -- or,
7 Ms. Lyons. I have no further questions.

8 JUDGE WOODRUFF: All right. For
9 cross-examination, beginning with Public Counsel.

10 MR. KRETZER: Thank you, Judge. May I
11 inquire?

12 JUDGE WOODRUFF: You may.

13 CROSS-EXAMINATION BY MR. KRETZER:

14 Q. Good evening, Ms. Lyons.

15 A. Good evening.

16 Q. I know it's been a long day. I'll try and
17 get through --

18 A. Yes, it has.

19 Q. -- this quickly. The articles that you were
20 provided in response to data requests, would you agree
21 that GMO conveniently left out the \$5 article?

22 MR. FISCHER: Objection, Your Honor. I think
23 that mischaracterizes what was going on.

24 JUDGE WOODRUFF: I'll sustain the objection.

25 BY MR. KRETZER:

1 **Q. They did leave out that article?**

2 A. They did not include that article.

3 **Q. You talked a little bit on direct about GMO's**
4 **ability to finance this operation; correct?**

5 A. Yes.

6 **Q. You would agree with me that GMO has made it**
7 **very clear to this Commission that they will not pursue**
8 **this project unless the customers of GMO pay for it?**

9 A. That is correct. That's my understanding.

10 **Q. Now, would you agree to (sic) me that there**
11 **are a plethora or a lot -- less fancy word -- a lot of**
12 **benefits to doing this project at a later time?**

13 A. I do agree with that.

14 **Q. And would you agree with me that there's not**
15 **really any penalty facing GMO by waiting?**

16 A. I believe Staff agrees with you on that, yes.

17 **Q. And maybe just a way of kind of, I guess for**
18 **lack of a better word, dumbing this down, propose a**
19 **hypothetical for you. If you were going to buy a**
20 **television for Superbowl Sunday and you knew it was going**
21 **to go on sale next week, would it be economically**
22 **feasible to go ahead and buy it today?**

23 A. Well, I guess that depends on really whether
24 or not you want to watch the game. No, it would not.

25 **Q. Okay. When we talk about any penalties for**

1 delay, you agree that there's going to be a lower cost
2 associated with building this plant later?

3 A. Can you repeat that?

4 Q. Would you agree with me that there will be
5 less cost in constructing this facility based on the
6 technology improvements you --

7 A. Yes.

8 Q. -- described in your direct?

9 A. Yes.

10 Q. You agree that there would be better
11 efficiency based on improvements and the evolution of
12 technology?

13 A. Yes.

14 Q. You agree with me that the same tax credits
15 that are available today are going to be available for
16 many years to come?

17 A. Yes.

18 Q. You agree with me that by waiting, these
19 S-RECs would, in effect, last longer? Is that your area
20 of expertise? Maybe I'm getting too far.

21 A. Can you ask -- can you ask that question
22 again?

23 Q. You heard testimony earlier about how S-RECs
24 would expire or be wasted if they weren't sold or used?

25 A. Yes.

1 **Q. And would you agree with me that by waiting**
2 **to build this plant till later would mean they could use**
3 **those later on?**

4 A. I've heard the testimony, but I think I'm
5 going to refrain to the expert witnesses for Staff.

6 **Q. You talked a little bit about the fact that**
7 **they can't use the tax credit until 2021 because of these**
8 **carryover taxes that they're taking advantage --**

9 A. Yes.

10 **Q. -- or being forced to use right now?**

11 A. Yes.

12 **Q. And, in fact, the parties all agreed to that**
13 **fact, you know, in their stipulation of facts in this**
14 **case?**

15 A. Yes.

16 **Q. You agree that this plant is not the**
17 **least-cost alternative?**

18 A. Yes.

19 **Q. But that's not the only factor we look at?**

20 A. No.

21 **Q. And in looking at whether or not it's cost**
22 **effective, we got to look at the other potential**
23 **renewable streams; correct?**

24 A. Yes.

25 **Q. And wind is a great viable -- a great option**

1 in that regard?

2 A. That is Staff's position, yes.

3 Q. We've talked about cost. You agree that GMO
4 customers do not need the additional capacity at this
5 time?

6 A. I -- that is my understanding, yes.

7 Q. And that there's no state or federal mandate
8 requiring GMO to construct this facility?

9 A. That is correct.

10 Q. And that it's your understanding that the
11 primary basis for GMO wanting to construct this facility
12 is so they can gain some hands-on experience?

13 A. That is my understanding.

14 Q. Not to help GMO customers?

15 A. That is -- that is correct.

16 Q. Not to offer GMO customers an alternative to
17 fossil fuel generation?

18 A. That -- can you ask that again?

19 Q. It's not offering them an alternative to CO2
20 -- or to fossil fuel generation?

21 A. That -- that is correct, based on the
22 testimony I heard today, yeah.

23 Q. And does nothing to reduce its own CO2
24 output?

25 A. Again, that's correct, based off the

1 testimony I heard today. But I am not Staff witness on
2 that.

3 MR. KRETZER: Thank you.

4 JUDGE WOODRUFF: Division of Energy?

5 MR. ANTAL: A few questions.

6 CROSS-EXAMINATION BY MR. ANTAL:

7 Q. Hi, Ms. Lyons.

8 A. Hi there.

9 Q. You were talking with Staff Counsel a little
10 bit about the invest -- or Investment Tax Credits?

11 A. Yes.

12 Q. Okay. I have a few questions about that. In
13 Staff's position statement it says that GMO ratepayers
14 will not receive the benefit of the ITC until after 2021.
15 Is that your understanding?

16 A. At the very least until after 2021.

17 Q. Okay. But Staff does recognize that GMO
18 ratepayers would receive a benefit from the Investment
19 Tax Credit?

20 A. To the extent that GMO is able to utilize
21 that at some point in the future, yes.

22 Q. If GMO is able to utilize that credit
23 sometime in the future, can you explain to me how
24 ratepayers are -- you know, receive that benefit?

25 A. Well, if -- if the Commission grants a CCN

1 and ultimately allows some form of recovery in the
2 case -- in a future rate case and GMO receives the ITC
3 and once they are able to utilize that ITC because of
4 other credits or deductions that are preventing them from
5 doing it, they would receive it based on a reduction to
6 the income tax and -- the income tax expense in the
7 Company's cost of service.

8 **Q. Okay. So -- and so the Investment Tax**
9 **Credit, like all tax credits, reduces the Company's tax**
10 **liability; is that correct?**

11 A. Well, yes. They have to have some level of
12 tax -- cash tax income -- or, sorry, tax -- cash tax
13 before they can apply that credit.

14 **Q. So when they -- when they're able to utilize**
15 **the tax credit, it reduces their tax liability?**

16 A. Yes.

17 **Q. Okay. And that reduction in tax liability**
18 **reduces rate base -- or the revenue requirement?**

19 A. All other things being equal, yes, the
20 revenue requirement, not the rate.

21 **Q. And that revenue requirement is what Staff**
22 **uses to -- to determine the rates in a rate case?**

23 A. Yes.

24 **Q. Okay. And you talked about the fact that at**
25 **the very earliest they would not be able to utilize the**

1 **Investment Tax Credit until 2021?**

2 A. Um-hum.

3 **Q. If you know, how long does an Investment Tax**
4 **Credit retain its full valuable?**

5 A. I believe it's 20 years.

6 **Q. Okay. So, hypothetically, if the Commission**
7 **were to approve this CCN and it went into service this**
8 **year, would the Investment Tax Credits still have their**
9 **full value in 2021?**

10 A. Yes.

11 **Q. Okay. And I believe you mentioned earlier in**
12 **your testimony that GMO and KCPL file a consolidated**
13 **income tax filing?**

14 A. They do.

15 **Q. Okay. Are you aware of any other Missouri**
16 **public utilities that file on a consolidated basis?**

17 A. I am not personally aware, no. That doesn't
18 mean that they don't exist. I just don't know that.

19 MR. ANTAL: Okay. I don't have any other
20 further questions. Thank you.

21 JUDGE WOODRUFF: GMO?

22 MR. FISCHER: Yes, Judge.

23 CROSS-EXAMINATION BY MR. FISCHER:

24 **Q. Ms. Lyons, you've been on the auditing staff**
25 **for a number of years; right?**

1 A. Yes.

2 Q. Turn on my mic. Do you know if Ameren was
3 permitted to recover in its rate base the O'Fallon solar
4 facility that was -- we've been talking about in this
5 case?

6 A. I do not know if they included that in their
7 rate base.

8 Q. Is it correct that ITC would last until the
9 end of the life of the solar project?

10 A. Can you -- can you rephrase that for me?

11 Q. Yeah. I was asking if you know if the ITC
12 associated with that solar project would be eligible and
13 would last basically until the end of the life of that
14 solar project that was --

15 A. What project are we talking about? Are you
16 talking about Ameren? Are you talking about --

17 Q. I'm sorry. I'm talking about -- well, any.
18 But in our case let's talk about the Greenwood plant.
19 The ITC associated with the Greenwood plant, wouldn't
20 that continue on -- wouldn't it have a life that could be
21 used until the end of the solar -- the life of the solar
22 project itself?

23 A. Yes. I think the 20 years starts when the
24 tax is actually -- or the credit is actually utilized by
25 the Company.

1 MR. FISCHER: Judge, I need to follow up on
2 some HC for a minute.

3 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
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1 BY MR. FISCHER:

2 Q. Ms. Lyons, you were --
3 Or, I guess, Judge, I'd like to have an
4 exhibit marked.

5 JUDGE WOODRUFF: All right. Is this the
6 Consumer Advisory Panel?

7 MR. FISCHER: Yes, Consumer Advisory Panel,
8 both of the studies that are there.

9 JUDGE WOODRUFF: Okay. We'll mark that as
10 14.

11 (Company Exhibit 14 marked for
12 identification.)

13 BY MR. FISCHER:

14 Q. Ms. Lyons, did you review these studies in
15 coming to your conclusion that there is an interest in
16 solar in GM0's service territory?

17 A. I did, but there was other aspects of the
18 survey that I noticed as well that was -- and it's
19 specific to the price.

20 Q. But you did review this in coming to your
21 professional conclusions and opinions that you expressed
22 today?

23 A. Yes.

24 MR. FISCHER: Judge, I would move for the
25 admission of that exhibit.

1 MR. KRETZER: Objection.

2 JUDGE WOODRUFF: 14 has been offered and
3 there's an objection. What's your objection?

4 MR. KRETZER: Lack of foundation and hearsay.

5 JUDGE WOODRUFF: You want to elaborate?

6 MR. KRETZER: Judge, any of the information
7 contained in that document, there's not been established
8 a foundation for its admission. Now, this witness can
9 testify that she used information in coming to her
10 conclusions. But with regard to the specific information
11 contained in that document, it's hearsay and there's no
12 foundation for its admissibility at this point.

13 MR. FISCHER: Goes to the weight, Judge, not
14 the admissibility.

15 MR. KRETZER: There's no authentic--
16 authentication here, Judge.

17 JUDGE WOODRUFF: I'm going to sustain the
18 objection. 14 will not be admitted.

19 MR. FISCHER: That's all I have, Judge.
20 Thank you.

21 JUDGE WOODRUFF: Okay. And the chairman left
22 one more question for me to ask --

23 THE WITNESS: Okay.

24 JUDGE WOODRUFF: -- the Staff's accounting
25 witness, which I guess would be as close to you as

1 anybody.

2 THE WITNESS: Um-hum.

3 EXAMINATION BY JUDGE WOODRUFF:

4 Q. And he's trying to get a clarification of the
5 cost of this Greenwood facility compared to the Ameren
6 facility. And let me clarify that a little bit. I think
7 what he's ask -- getting at is the testimony that was
8 offered by Mr. Hyman earlier today --

9 A. Um-hum.

10 Q. -- with his off-the-cuff or
11 back-of-the-envelope calculations. Are you familiar with
12 those? Do you remember hearing --

13 A. I do recall those -- those values that he
14 provided. But I also have to state that I didn't review
15 the costs associated with Ameren, but I know there is a
16 Staff witness that does have that -- that data available
17 that did the calculation after Mr. Hyman.

18 Q. And who would that be?

19 A. I believe -- I believe Mr. Beck.

20 Q. Okay. He did after he was on the stand or --
21 because he testified already.

22 A. He did -- he did testify already.

23 Q. Okay. Well, we won't bring him back on
24 again. But in general did you find it to be a reasonable
25 calculation?

1 A. My understanding -- and, again, I didn't talk
2 specifics with Mr. Beck -- but, no, it's not reasonable.

3 **Q. And is that for the same reason Mr. Beck**
4 **explained earlier?**

5 A. I'm not sure if I heard his explanation on
6 that. I don't know if I was in the room at that time.
7 But if it was regards to the dollar, \$2 kWh, it's not
8 realistic for -- for that project.

9 JUDGE WOODRUFF: All right. Well, thank you
10 very much then.

11 Any recross based on those quest-- that
12 question from bench?

13 All right. Redirect?

14 MR. WESTEN: No redirect.

15 JUDGE WOODRUFF: All right. Then, Ms. Lyons,
16 you can step down.

17 (Witness excused.)

18 JUDGE WOODRUFF: It's now 9:00. Let's take a
19 15-minute break, and we'll come back with Dr. Proctor.

20 (Off the record.)

21 JUDGE WOODRUFF: All right. It's 9:15.
22 Let's come to order. And while we were on break,
23 Dr. Proctor has taken the stand.

24 If you'd please raise your right hand, I'll
25 swear you in.

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MICHAEL PROCTOR,
after having been first duly sworn, was
examined and testified on his oath as follows:
JUDGE WOODRUFF: Thank you.
You may inquire when you're ready.
MR. OPITZ: Your Honor, may I have permission
to inquire from my seat?
JUDGE WOODRUFF: Absolutely.
MR. OPITZ: Thank you.
DIRECT EXAMINATION BY MR. OPITZ:
**Q. Good evening, Dr. Proctor. Can you please
state and spell your name for the record.**
A. My name is Michael Proctor. And it's
M-I-C-H-A-E-L, P-R-O-C-T-O-R.
**Q. And you are here offering testimony on behalf
of the Office of the Public Counsel?**
A. That's correct.
Q. And, Dr. Proctor, what is your occupation?
A. Currently I'm a consultant on the issues
related to electricity markets and transmission
expansion.
**Q. And, Dr. Proctor, what is your educational
background?**
A. I have a bachelor -- a BA in economics from
the University of Missouri in Columbia, I have an MA in

1 economics from the University of Missouri in Columbia,
2 and I have a Ph.D. in economics from Texas A & M
3 University.

4 **Q. Dr. Proctor, can you please outline your**
5 **professional experience for me?**

6 A. Yes. From 1970 to 1973 I was an assistant
7 professor of economics at Purdue University. From '73
8 through '77 I was the assistant professor of economics at
9 the University of Missouri-Columbia. And from 1977
10 through 2009 I worked for the Missouri Public Service
11 Commission.

12 **Q. And have you testified before the Missouri**
13 **Public Service Commission previously?**

14 A. Many times.

15 **Q. Dr. Proctor, do you maintain a resume?**

16 A. Yes, I do.

17 MR. OPITZ: Judge, may I approach the
18 witness?

19 JUDGE WOODRUFF: You certainly may. Will
20 this be 15?

21 MR. OPITZ: This is 15.

22 (OPC Exhibit 15 marked for identification.)

23 BY MR. OPITZ:

24 **Q. Dr. Proctor, do you recognize the document**
25 **I've handed you, Exhibit 15?**

1 A. Yes, I do.

2 Q. **And what is this document?**

3 A. This document is my resume.

4 Q. **And does this document outline your training**
5 **and experience?**

6 A. Yes, it does.

7 Q. **And is that -- is it that training and**
8 **experience that led you to offering your expert testimony**
9 **here today?**

10 A. Yes.

11 MR. OPITZ: Judge, I would like to offer
12 Exhibit 15 into evidence at this time.

13 JUDGE WOODRUFF: 15 has been offered. Any
14 objection to its receipt? Hearing none, it will be
15 received.

16 (OPC Exhibit 15 received into evidence.)

17 BY MR. OPITZ:

18 Q. **Dr. Proctor, in your participation in this**
19 **case, you developed conclusions and opinions about the**
20 **issues; correct?**

21 A. Correct.

22 Q. **And is it fair to say those conclusions**
23 **relate to whether the Commission should grant the CCN in**
24 **this case?**

25 A. Yes.

1 **Q. Dr. Proctor, are you familiar with the U.S.**
2 **Department of Energy's SunShot Initiative?**

3 A. Yes, I am.

4 **Q. And what is the SunShot Initiative?**

5 A. The sun -- SunShot Initiative was set up by
6 the Department of Energy to promote solar in the United
7 States in -- in several ways, but primarily it was to
8 decrease the cost of solar from the time at which that
9 initiative was put into place. It was also to increase
10 the efficiency of solar technology in terms of being able
11 to produce electricity from -- from sunlight.

12 **Q. Have you read any information related to the**
13 **SunShot Initiative?**

14 A. Yes, I have. One of the original things that
15 they issued in 2012 was what they called the SunShot
16 Vision Study. And I've read through that particular
17 study in its entirety. They also have -- online from the
18 Department of Energy Solar Energy Technology office, they
19 have information on the SunShot Initiative that you can
20 download from the web or look at on the web.

21 MR. OPITZ: Judge, may I approach the
22 witness?

23 JUDGE WOODRUFF: You may. And is this 16
24 then?

25 MR. OPITZ: Yes, can I have the reporter mark

1 that as 16?

2 (OPC Exhibit 16 marked for identification.)

3 BY MR. OPITZ:

4 **Q. Dr. Proctor, do you recognize this document?**

5 A. Yes, I do.

6 **Q. And what is this document?**

7 A. This document has information from two
8 sources on it. The first source is downloaded from their
9 website energy.gov about the SunShot Initiative, and the
10 second is from the SunShot Vision Study 2012.

11 **Q. And is this document a true and accurate copy**
12 **of what you provided to Counsel?**

13 A. Yes.

14 **Q. Dr. Proctor, in part, did you rely on this**
15 **document and the information contained on it when making**
16 **your conclusions in this case?**

17 A. Yes, I did.

18 MR. OPITZ: Judge, at this time I would move
19 to offer Exhibit 16 into evidence.

20 JUDGE WOODRUFF: 16 has been offered. Any
21 objection to its receipt? Hearing none, it will be
22 received.

23 (OPC Exhibit 16 received into evidence.)

24 BY MR. OPITZ:

25 **Q. Dr. Proctor, staying with this exhibit, can**

1 **you tell me what this document shows?**

2 A. This document shows the impact of -- on solar
3 costs from 2010 to 2015 that have occurred. And those
4 costs are decreasing significantly. It shows from --
5 this is a levelized cost that they're using here in 2010
6 dollars -- \$3.80 down to 1.64 by 2015. It also shows the
7 SunShot Initiative's goal for 2020 of \$1.

8 And, in addition, from the SunShot Vision
9 Study, it also includes a quote that talks about some of
10 the elements that are included in the initiative, and I
11 thought those would be worth putting in there so that you
12 get more of a feel for what this initiative was about.

13 **Q. And what are some of those elements that you**
14 **wanted to include in here?**

15 A. As you -- as you read down through that
16 paragraph -- and I'm not going to read it verbatim; I'm
17 just going to pick out some things. First of all,
18 experience accumulated by solar manufacturers and
19 developers, utilities and regulatory bodies have
20 shortened the time and expense. So -- and they felt like
21 these gains came partly through research and development
22 and partly through U.S. and global solar market
23 stimulation.

24 **Q. Dr. Proctor, what is the importance of the**
25 **Department of Energy's SunShot Initiative?**

1 A. I think the importance of this is that it
2 indicates historically what has -- what has happened.
3 But it also indicates that there -- they believe that
4 through this initiative they can lower costs even further
5 between now and 2020.

6 **Q. Do you -- Dr. Proctor, do you anticipate that**
7 **utility-scale solar power will become competitive with**
8 **conventional generation in the near future?**

9 A. Yes, I do. And when -- when I'm talking
10 about conventional generation, I'm talking about
11 primarily fossil-fuel-powered generation.

12 What also needs to be taken into account is
13 Congress in December extended the 30 percent Investment
14 Tax Credit through 2019. That falls to 26 percent
15 Investment Tax Credit in 2020, 22 Investment Tax Credit
16 in 2021, and it drops to 10 percent after that. Those
17 Investment Tax Credits will -- will help solar become
18 competitive with fossil generation.

19 **Q. Dr. Proctor, do you anticipate that**
20 **utility-scale solar power will become competitive with**
21 **wind power in the near future?**

22 A. I haven't -- well, let me first say that
23 that's a very difficult question to answer at this point
24 in time. It -- it involves lots of different aspects
25 about what is going to happen with the new technologies

1 in wind and in solar in the near future. It also depends
2 on what you mean by the near future. I think if you're
3 talking about in the next couple of years, my answer is
4 going to be no. And part of the reason is that they've
5 also extended the Production Tax Credit for wind, and so
6 it's going to be very difficult for solar to catch up
7 with wind that quickly in the near future.

8 **Q. Dr. Proctor, in preparing for this case, did**
9 **you also examine wind generation as a renewable resource?**

10 A. Yes, I did.

11 **Q. And what about wind generation did you**
12 **examine?**

13 A. I looked at wind generation from a couple of
14 perspectives. And one is from wind farms located in
15 Kansas and wind farms that might be located in Missouri.
16 And I looked at -- I compared -- I looked at the costs of
17 those on a levelized basis and compared them to the
18 levelized costs of solar.

19 MR. OPITZ: Judge, may I approach --

20 JUDGE WOODRUFF: You may.

21 MR. OPITZ: -- one more time?

22 JUDGE WOODRUFF: And this will be 17.

23 (OPC Exhibit 17 marked for identification.)

24 MR. OPITZ: That was 17, Judge?

25 JUDGE WOODRUFF: 17, yes.

1 BY MR. OPITZ:

2 Q. Dr. Proctor, do you recognize this document
3 that's been marked Exhibit 17?

4 A. Yes, I do.

5 Q. And can you tell me what this document is?

6 A. This document is from a presentation that was
7 put together by the National Renewable Energy Laboratory,
8 along with the Lawrence Berkeley Laboratory, and that
9 particular document was looking at what was going on
10 within the wind industry. And -- and this particular
11 slide shows what the advances have been in terms of
12 increased capacity factors for wind generation since
13 2010.

14 Q. Dr. Proctor, is this document a true and
15 accurate copy of what you provided to Counsel?

16 A. Yes, it is.

17 Q. And, in part, did you rely on this document
18 and the information contained in it when making your
19 conclusions in this case?

20 A. Yes. This document is fairly critical in
21 terms of determining what capacity factors you're going
22 to use for wind, depending upon what class of wind you're
23 dealing with.

24 MR. OPITZ: Judge, at this time I'd move to
25 admit Exhibit Number 17 into evidence.

1 JUDGE WOODRUFF: 17 has been offered. Any
2 objections to its receipt? Hearing none, it will be
3 received.

4 (OPC Exhibit 17 received into evidence.)

5 BY MR. OPITZ:

6 Q. Dr. Proctor, I -- I believe you said this is
7 related to a -- showing improvement in wind capacity
8 factors?

9 A. Correct.

10 Q. Can you describe the impact that
11 technological advances have had on capacity factors for
12 wind turbines?

13 A. Yes, I can. If you -- and I'm going to start
14 at the 2012, 2013 level, which is the lowest dotted line
15 on that particular graph. And the capacity factors have
16 increased by just slightly under 5 percent for the
17 standard technologies in 2012 to 2013 by going to -- to
18 an 80-meter tower and low wind speed turbines. And then
19 if you go to a 100-meter turbine, you get another
20 increase in capacity factor of -- it looks like it's
21 about 4 percent, but that's -- that's an approximation.

22 Q. And what is the top dotted line there? Can
23 you tell me that?

24 A. The top dotted line represents a 100-meter
25 tower and the low wind speed turbines. Now I said 4

1 percent, but it looks to me like it's more like about
2 2 percent, that additional one, looking at the graph.

3 **Q. Dr. Proctor, why are Exhibit 16 and**
4 **Exhibit 17 important to your testimony today?**

5 A. And -- and I'll get into that in greater
6 detail, but the capacity factors for -- for wind
7 generation are significantly higher than they are for
8 solar. And that -- what that means is that you have to
9 purchase a lot less capacity in order to get the same
10 amount of energy. And, in addition, the capacity for
11 wind turbines is a lot less than it is for solar.

12 **Q. Dr. Proctor, in your preparation for this**
13 **case, did you perform any cost analysis?**

14 A. Yes, I did. I performed a levelized cost
15 comparison of wind to -- I'm sorry, Missouri wind and
16 Kansas wind to the solar project that's being proposed
17 here.

18 **Q. And did you create any -- well, did you**
19 **create any documents that show the results of your**
20 **analysis?**

21 A. Yes, I did. Yes, I did.

22 MR. OPITZ: Judge, may I inquire about the
23 video feed for a moment -- of you, I should say?

24 JUDGE WOODRUFF: Yes.

25 MR. OPITZ: If we are in-camera for HC

1 testimony, are Commissioners able to view that?

2 JUDGE WOODRUFF: No.

3 MR. OPITZ: Is that in-camera testimony
4 recorded via video someplace --

5 JUDGE WOODRUFF: It would not be -- it would
6 not be on video. Of course it's transcribed.

7 MR. OPITZ: Okay. Since that's the case, I
8 would like to note on the record that there's no
9 Commissioners present at this time, so if I do go into
10 in-camera for highly-confidential exhibits that there
11 won't be any video feed available to -- to the
12 Commissioners to view of this witness.

13 With that, Judge, may I approach the witness?

14 JUDGE WOODRUFF: You may. Number 18 and HC,
15 Exhibit HC.

16 (OPC Exhibit 18HC marked for identification.)

17 BY MR. OPITZ:

18 Q. Dr. Proctor, don't get into revealing any --
19 what I've handed you is marked HC, so please don't get
20 into revealing any HC at this time.

21 Can you tell me, do you recognize this
22 document?

23 A. Yes, I do.

24 Q. And what is this document, without revealing
25 any HC information?

1 A. This document shows a comparison of the
2 inputs that were used in the -- to calculate the
3 levelized costs for Missouri wind, for Kansas wind, and
4 for solar.

5 **Q. And is this document a true and accurate copy**
6 **of what you provided to Counsel , except for the**
7 **demarcation HC written on it?**

8 A. That's correct.

9 MR. OPITZ: Judge, at this time I would ask
10 that we go in-camera to discuss this exhibit.

11 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)
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1 JUDGE WOODRUFF: And we're back in regular
2 session.

3 BY MR. OPITZ:

4 Q. And I would ask if you need to reference a
5 number at any time, just let me know and we'll --

6 A. I'll try not to.

7 Q. Dr. Proctor, so what -- you've explained that
8 there is energy price differences between these different
9 renewable generations. What is the basis for the energy
10 price differences between Missouri wind and solar?

11 A. Well, if I had time, which I didn't, because
12 this was kind of rushed and put together, the way you
13 would analyze that is to look at hourly prices in
14 Missouri over a year and put that together with a -- the
15 wind profile for Missouri, when it would be producing the
16 energy, and the wind profile for solar, when it would be
17 producing the energy, and then calculate basically what
18 the average -- average price is for each of those. And I
19 didn't have time to do that, so I had to look at
20 secondary data.

21 I had to look at -- and basically that \$10
22 difference came between the average price in off-peak
23 month, the lowest off-peak month, compared to the highest
24 on-peak month. And that's where the -- where the \$10
25 difference came from.

1 **Q. And when you're saying difference, to be**
2 **clear --**

3 A. Between peak and off-peak prices.

4 **Q. For which generation source?**

5 A. Well, on-peak for solar, off-peak for
6 Missouri -- for Missouri wind.

7 **Q. And, Dr. Proctor, what is the basis for the**
8 **energy price differences you assume between Kansas wind**
9 **and Missouri wind?**

10 A. The difference there, again, came -- again,
11 you -- didn't have time to run the hourly profiles and do
12 all of the things that would be pretty much on accurate.
13 I had to look at what the differences were by region on
14 the average.

15 **Q. So you did perform some -- some sort of**
16 **analysis?**

17 A. Yes, I looked at -- I looked at -- SPP
18 produces information in their -- the Market Monitor
19 produces reports that are public, and in those reports
20 there are maps that detail by color code what the LMPs
21 are by each of these -- by different colors, and then I
22 could, from there, pick the Missouri location versus the
23 Kansas location and found there was about a \$10
24 difference there.

25 **Q. You mentioned LMP. Can you define LMP for**

1 me?

2 A. Yeah, that's the wholesale prices. It --
3 it's the price that's charged in the wholesale market.
4 L stands for location. So the price is varied by various
5 locations, because of different congestion that occurs in
6 those places. And M stands for marginal. Some
7 economists got in there and stuck that in there. And P
8 stands for price.

9 Q. And so when you looked at those maps, did it
10 show a price difference between the Kansas wind
11 generation and the Missouri wind generation?

12 A. Yes, it did.

13 Q. And what was that price difference?

14 A. It was -- it was approximately \$10 a megawatt
15 hour.

16 Q. And which was more expensive?

17 A. The Missouri wind gets a higher price than
18 the -- than the Kansas wind.

19 Q. Dr. Proctor, in preparing for this case, did
20 you perform any alternative cost analysis related to
21 utility-scale solar generation?

22 A. Yes. I was -- I was very concerned as I --
23 as I looked at the data and looked at what Congress had
24 passed, about what was -- what was the most cost
25 effective thing to do, to build now or to build later.

1 So I put together an analysis that looked at building
2 in -- actually I did it for 2016, 2017, 2018, 2019, 2020
3 and 2021, and calculated the levelized costs for each of
4 those startup times, and then performed a comparison of
5 those to see which was the most economic, which was the
6 most cost-effective startup time.

7 **Q. Before I move on, can we look back at your**
8 **levelized cost comparison? Do you --**

9 A. Sure.

10 **Q. -- have it? Do you have any, I guess,**
11 **conclusions that you drew based on your analysis that you**
12 **performed for this exhibit?**

13 A. Yeah, my conclusion was that Kansas wind is
14 by far a more economic resource than the solar project
15 that's being proposed. When you're talking in the range
16 of \$50 a megawatt hour difference, that's -- that's huge.
17 That's higher than -- than the prices that people are
18 getting in the wholesale market today. So it's -- if you
19 look at it in terms of the cost, it almost doubles the
20 cost of the generation from wind. Almost doubles that
21 cost.

22 MR. OPITZ: Judge, may I -- may I approach
23 the witness again?

24 JUDGE WOODRUFF: You may. This will be 19.
25 Be 19HC.

1 (OPC Exhibit 19HC marked for identification.)

2 BY MR. OPITZ:

3 Q. Dr. Proctor, this exhibit is labeled 19HC.
4 So without discussing any of the highly-confidential
5 information, do you recognize this document?

6 A. Yes, I do.

7 Q. And what is this document?

8 A. This is a document that I prepared and used
9 in my analysis of when is the best time to -- most
10 cost-effective time to implement a solar project.

11 Q. Is this document a true and accurate copy of
12 what you provided to Counsel?

13 A. Yes, it is.

14 Q. And did you rely -- in part, did you rely on
15 this document and the information contained on it when
16 making your conclusions in this case?

17 A. Yes, I did.

18 MR. OPITZ: Judge, at this time I would move
19 for the admission of Exhibit 19HC.

20 JUDGE WOODRUFF: 19HC has been offered. Any
21 objections to its receipt? Hearing none, it will be
22 received.

23 (OPC Exhibit 19HC received into evidence.)

24 BY MR. OPITZ:

25 Q. Dr. Proctor, if I were to ask you, I guess,

1 to describe what this exhibit is, would we need to go
2 in-camera for that?

3 A. I don't think so.

4 Q. Dr. Proctor, can you tell me what this
5 exhibit shows?

6 A. Yeah, what this exhibit shows are scenarios
7 or futures that I evaluated in terms of trying to
8 determine the most cost-effective time to build solar.
9 The alternative cost futures for solar -- the Solar Cost
10 Projected to Fall diagram, the one that's on the top, the
11 low line represents being able to hit the target that was
12 set out in the SunShot Initiative. The top line
13 represents no change from the present -- without getting
14 into the number, no change from 2016. And for the mid
15 line, I just took halfway in between -- between those
16 two.

17 For the fixed O & M expenses, I have a low,
18 mid, and high case. The low case is based basically off
19 of the same numbers that I used previously. The mid case
20 is, I believe, a 25 percent increase to that number. And
21 the high case represents a 50 percent increase to that
22 number. And the reason that I put together these --
23 these alternatives is because I wanted to see how robust
24 a finding would be. Would it -- would it cover all of
25 these -- all of these scenarios, even a scenario where

1 costs aren't falling -- capacity costs aren't falling
2 between now and 2020.

3 **Q. Dr. Proctor, I believe you said you wanted to**
4 **evaluate how something a finding would be. What do you**
5 **mean by a finding?**

6 A. The finding I was describing initially as we
7 got into this was what is the best time to build a solar
8 facility.

9 **Q. Can you -- with -- do you need to go into**
10 **highly confidential to discuss the futures you used for**
11 **fixed O & M costs?**

12 A. I don't think so.

13 **Q. Okay.**

14 A. The -- as I said before, the low cost
15 represents the same starting point I used for the 2016 in
16 the previous levelized cost analysis. And I'm escalating
17 all these at 2 percent per year. So these represent
18 nominal, not real costs.

19 **Q. And can you tell me why you're escalating**
20 **these at 2 percent per year?**

21 A. Well, 2 percent annual inflation rate is kind
22 of what's common -- commonly being forecasted in today's
23 economic environment. It is a forecast.

24 **Q. Dr. Proctor, can you, I guess, ex-- can you**
25 **explain what your purpose was in evaluating the**

1 **alternative futures for fixed O & M costs here?**

2 A. I wanted to find out how sensitive the
3 results were to -- to these -- to differences in these
4 O & M costs. That, and I also wanted to find how
5 sensitive they were to the capacity cost. And I also
6 wanted to find out which one is the real driver; is it
7 the capacity cost or is it the fixed O & M costs.

8 **Q. And -- and the capacity cost is what's**
9 **reflected on the --**

10 A. Top.

11 **Q. Capacity cost is the top portion?**

12 A. Yes.

13 **Q. Having prepared this exhibit, what were**
14 **your -- did you draw any conclusions about it?**

15 A. Not specifically from the exhibit. The
16 exhibit was just the preliminary -- the thing I did on a
17 preliminary basis in order to perform this study of the
18 best timing.

19 **Q. So once you perform-- once you developed this**
20 **exhibit, what did you do with it?**

21 A. I think that's getting into one of the later
22 exhibits, but that's all right. I --

23 **Q. Okay.**

24 A. I calculated the levelized costs for actually
25 nine scenarios. There's, you know, three high, mid, low

1 for fixed O & M and high, mid, low for capacity costs.
2 So that ends up nine different combinations.

3 **Q. Dr. Proctor, in preparing those scenarios,**
4 **did you evaluate the timing for certain generation**
5 **projects?**

6 A. For solar projects, yeah.

7 **Q. And did you create any documents that explain**
8 **the timing method that you used?**

9 A. Yes, I did.

10 MR. OPITZ: Judge, may I approach?

11 JUDGE WOODRUFF: You may. And this will be
12 20. And this is not HC?

13 MR. OPITZ: This is not HC, Judge.

14 (OPC Exhibit 20 marked for identification.)

15 BY MR. OPITZ:

16 **Q. Dr. Proctor, do you recognize the document**
17 **that I've handed to you as Exhibit 20?**

18 A. Yes, I do.

19 **Q. And what is that document?**

20 A. It's a document that I prepared as an
21 explanation for two of the studies -- additional studies
22 that I did beyond just the least-cost study.

23 **Q. And is this document a true and accurate copy**
24 **of what you provided to Counsel?**

25 A. Yes, it is.

1 **Q. And did -- did you rely on this document and**
2 **the information contained on it in making -- in assisting**
3 **making your conclusions in this case?**

4 A. Yeah. Basically it's a description of -- of
5 the type of analysis that I performed.

6 MR. OPITZ: Judge, at this time I would move
7 for the admission of Exhibit 20.

8 JUDGE WOODRUFF: 20 has been offered. Any
9 objections to its receipt? Hearing none, it will be
10 received.

11 (OPC Exhibit 20 received into evidence.)

12 BY MR. OPITZ:

13 **Q. Dr. Proctor, looking at Exhibit 20, can you**
14 **explain what is shown here?**

15 A. Yes. In this particular instance the solar
16 project is not needed for energy, it's not needed for
17 capacity or what's sometimes called resource adequacy,
18 it's not needed to meet the renewable energy mandate
19 requirements. And so when you're in that kind of
20 situation -- because typically in any resource plan the
21 things that drive that plan are either the need for
22 energy or the need for capacity or could be the need for
23 RECs.

24 If none of those are the driving variable,
25 you have to determine whether the -- what are the

1 conditions that I should be building this project before
2 it's needed? Okay. In other words, where is the timing
3 the best for this thing? If none of these other things
4 are pushing it and driving it for need, where is the best
5 place for me to -- to build it? And the general answer,
6 of course, is you want it to result in -- in lowering
7 long-run costs to ratepayers. You want to compare the
8 long-run costs, not the short-run costs. That -- that
9 would certainly be unfair to a project that you build
10 early on, because it's going to have the biggest
11 short-term impact. But you need to compare it on a
12 long-term basis. So one way to do that is comparison of
13 the lifetime revenue requirements for alternative
14 timings. And that's one of the things that I've done
15 here.

16 **Q. And is that reflected in a different document**
17 **or is that reflected in this document?**

18 A. It's -- this document is describing what then
19 shows up in a --

20 **Q. In a later document?**

21 A. In a later document.

22 **Q. Okay. And can you tell me what, I guess, the**
23 **process was for comparing the lifetime revenue**
24 **requirements for alternative timings?**

25 A. Yeah. What I looked at was what were -- what

1 were the lifetime costs, levelized costs, for a solar
2 project built in 2016, 2017, 2018, 2019, 2020, and I even
3 added 2021 to that to -- and then once I had those
4 levelized costs, I wanted to compare, first of all, what
5 they were and then what impact they might have.

6 The second analysis -- the second bullet here
7 talks about cost benefit analysis, and this relates more
8 from the idea that I -- I received from the Company's
9 position statement and also from the Company's initial
10 filing that this -- one of the main reasons for this --
11 for this project might be to gain experience from the
12 project to provide benefits for future projects that
13 they're going to build.

14 Now, I -- I've sat here all day, and I've
15 listened to a lot of descriptive stuff. But, I'm sorry,
16 I'm a trained economist. I need to monetize those
17 things. I need to calculate the costs and the benefits
18 and compare them and see if they're in any way
19 comparable. And so that's -- that's what I'm setting out
20 to do here.

21 **Q. Would -- would comparing, I guess, the**
22 **lifetime levelized revenue requirements of alternative**
23 **timing for the same solar project be an appropriate**
24 **measure of the public interest?**

25 **A.** Yes. In terms of the timing of the project,

1 yes.

2 **Q. And -- and why would that be?**

3 A. I think it's kind of explained up above.
4 Because you want the lowest long-run cost going to
5 ratepayers. If you're -- you know, if you put in a
6 project too soon, ratepayers aren't going to benefit from
7 the lowest long-term costs. And -- and to me that
8 violate -- that violates a principle of public interest.

9 **Q. As it relates to your second sort of analysis**
10 **here, is doing a cost benefit analysis for a project that**
11 **would be implemented before it's needed and evaluating**
12 **the startup time to decrease costs of a similar future**
13 **project, is that an appropriate measure of the public**
14 **interest?**

15 A. I believe so. If -- if you're proposing that
16 you're doing something in order to produce future
17 benefits, I think you need to look at what those benefits
18 are in comparison to the costs that you're incurring in
19 order to generate those benefits. And if the -- if the
20 benefits don't exceed the cost, then it's not in the
21 public interest.

22 **Q. And did you perform, I guess, such a -- it**
23 **sounds like you performed such an evaluation in this**
24 **case?**

25 A. Yes, I did.

1 **Q. And for this case what did you find?**

2 A. Well, first to the comparison of lifetime
3 revenue requirements for alternative timings, I found
4 that 2020 was the -- the timing that produced the lowest
5 long-run cost to ratepayers. For the cost benefit
6 analysis, I found that the costs far exceeded the
7 benefits.

8 **Q. The cost of --**

9 A. Of implementing --

10 **Q. -- now?**

11 A. -- the project in 2016 in order to gain
12 experience to reduce costs for -- for future projects.

13 **Q. And as it relates to those calculations, did**
14 **you -- I guess, would it be necessary to subtract from**
15 **this cost of early implementation of the project any**
16 **revenues that might be received from the sale of energy**
17 **from that project?**

18 A. In both cases I think you'd need to do that,
19 yes.

20 **Q. And did you do that in your analysis in this**
21 **case?**

22 A. Yes, I did.

23 **Q. And do you show it in a -- in a different**
24 **document what -- the results of that analysis?**

25 A. Yes.

1 **Q. Okay.**

2 A. Actually what I show is what -- what the
3 price of the sale of energy would have to be in order to
4 reverse my findings. That was my actual calculation --

5 **Q. All right.**

6 A. -- for both of these. Rather than -- rather
7 than put in a sales price, I calculated what would have
8 to be the sales price of the energy in order to -- to
9 reverse my findings.

10 **Q. And by reverse your findings, you mean?**

11 A. Make 2016 the best time to start up the
12 project or make the 2016 project in order to -- to
13 regain -- gain reduced costs in a future project to be --
14 to be beneficial.

15 **Q. To be beneficial to the level that it would**
16 **be according -- in 2020, according to your calculations?**

17 A. Right.

18 **Q. And did you include -- in your calculations**
19 **did you include the value for Solar Renewable Energy**
20 **Credits?**

21 A. I just included a price. Now, that can be an
22 energy price from sales in the market or it could also
23 include a price that you would receive for the sale
24 that -- the Solar Renewable Energy Credits. We've heard
25 testimony today that in Missouri the market price for

1 those is in the 1 or \$2 range. So I think you will see
2 that that's -- that's so -- that's minor compared to the
3 revenues that they would get from the sale of energy.

4 **Q. So I guess by selling any energy created from**
5 **this plant, it's unlikely that the Company would be able**
6 **to make up that cost difference between 2016 and 2020?**

7 A. Yes, that's -- that's my conclusion.

8 **Q. And I believe you indicated that you created**
9 **a document that showed the results of your analysis for**
10 **these two methods; correct?**

11 A. Correct.

12 MR. OPITZ: Judge, may I approach?

13 JUDGE WOODRUFF: You may. This will be 21.

14 MR. OPITZ: It will be an HC exhibit, Judge.

15 JUDGE WOODRUFF: Okay.

16 (OPC Exhibit 21HC marked for identification.)

17 BY MR. OPITZ:

18 **Q. Dr. Proctor, without getting into any**
19 **highly-confidential information at --**

20 A. Sure.

21 **Q. -- this point, do you recognize this**
22 **document?**

23 A. Yes, I do.

24 **Q. And what is this document?**

25 A. It's a document that I prepared and sent to

1 you as showing the results of the levelized cost analysis
2 for comparison -- I'm just showing years 2016 and 2020.

3 **Q. And is this document a true and accurate copy**
4 **of what you provided to Counsel?**

5 A. Yes, it is.

6 **Q. And, Dr. Proctor, in part, did you rely on**
7 **this document and the information contained in it when**
8 **making your ultimate conclusions in this case?**

9 A. Yes, I did.

10 MR. OPITZ: Your Honor, at this time I'd move
11 to admit Exhibit 21HC.

12 JUDGE WOODRUFF: 21HC has been offered. Any
13 objections to its receipt? Hearing none, it will be
14 received.

15 (OPC Exhibit 21HC received into evidence.)

16 BY MR. OPITZ:

17 **Q. Dr. Proctor, 21HC is titled Savings From**
18 **Delaying Solar to 2020.**

19 A. Yes.

20 **Q. Can you explain to me what is shown in this**
21 **exhibit, without going into -- into highly confidential?**
22 **And if you need to, please let me --**

23 A. I don't think I need to. In the Levelized
24 Nominal Revenue Requirements Dollars Per Megawatt Hour
25 Per Year table, the numbers that are in there represent

1 what the levelized costs are under the nine scenarios for
2 2016 and 2020. Now, keep in mind these numbers were
3 levelized -- 2016 numbers were levelized over a 30-year
4 period starting in 2016; the 2020 numbers were levelized
5 over 30 years starting in the year 2020. They are not
6 comparable. They have different net present values
7 because of when they occurred.

8 If you -- if you look down on the
9 calculations for the multiplier illustrated in the -- in
10 the very first table, it's looking at mid capacity costs
11 and mid O & M costs. And what you will see is the
12 numbers for 2016 -- the levelized numbers for 2016 for
13 that scenario, mid-mid scenario, going for 30 years, the
14 first 30 years. The second column you will see them
15 starting in 2020 and going for 30 years. The next column
16 calculates the difference in those two. And you can --
17 you can see pretty obviously what the differences are,
18 because they stay pretty constant throughout.

19 And then the last column discounts those
20 differences over the 34-year period. And the bottom
21 shows you the net present value of those differences over
22 that 34-year period. And then the number that's
23 highlighted in yellow is the levelized value. In other
24 words, if you took that number and spread it over the
25 34 years, it would give you the same net present value as

1 is what's shown in the table. And that's the number
2 that's highlighted in the Levelized Nominal Revenue
3 Requirements table up above it in the mid-mid case. That
4 is -- that's how you get from the numbers in the first
5 table to the numbers in the second table.

6 **Q. Okay.**

7 A. The numbers in the first table are really not
8 comparable because they're over different time periods,
9 so you have to get those differences down to what they
10 look like on a levelized basis.

11 The second part of that second table,
12 Levelized Nominal Revenue Requirements, calculates for
13 the nine scenarios what it would take in sales, dollars
14 per megawatt hour, in order to make the 2016 start date
15 the same as -- to have the same value as the 2020 date.
16 Without getting into the specifics of those numbers,
17 those are very, very large numbers. You would have to --
18 I mean, we haven't seen numbers like that in the
19 wholesale markets in the Southwest Power Pool.

20 And so that leads me to conclude that -- that
21 on a very robust basis, whether I'm looking at low, mid,
22 or high cases, that the 2020 implementation is far more
23 economic than the 2016 implementation.

24 I'm going to add, and I don't have that in
25 this table, I ran it for 2021 as well. In 2021, you

1 might remember from my earlier testimony, the Investment
2 Tax Credit drops to 22 percent. It drops from 26 percent
3 in 2020 to 22 percent in 2021. That drop in the
4 Investment Tax Credit is large enough to make the 2021
5 implementation more expensive than the 2020
6 implementation.

7 So my conclusion is that there are
8 significant savings from delaying the implementation of
9 the solar project, any solar project to 2020.

10 **Q. So as it relates to 21HC, this top table here**
11 **labeled Levelized Nominal Revenue Requirements, that is**
12 **sort of your raw data for these nine scenarios?**

13 A. Right.

14 **Q. You've said that that raw data is not**
15 **necessarily comparable, so you go down to this bottom**
16 **table --**

17 A. Right.

18 **Q. -- Labeled Calculating Savings and Sales**
19 **Required to Make Ratepayers Whole, and you -- you sort of**
20 **used that raw data to translate those numbers into**
21 **something that can be compared --**

22 A. Yes.

23 **Q. -- is that correct?**

24 A. That's correct.

25 **Q. And then so your results from there are then**

1 **just brought up into this middle table called Levelized**
2 **Nominal Revenue Requirements?**

3 A. That's correct.

4 Q. And can you tell me again what the
5 **highlighted number in the capacity costs for that mid-mid**
6 **capacity costs, what that represents?**

7 A. Well, there's -- there's two parts to that
8 table. And the first part, the highlighted number that's
9 there, is the same number that's shown down at the bottom
10 of this table below. That represents the levelized --
11 excuse me -- the levelized, that's dollars per year per
12 megawatt hour, advantage that the 2020 implementation has
13 over the 2016 implementation.

14 Now, the other highlighted number that's in
15 the second part of that table, the one that's larger,
16 without getting into the specific number, you see that
17 in -- below, in the middle table, where this is revenues
18 that I'm getting from sales over the 30 years of the 2016
19 and, again, revenues from sales over the -- I'm sorry,
20 30 years -- 30 years from 2020, calculates the
21 difference. I discount the difference. I get the same
22 net present value as the other table, and the same
23 levelized difference as the other table. And what that's
24 telling me is, if I could sell energy in the market for
25 that high number right there, that would make -- that

1 would make up for -- in that table that would make up for
2 the loss that I've got in the other table, make up for
3 the difference that I've got in the other table.

4 **Q. So on the right you've got this highlighted**
5 **block that says Sales Price to Make Whole, which -- and**
6 **then -- and then the highlighted block in capacity costs**
7 **is much lower?**

8 A. Um-hum. Well --

9 **Q. So why are the sales prices so much higher**
10 **than the levelized -- difference in levelized costs?**

11 A. Well, I actually calculated a multiplier
12 in -- you know, the best way -- I don't know if the
13 far-right table explains why that's the case or not. I
14 think the middle table shows you why it's the case.
15 You -- but it has to do with the periods over which
16 you're discounting. Okay?

17 And if you look at the numbers at the bottom
18 of the far-right table, the first number, 14.65, okay,
19 that's the number you use to levelize. The second
20 number, 14.02, is -- is the discount -- the sum of the
21 discounted numbers times the revenues that you're getting
22 from sales from 2016. The third number, the 11.18, is
23 the discounted number that you're getting from sales from
24 the 2020. And what -- if you set up the algebra for
25 that, what you find out is that there's a multiplier that

1 will always translate this -- these numbers that are --
2 that are just simple differences in levelized costs into
3 what you need for sales in order to -- for them to come
4 out to be equal. This table just -- just gives an
5 example and shows that that's the case down here.

6 **Q. And that -- that's essentially showing your**
7 **work there; right?**

8 A. But to try to describe it as an algebraic
9 relationship I think is pretty difficult to do on the
10 stand.

11 **Q. So, Dr. Proctor, what -- I understand this**
12 **shows prices -- this exhibit shows that there are prices**
13 **needed to eliminate the difference in the levelized**
14 **costs?**

15 A. Yes.

16 **Q. And that's the difference between 2016 and**
17 **2020 --**

18 A. Right.

19 **Q. -- right? And so what are these prices that**
20 **are needed to eliminate that difference show?**

21 A. These prices are outside of any market
22 experience -- wholesale price experience that we've had
23 so far. And from -- from prices that I've looked at
24 for -- for Southwest Power Pool forecasts, they go out
25 20 years and so, these are higher than any -- any prices

1 that I've ever seen.

2 **Q. Dr. Proctor, what is your -- do you have any**
3 **ultimate conclusions that you've drawn, based on what**
4 **Exhibit 21HC shows?**

5 A. I think it shows that delaying solar
6 implementation to 2020 is -- under any reasonable
7 conditions, under any robust set of scenarios is what the
8 Company should be doing.

9 **Q. Now, Dr. Proctor, in preparing for this case,**
10 **did you perform any analysis related to the operations**
11 **and maintenance associated with this solar project?**

12 A. Yes, I did.

13 MR. OPITZ: Judge, may I approach?

14 JUDGE WOODRUFF: You may. And this will be
15 22.

16 MR. OPITZ: I think I have 21.

17 THE WITNESS: No, it's 22.

18 MR. OPITZ: 22?

19 JUDGE WOODRUFF: 21HC was the last one.

20 MR. OPITZ: Okay. Judge, this is HC.

21 (OPC Exhibit 22HC marked for identification.)

22 BY MR. OPITZ:

23 **Q. Dr. Proctor, without getting into any HC data**
24 **contained in here, what is this exhibit that I've handed**
25 **you?**

1 A. This is an exhibit that I prepared to show
2 both the assumptions and the results of an analysis I did
3 looking at the costs and the benefits from early
4 implementation of the project in order to -- to reduce
5 costs in future projects that -- that could be
6 implemented.

7 **Q. And you created this document; correct?**

8 A. That's correct.

9 **Q. And is this document a true and accurate copy**
10 **of what you provided to Counsel?**

11 A. Yes, it is.

12 **Q. Did you rely on this document and the**
13 **information contained in it when making your ultimate**
14 **conclusions in this case?**

15 A. Yes, I did.

16 MR. OPITZ: Judge, at this time I would move
17 to offer Exhibit 22HC into the record.

18 JUDGE WOODRUFF: 22HC has been offered. Any
19 objections to its receipt? Hearing none, it will be
20 received.

21 (OPC Exhibit 22HC received into evidence.)

22 BY MR. OPITZ:

23 **Q. Dr. Proctor, are you able to discuss this**
24 **table -- or this exhibit without going into HC, at least**
25 **initially?**

1 A. Initially.

2 Q. Okay.

3 A. We're going to get in trouble --

4 Q. If -- If --

5 A. -- pretty quick.

6 Q. -- you feel you need to get into HC --

7 A. Okay.

8 Q. -- please let me know ahead of time. What is
9 the title of 22HC?

10 A. Cost Benefit Analysis of O & M Experience
11 From Early Implementation.

12 Q. And why did you perform this -- or why did
13 you develop this exhibit?

14 A. Well, as I understood the Company's proposal
15 and the information that I had was -- one of the reasons
16 they wanted to implement this project was to gain
17 experience from this -- this project in 2016 and so that
18 that project -- that experience could be used for
19 additional projects that they -- solar projects that they
20 might build in the future.

21 Q. And so what is -- this has a block of text at
22 the top?

23 A. Yes.

24 Q. What is the purpose of including that block
25 of text?

1 A. It's -- it's a description of the way I
2 formed this analysis. What I did was I included the
3 levelized costs of the 2016 project with fixed O & M
4 costs at the high level for the first four years and at
5 low levels for the remaining life of the project. And
6 then I -- I looked at that and I asked myself what --
7 what is the cost that's -- that's occurring because of
8 this?

9 Now, I felt like I, again, needed to offset
10 those costs with revenues from potential sales. So the
11 idea is I implement the project in 2016. I've got -- you
12 know, it's costing me something, but what's the value of
13 that thing in the market. And so I have to subtract off
14 the value of that energy that's produced in the market in
15 order to determine really what the net costs are.

16 **Q. And --**

17 A. Yeah.

18 **Q. -- there are a couple numbers in that first**
19 **paragraph. Can you --**

20 A. Yeah, those aren't highly confidential.

21 **Q. Those aren't highly confidential?**

22 A. Yeah, the \$40 a megawatt hour and \$80 a
23 megawatt hour are not confidential. Those are two
24 numbers that I used to say, okay, if I'm getting \$40 a
25 megawatt hour, what are my costs; if I'm getting \$80 a

1 megawatt hour, what are my costs. And obviously my costs
2 will go down as I go from \$40 up to \$80.

3 **Q. And so I see there's a second heading there**
4 **called Benefits From Early Implementation.**

5 A. Right.

6 **Q. And what is the purpose of including that**
7 **text there?**

8 A. Well, I calculated the benefits from early
9 implementation to be the reduction in fixed O & M costs
10 for the first four years of a 2020 solar project; and I
11 evaluated it over different sizes, 3 megawatts,
12 30 megawatts, and 90-megawatt solar projects. Because
13 obviously the benefits that you're going to get in
14 reduced fixed O & M costs, since they vary with the size
15 of the project or the megawatts that you're implementing,
16 those benefits are going to be larger for the larger the
17 project is that you're -- that you put in in the future.

18 So the concept here was, by doing the 2016
19 project, I incur these costs, they're offset by some
20 revenues. Okay. That's the cost side of it. Over on
21 the benefit side of it, if I do this project early, then
22 I will -- I will avoid some costs in future projects.
23 And so that was my calculation of the benefits.

24 Now, it turns out that the -- since the focus
25 is on O & M costs and not capacity costs, I only needed

1 to report this -- the benefits do not change with low,
2 mid, or high capacity costs, I mean, because it's really
3 focused around the O & M, and I'm comparing high costs in
4 the first four years, low costs thereafter, versus low
5 costs over the whole 30-year period.

6 **Q. And so I've got a chart here that says**
7 **Assumptions.**

8 A. Um-hum.

9 **Q. Is that highly confidential? Do we need to**
10 **go in-camera when we're discussing that? I guess I have**
11 **a few questions.**

12 A. I think I can just describe it without
13 getting into the specific numbers. Those are just
14 numbers that actually came from results of the levelized
15 cost analysis for low, mid, and high capital costs,
16 property taxes. The only thing I'd point out is for the
17 fixed O & M, the mixed costs represent the high costs in
18 the first four years with -- followed by low costs in the
19 next 26 years. Okay? So they're mixed. They're not
20 high or low; they're a mix of the two. And I only --
21 excuse me. And so I need to point out what that word
22 mixed means in there.

23 **Q. And I see that you've got two columns**
24 **there --**

25 A. Um-hum.

1 **Q. -- one for 2016 and one for 2020?**

2 A. 2020, yes.

3 **Q. And you -- you used 2016 because that's, I**
4 **guess, the assumptions associated with building it now?**

5 A. Yes.

6 **Q. And why did you use 2020 as the -- the date**
7 **here?**

8 A. Because of the earlier -- the finding before,
9 2020 is the best date to build the project.

10 **Q. So on this assumption and for purposes of**
11 **this exhibit, relating to O & M, are you assuming that a**
12 **project is built in 2016 and another project is built in**
13 **2020?**

14 A. Yes.

15 **Q. Okay.**

16 A. And I'm assuming that -- well, to me
17 that's -- that's the side where, if I build it in 2016, I
18 get -- I'm able to glean information. And so my O & M
19 costs in 2020 are low.

20 The other option that's being evaluated here
21 is I don't build the project in 2016, I go into the
22 project in 2020, and the first four years I'm
23 experiencing high O & M costs because I haven't -- I
24 haven't gotten that previous experience. And I'm
25 comparing these two scenarios to get costs and benefits.

1 **Q. And I think you described -- you sort of**
2 **indicated that it was important that -- that the word**
3 **mixed is used there?**

4 A. Um-hum.

5 **Q. And I guess why is using the word mixed**
6 **important?**

7 A. Well, because it has four years of high
8 costs -- first four years of high cost, followed by 26
9 years of low costs. It's not a high-cost scenario. It's
10 not a low-cost scenario. It's a mix of those two
11 scenarios.

12 **Q. And you assume -- I guess why did you assume**
13 **four years of high-cost scenario?**

14 A. In the 2016 project I assumed a high cost for
15 those first four years because that's the period through
16 which the Company is learning. They're learning about --
17 they're gaining experience from this. In the 2020
18 project where I use this first four years, they come in
19 at 2020 with no experience, and so those first four years
20 are going to -- their costs are going to be higher.

21 **Q. So you've got another block there called**
22 **Results. And --**

23 A. Yes.

24 **Q. -- I would like you to talk about the numbers**
25 **here.**

1 A. Okay.

2 **Q. Are those highly-confidential numbers?**

3 A. Some of them.

4 MR. OPITZ: Judge, may we go in-camera for
5 these?

6 JUDGE WOODRUFF: You certainly may.

7 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)

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1 JUDGE WOODRUFF: And we're back in regular
2 session.

3 BY MR. OPITZ:

4 Q. Dr. Proctor, based on your cost benefit
5 analysis in Exhibit 22HC, what is your conclusion?

6 A. Well, my conclusion is that this analysis
7 shows that the potential reductions that they could get
8 in O & M costs for future projects comes nowhere near
9 what the cost is going to be of implementing this project
10 in 2016, even after I -- even after I subtract off the
11 value of the sales of the energy from that -- from the
12 2016 project.

13 Q. Dr. Proctor, based on all of these exhibits
14 you've compiled and you've looked at today, what is your
15 overall conclusion, based on your analysis in this case?

16 A. Well, my overall conclusion is -- is that
17 this project is not in the public interest. Building
18 this project in 2016 is not in the public interest. It
19 results in higher costs to the ratepayers --
20 significantly higher costs to the ratepayers, I would
21 say; that if this project -- if there's a need for this
22 project in the future, and particularly if -- if the cost
23 of solar drops and it becomes closer and closer to being
24 competitive with wind, then -- then maybe they should
25 build the project in 2020 and delay building it for that

1 period of time. The Investment Tax Credit is still at
2 twenty -- 26 percent in 2020. And these results show
3 under robust conditions, 2020 is a better choice. It
4 also shows that the costs of implementing this project
5 far exceed any benefits that the Company could expect to
6 get from reduced future O & M costs.

7 MR. OPITZ: Judge, I was trying to write down
8 as I went along. Have I offered Exhibit 18HC?

9 JUDGE WOODRUFF: I show it as being received,
10 yes.

11 MR. OPITZ: Have I offered 21HC?

12 JUDGE WOODRUFF: Yes.

13 MR. OPITZ: And have I offered 22HC?

14 JUDGE WOODRUFF: Yes. Those have all been
15 received. All of Dr. Proctor's exhibits, 15 through 22,
16 have been received.

17 MR. OPITZ: Thank you, Judge.

18 Dr. Proctor, that's all the questions I have.

19 And at this time I tender the witness for
20 cross-examination.

21 JUDGE WOODRUFF: Okay. You guys want to take
22 a break before we go on to cross-examination? Are you
23 going to have extensive cross?

24 MR. FISCHER: I think we ought to go ahead.

25 JUDGE WOODRUFF: Let's go ahead then.

1 MR. WESTEN: Staff has no questions.

2 MR. OPITZ: Do you need a break?

3 THE WITNESS: No, I'm fine.

4 JUDGE WOODRUFF: Then for Division of Energy?

5 CROSS-EXAMINATION BY MR. ANTAL:

6 Q. Good evening, Dr. Proctor.

7 A. Good evening.

8 Q. I've got a few questions. You talked at
9 length with Counsel for OPC about the results of your
10 cost benefit analysis. I wanted to talk a little bit
11 about the parameters --

12 A. Yes.

13 Q. -- or the factors that you considered. Did
14 you consider public health benefits in your analysis?

15 A. No.

16 Q. Okay. Have you conducted cost benefits
17 analysis in the past that considered public health
18 benefits?

19 A. No, I have not.

20 Q. Okay. Did your cost benefit analysis include
21 economic development benefits?

22 A. No.

23 Q. Have you done cost benefit analysis in the
24 past that included economic development benefits?

25 A. Not before this Commission.

1 **Q. Okay. You did not feel that it was a**
2 **relevant issue to address in this analysis?**

3 A. Correct.

4 **Q. Did your cost benefit analysis include**
5 **avoided environmental compliance costs?**

6 A. I'm prob-- I'm sitting here thinking what are
7 you specifically asking when you say avoided
8 environmental cost analysis? Are you talking about
9 reductions in -- in carbon dioxide or something along
10 that line?

11 **Q. Carbon dioxide might be one example.**

12 A. Okay.

13 **Q. SOx. NOx.**

14 A. Only to the extent that that would be
15 reflected in market prices.

16 **Q. Okay. So if the Commission wanted to**
17 **consider benefits such as public health or economic**
18 **development, they could not rely solely on your cost**
19 **benefit analysis?**

20 A. Since I didn't address those, they couldn't
21 rely on it as representative of those things.

22 **Q. Okay.**

23 A. So I'm agreeing with you, yes.

24 **Q. Thank you. I wanted to direct you to Exhibit**
25 **Number 16. It was the SunShot Initiative.**

1 A. Okay. Thank you.

2 Q. Do you have that?

3 A. Yes.

4 Q. That bottom paragraph, six lines down,
5 there's a sentence that reads, Further, experience
6 accumulated by solar manufacturers and developers,
7 utilities and regulatory bodies has shortened the time
8 and expense required to install a fully-operating solar
9 system.

10 A. Correct.

11 Q. Is it a fair characterization of this
12 sentence that the decline in solar costs is, in part, due
13 to early adopters and the experience that they have
14 gained?

15 A. Absolutely.

16 MR. ANTAL: Okay. Thank you very much.

17 That's all I had.

18 JUDGE WOODRUFF: For GMO?

19 CROSS-EXAMINATION BY MR. FISCHER:

20 Q. Welcome back, Dr. Proctor.

21 A. Yes.

22 Q. It's been a long, long day. But I still need
23 some help --

24 A. Okay.

25 Q. -- from you here.

1 A. Yeah.

2 Q. Hopefully it won't take too long. But --
3 well, let me ask you a couple of questions that are on
4 HC. But hopefully we won't have to go to numbers. I
5 asked you in your deposition whether you were expecting
6 the -- expecting the Clean Power Plan -- whether it was
7 going to create the need for renewables in general over
8 the next decade. Do you recall that?

9 A. Yes.

10 Q. And what was your answer?

11 A. That it would.

12 Q. It would? Okay. Okay. Now, I believe I
13 asked you are you qualified to render an expert opinion
14 about the potential solar facilities to comply with the
15 Clean Power Plan in the future, and you said you weren't
16 really qualified to do that; right?

17 A. I don't -- I'm sorry, I -- I don't recall
18 that --

19 Q. Okay.

20 A. -- discussion. If you can take me to the
21 deposition.

22 Q. Yeah, it's on page 31.

23 A. Okay.

24 Q. I'm sorry, no, it's page 29.

25 A. 29.

1 Q. And it's line 8. Are you with me?

2 A. I'm reading, yes.

3 Q. Okay. I think I asked you --

4 A. Yes.

5 Q. Let's just go over it. Are you qualified to
6 render an expert opinion about the potential solar
7 facilities to comply with the Clean Power Plan in the
8 future?

9 A. And my answer was no. Yeah.

10 Q. Okay. And the next question was: Would you
11 be in a position to give an expert opinion about whether
12 a 3-megawatt solar facility would provide the Company
13 with greater experience relating to production under
14 different weather conditions?

15 A. And the answer is no. Yeah.

16 Q. Okay. I was a little confused by a couple of
17 things. If I wanted to -- I understand your analysis is
18 trying to show that it is cheaper -- there would be
19 savings from delaying solar to 2020. That was your
20 ultimate conclusion; right?

21 A. Yes. Correct.

22 Q. Okay. If I was trying to determine what was
23 the value per year of that savings --

24 A. Um-hum.

25 Q. -- could I go to the bottom of your HC

1 **Exhibit 21 and multiply the number that's at the bottom**
2 **of the mid-mid calculation that's highlighted in yellow?**

3 A. Um-hum.

4 **Q. Is that a confidential number, do you know?**
5 **Would it be or --**

6 A. Well, I don't know that that number, per se,
7 is confidential. But it's based upon going way back to
8 confidential numbers.

9 MR. FISCHER: Okay. Judge, maybe we should
10 go in-camera, just to make sure.

11 JUDGE WOODRUFF: Let's go in-camera.

12 (BEGINNING OF IN-CAMERA SESSION - VOLUME 3.)

1 REDIRECT EXAMINATION BY MR. OPITZ:

2 Q. Dr. Proctor, Division of Energy Counsel asked
3 you about whether you included avoided environmental
4 compliance costs. Do you recall that?

5 A. Yes.

6 Q. Would those costs be included in the market
7 price normally?

8 A. Only to the extent that they get monetized
9 through some kind of mechanism. Now, clearly that's the
10 case for SOx and NOx and those types of things. There
11 are some others, perhaps like mercury, that don't --
12 aren't very well monetized today. The market -- the
13 market's going to reflect those because those -- those
14 are the costs that people are -- the suppliers are
15 incurring in order to supply the megawatts to the market.
16 So they're -- they're incurring -- actually incurring
17 those costs. So, for example, right now CO2 costs would
18 not be included because they're not paying anything for
19 CO2 emissions.

20 Q. So to the extent that utilities track avoided
21 environmental compliance costs, those are included in the
22 market price?

23 A. They would be, yes.

24 Q. And would the same be true for, to the extent
25 that utilities track public health benefits, the cost of

1 **public health benefits?**

2 A. If they did. If they were monetized. But
3 they're not.

4 **Q. Okay.**

5 A. Yeah.

6 **Q. And would the same be true if utilities put**
7 **economic development -- the value of economic development**
8 **benefits into -- into the market price of energy?**

9 A. Yes, they would. I might mention that --
10 that SPP has attempted to include economic development
11 benefits in their transmission expansion plan. And
12 it's -- let me first say it's very difficult to do that,
13 number one. And, number two -- I'm going to refer back
14 to Mr. Beck -- even if you do it, engineers don't trust
15 it. It's not a hard number. It's a soft number. So
16 even though they've attempted to do that, it's pretty
17 much been rejected by the stakeholders as -- as a
18 measurable benefit that you get from building
19 transmission.

20 **Q. And in your analysis you looked at market**
21 **prices or --**

22 A. Yes.

23 **Q. Okay.**

24 A. Right.

25 **Q. Counsel for GMO asked you to perform a**

1 **cal culation?**

2 A. Um-hum.

3 **Q. And I don't -- was that in HC, do you recall?**

4 MR. FISCHER: I think we did it in HC.

5 MR. OPITZ: Did it in HC?

6 THE WITNESS: Yeah.

7 MR. OPITZ: Judge, can we go in HC for a
8 moment?

9 JUDGE WOODRUFF: Does it need to be in HC?

10 MR. OPITZ: Yes.

11 MR. FISCHER: I think it does, because we
12 took the cost of the plant and divided it.

13 (BEGINNING OF IN-CAMERA - VOLUME 3.)

1 JUDGE WOODRUFF: All right. While we were
2 in-camera, redirect of Dr. Proctor concluded, and he's
3 been dismissed from the -- from the stand.

4 Does GMO have any rebuttal?

5 MR. FISCHER: Judge, could I take a
6 five-minute break and determine that?

7 JUDGE WOODRUFF: Let's make it a ten-minute
8 break and come back at 11:30.

9 (Off the record.)

10 JUDGE WOODRUFF: Okay. Let's come back to
11 order, please.

12 Mr. Fischer, do you have any rebuttal?

13 MR. STEINER: I have two witnesses, Your
14 Honor.

15 JUDGE WOODRUFF: All right.

16 MR. STEINER: Company calls Emeka Anyanwu.

17 JUDGE WOODRUFF: All right. Come on up. And
18 you are still under oath.

19 THE WITNESS: Yes, sir.

20 JUDGE WOODRUFF: So you may inquire when
21 you're ready.

22 EMEKA ANYANWU,
23 after having been previously duly sworn, was
24 examined and testified on his oath as follows:

25 REBUTTAL EXAMINATION BY MR. STEINER:

1 **Q. DO you agree the experience gained from**
2 **existing rebated rooftop solar is sufficient for GMO to**
3 **learn about integrating utility-scale solar?**

4 A. No, I do not, because I think that the
5 rooftop solar -- the rebated rooftop solar is different
6 than the proposed facility in terms of its size, its
7 location on the system, and its connectivity.

8 **Q. Would the effect of the Greenwood system be**
9 **different on system dynamics than that expected of the --**
10 **than that experienced by the rebated solar?**

11 A. Yes, again, because of the size, because of
12 the location -- the distributed location across the
13 system, and the way it's connected.

14 **Q. Do you agree that the experience gained from**
15 **the existing large industrial customers is sufficient for**
16 **GMO to learn about integrating utility-scale solar?**

17 A. No, I don't, because the nature of the two
18 entities on the system are different. One is a -- one is
19 a source or supply. The other is load.

20 **Q. Do you agree with the characterization of the**
21 **proposed Greenwood facility as a toy by Staff?**

22 A. No, I don't. I think that our distribution
23 system and our system in general has plenty of complex --
24 complex equipment on it that is more than sufficient to
25 engage our engineering personnel in plenty of

1 stimulating -- stimulating work. I think that we
2 determine what learnings we need based on our
3 understanding of what is anticipated to happen to our
4 system in our industry.

5 **Q. Is the Company expecting to gain more**
6 **experience from this project than merely O & M**
7 **experience?**

8 A. Yes, I would say so. I would say that there
9 are things that we can learn, again, about how to best
10 integrate a facility like the one proposed at Greenwood,
11 in terms of how to make that most efficiently and most
12 effectively work on our system, including, you know, sort
13 of how -- how we configure that and how we connect that.

14 **Q. So what are some of these other learnings**
15 **that have nothing to do with O & M experience at the**
16 **actual solar plant?**

17 A. Well, certainly one of the experiences that
18 comes immediately to mind kind of tracks back to a
19 question Mr. Opitz asked me earlier today about -- about
20 the use of voltage regulators on our system and other
21 pieces of equipment. And I think that in terms of how we
22 design our system, how we plan our system, the placement
23 of those kinds of facilities with relation to other
24 system dynamics can have an impact of several thousands
25 of dollars in terms of our ability to either place those

1 correctly and/or afford them all together.

2 MR. STEINER: That's all I have, Your Honor.

3 JUDGE WOODRUFF: Anyone wishing to cross
4 based on those additional questions?

5 All right.

6 MR. OPITZ: No, Judge.

7 JUDGE WOODRUFF: You may step down.

8 THE WITNESS: Yes, sir.

9 (Witness excused.)

10 JUDGE WOODRUFF: Next witness now?

11 MR. FISCHER: We would call Darin Ives to
12 the stand.

13 JUDGE WOODRUFF: And, Mr. Ives, you are also
14 still under oath.

15 THE WITNESS: Thank you.

16 DARRIN IVES,

17 after having been previously duly sworn, was
18 examined and testified on his oath as follows:

19 JUDGE WOODRUFF: You may inquire.

20 REBUTTAL EXAMINATION BY MR. FISCHER:

21 Q. Mr. Ives, just as a matter of kind of a
22 cleanup -- cleanup item, I'd like to show you DR number
23 12.

24 I only have one copy, Judge, and maybe I
25 could mark it and give it to the reporter.

1 JUDGE WOODRUFF: Okay.

2 MR. FISCHER: But it's related to the
3 governmental approvals that we submitted. I can get you
4 copies, if I need to get more, but...

5 JUDGE WOODRUFF: We'll call it 23.

6 (Company Exhibit 23 marked for
7 identification.)

8 BY MR. FISCHER:

9 Q. Mr. Ives, I'll show you what's been marked as
10 Exhibit 23. Can you tell the Judge what that is -- what
11 that exhibit is?

12 A. I can. This is -- this is DR question 12
13 from the Staff. And what it was asking about was each
14 permit or approval of the proposed facility and when we
15 anticipate receipt of the approval and provide copies of
16 the permits and approvals.

17 Q. And does that have copies attached, the
18 government approvals?

19 A. It does. I mentioned when I testified
20 earlier today -- still today -- that we had received a
21 letter from Jackson County that we had filed saying we
22 didn't need a permit. There were subsequent questions
23 about a permit or approval from the Department of Natural
24 Resources about the -- about a land disturbance permit.
25 In it DR -- response to DR 12, we provided the letter

1 from the Department of Natural Resources, indicating that
2 we had received sign off on the land disturbance.

3 So I guess the last thing that I would offer
4 is, in addition to having provided it in a DR response,
5 we would certainly be willing to file this in this
6 proceeding so that there's record in EFIS on it.

7 MR. FISCHER: I would move for the admission
8 of 23. Maybe we wouldn't have to file it in EFIS, if
9 it's in the record. It's up to whatever the Judge wants.

10 JUDGE WOODRUFF: 23 has been offered. Any
11 objections to its receipt?

12 MR. WESTEN: No objection.

13 MR. OPITZ: No objection to this exhibit.
14 I'm not sure I'm able to admit that it would mean they
15 don't have to submit it otherwise. But -- but I have no
16 objection to this exhibit.

17 JUDGE WOODRUFF: Right. Exhibit 23 is
18 received.

19 (Company Exhibit 23 received into evidence.)

20 JUDGE WOODRUFF: And now, Mr. Fischer, you
21 were talking about not being --

22 MR. FISCHER: I was just asking, Judge, if
23 you want that filed in EFIS for some reason, we can do
24 that. It will be part of the record in this case. It
25 will be automatically part of EFIS when she accepts the

1 exhibits and puts them in.

2 JUDGE WOODRUFF: Right.

3 MR. FISCHER: But if you want us to actually
4 file it, we can that. That's kind of what I had the
5 impression that Staff was asking. So I don't know.

6 JUDGE WOODRUFF: Is that what Staff was
7 asking?

8 MS. MUETH: Judge, I don't have the DR in
9 front of me. This is referring to the permits and
10 approvals that the Company sought for this project; is
11 that right?

12 THE WITNESS: Yes.

13 MS. MUETH: I'd have to confer with my
14 witness. But I think that, in addition to them being
15 filed in EFIS, there were potentially additional permits
16 that Staff hasn't yet seen in order to comply with the --

17 JUDGE WOODRUFF: Are you talking about
18 complying?

19 MS. MUETH: -- conditions that --

20 JUDGE WOODRUFF: Compliance with conditions.

21 MS. MUETH: -- that Staff was requesting. So
22 if -- I believe that's what Mr. Fischer was getting at
23 was this. And --

24 JUDGE WOODRUFF: If you can address that in
25 your brief, if there's --

1 MS. MUETH: Sure.

2 JUDGE WOODRUFF: And by that time maybe
3 you'll determine whether Staff has received everything
4 they think they need.

5 MS. MUETH: Right. Thank you, Judge.

6 JUDGE WOODRUFF: All right. Anything else?

7 MR. FISCHER: Yes, Judge, just briefly.

8 BY MR. FISCHER:

9 Q. Mr. Ives, have you had an opportunity to hear
10 the testimony tonight of Dr. Proctor and take a look at
11 the exhibits that the Public Counsel introduced?

12 A. I have.

13 Q. Do you have any comments that you'd like to
14 make regarding that -- that analysis or those exhibits?

15 A. I do. I guess I will start, you know, in
16 summary, it appears to me that Dr. Proctor is -- is
17 providing an exhibit summarizing analysis he conducted
18 demonstrating that, in his opinion, our decision to
19 construct utility-scale solar at this time is not least
20 cost.

21 That said, I stated earlier in my testimony,
22 and I'd state it again, that we are not pursuing solar at
23 this time as a least-cost generation resource. I
24 testified at length earlier and won't repeat it here
25 regarding our rationale for this CCN request as well as

1 witness -- or our other two witnesses also testified in
2 that regard.

3 I -- I would state that I believe that
4 Dr. Proctor's analysis, while I don't perceive to have
5 the depth of knowledge on it that he probably does, it
6 appears to me that this analysis, the way it was
7 conducted, would show that, for any developing technology
8 that is in a declining-cost mode, this analysis would
9 show that a utility should never adopt that new emerging
10 technology until it's mature, from a cost perspective.

11 You know, I guess in that regard, I'd say
12 it's easy for any party to isolate on a single issue in
13 least cost in evaluation of something like this facility.
14 I testified earlier, but in managing a system like ours,
15 there's a lot more, from the Company's perspective that
16 goes into system planning than current least cost.

17 System requirements have to be addressed over
18 a long planning horizon, balancing factors such as least
19 cost, but also reliability requirements, environmental
20 and renewable requirements, financing considerations,
21 among other factors. Precisely why we had discussion
22 earlier today, I think, that the IRP requirements in this
23 state there's an opportunity to assess and select a
24 preferred resource plan, even if it's not the least-cost
25 plan, so that you can address and allow for consideration

1 of those other system planning factors.

2 **Q. Did you also take a look at his analysis**
3 **regarding wind versus solar, and do you have any comments**
4 **about that?**

5 A. I did. I looked at that. And when we
6 received a copy of it after his deposition, I had the
7 opportunity to speak with our energy resource planning
8 team regarding it. I think, in summary, I would say that
9 the Company's never stated that wind is not a lower-cost
10 renewable resource today than solar.

11 What -- what we did state in testimony
12 earlier today is it's our contention and belief that the
13 two are not apples to apples for what we propose to do.
14 We're proposing a 3-megawatt facility on a 12, you know,
15 kilowatt distribution system from a solar perspective to
16 study and evaluate the impacts on the system and
17 learnings that we can gain from it and the intermittent
18 nature of that resource. It's very different than, as I
19 testified earlier, a wind facility that's located a long
20 ways from your retail load that's attached to a
21 transmission-level service.

22 **Q. Do you have any comments regarding the study**
23 **that the Public Counsel introduced regarding delaying the**
24 **project until 2020?**

25 A. I do. When I looked at that analysis, and I

1 did discuss it with our -- our energy resource planning
2 team as well, and I think you went through this a little
3 bit with Dr. Proctor; but, you know, at that mid-mid
4 case, I think it indicates, you know, a number per
5 megawatt hour per year for that savings. And I think
6 when that was calculated, it was -- it was somewhere
7 south of \$170,000 a year as the impact.

8 **Q. Is that --**

9 A. I know --

10 **Q. Is that material, from your perspective?**

11 A. It's -- it's not, for the same reasons that
12 Dr. Proctor -- you went through the calculation with him
13 on. And I would also, I guess, indicate, when I consider
14 Dr. Proctor's analysis of looking at O & M savings going
15 forward as being the only benefit evaluated and the only
16 way to adjust for or counterbalance the effect of that
17 benefit being sales of the facility from coming in in
18 2016, I think that's a very limited analysis that doesn't
19 address exactly the types of benefits that we've
20 articulated we plan to get out of this project, and it
21 doesn't address the benefits that Witness Anyanwu just
22 described in his rebuttal testimony.

23 **Q. Well, given what you've heard today, why does**
24 **the Company still continue to want to move forward with**
25 **the project?**

1 A. Consistent with my testimony from earlier
2 today, we believe solar is here to stay. We think it's
3 only going to become a bigger resource or component -- a
4 resource component in our portfolio going forward. We
5 are concerned that waiting until we're at price parity
6 and there's broader adoption of solar in our territory
7 puts us at risk of being able to assess timely and
8 address potential problems. It could create reliability
9 issues on our system. It could create impacts to our
10 customers. And we think the benefit of gaining that
11 learning now before we have broader-scale adoption is
12 important.

13 The last thing I'd say about that is we've
14 talked some today about the Clean Power Plan. And while
15 there are parties that testified today that -- that don't
16 believe we need to start now to figure out compliance
17 with the Clean Power Plan, I'm in total disagreement with
18 that. I think there is a strong likelihood, if you look
19 across the national landscape, that there will be
20 something addressing the carbon intensity of the --
21 carbon intensity of generation resources in this country,
22 and I think moving towards a more balanced portfolio is
23 important. Certainly 3 megawatts of solar does not move
24 the needle in and of itself on that; but if you don't
25 start, you can't ever get there.

1 **Q. There was also some testimony regarding**
2 **whether the Company should allocate the benefits of this**
3 **project to KCPL, and there was discussion about the**
4 **rooftop solar project that's coming up. Do you have any**
5 **comments regarding that?**

6 A. I do. I remember that discussion. There was
7 a comment made that -- I think something along the lines
8 was the Company appears to have figured out how to
9 allocate costs to both companies for rooftop solar; I'm
10 not sure why they couldn't do it for this. I think --
11 it's pretty apparent to me that if we're doing rooftop
12 solar, the cost for that is facilities will apply to the
13 jurisdictions that the rooftops are in. It's not some --
14 some allocation methodology of benefits and costs that
15 we've come up with. It flows with where the rooftops are
16 located. There's no -- no magic allocation that we -- we
17 came up with on that one, but we couldn't figure it out
18 for utility-scale.

19 **Q. The Staff also introduced the concept of a**
20 **third economic condition, which would, I believe, suggest**
21 **that the Company could put in rate base, perhaps up to**
22 **the least cost, and then there was a concept of doing**
23 **community solar beyond that. Do you recall that?**

24 A. I recall the -- the proposal for the third
25 economic condition, yes.

1 **Q. Is that realistic, or do you have any**
2 **comments about that?**

3 A. I don't think it's something that we're
4 prepared to do at this point. I've testified today that
5 we -- one of our strategies that our team began
6 evaluating back in mid 2014 included a community solar
7 component. I testified that our recommendation and our
8 approach was to start with utility-scale, move to
9 commercial and industrial rooftop, and get to community
10 solar.

11 There are a lot of things we have to
12 understand better about community solar structures and
13 how they will work and be perceived in our jurisdictions.
14 We may get there at some point, and it may even be shares
15 that we can sell off of this facility. To do it day one
16 when this -- if approved, when this facility goes in, is
17 probably unlikely. We're probably not prepared to do
18 that at this point.

19 MR. FISCHER: That's all I have, Judge. I
20 tender the witness.

21 JUDGE WOODRUFF: All right. Anyone wish to
22 cross?

23 MR. OPITZ: Briefly, Judge.

24 JUDGE WOODRUFF: All right. Public Counsel.
25 CROSS-EXAMINATION BY MR. OPITZ:

1 **Q. Mr. Ives, you have testified that O & M**
2 **savings is not the only benefit that should be evaluated;**
3 **correct?**

4 A. I did. I think it's a very small component
5 of the benefits.

6 **Q. And you said that there are other benefits**
7 **for implementing this project?**

8 A. I did. And Witness Anyanwu also testified to
9 those in rebuttal.

10 **Q. Okay. You didn't present any quantitative**
11 **analysis of those other benefits; correct?**

12 A. I did not. I believe that's what we'll learn
13 from this project.

14 MR. OPITZ: Thank you. That's all I have,
15 Judge.

16 JUDGE WOODRUFF: Any recross -- I'm sorry.
17 Staff.

18 MR. WESTEN: Yeah, Staff has one question --
19 or two questions.

20 CROSS-EXAMINATION BY MR. WESTEN:

21 **Q. Mr. Ives, you're trained as an accountant?**

22 A. That is -- that is what I have my degree in,
23 yes.

24 **Q. And you're not an economist; correct?**

25 A. I am not an economist.

1 MR. WESTEN: Thank you.

2 JUDGE WOODRUFF: Any redi rect?

3 MR. FISCHER: No. Thank you.

4 JUDGE WOODRUFF: Mr. Ives, you can step down.

5 THE WITNESS: Thank you.

6 (Wi tness excused.)

7 JUDGE WOODRUFF: And we have reached the end
8 of our j ourney, for toni ght anyway.

9 MR. FISCHER: Judge, on behal f of the
10 Company, I'd like to thank everybody for hangi ng wi th us
11 toni ght.

12 JUDGE WOODRUFF: We're not qui te done. We
13 still have the matter of briefs. In my previous order
14 the briefs were made due on Thursday, the 18th.

15 I had planned on asking the court reporter to
16 have the transcript done tomorrow. In view of the fact
17 that it's going to be a very long transcript, i f she can
18 get that done on Monday.

19 Anythi ng el se?

20 Wi th that, we are adj ourned.

21 (Off the record.)

22

23

24

25

CERTIFICATE OF REPORTER

I, Angie D. Threlkeld, a Certified Court Reporter,
CCR No. 1382, the officer before whom the foregoing
hearing was taken, do hereby certify that the foregoing
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was taken, and further, that I am not a relative or
employee of any attorney or counsel employed by the
parties thereto, nor financially or otherwise interested
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Angie D. Threlkeld

Angie D. Threlkeld, CCR



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