

**In The Matter Of:**  
*Senate Floor Debates*  
*In Re: Senate Bill 124, Act to Amend Title 26*

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*Transcript Of Audio Recording*  
*June 6, 2011*

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SENATE FLOOR DEBATES

June 6, 2011

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RE: Senate Bill Number 124, An Act to Amend  
Title 26 of the Delaware Code Relating  
to Delaware's Renewable Energy Portfolio  
Standards and Delaware Manufactured  
Fuel Cells

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Transcript from Audio Recording

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1 UNIDENTIFIED SPEAKER: Thank you,  
2 Mr. President. I respectfully request Senate Bill  
3 Number 124 be given its third and final reading and  
4 brought before the Senate for its consideration.

5 THE PRESIDENT: Madam Reading Clerk,  
6 for purposes of consideration by the Senate, could  
7 you please read Senate Bill Number 124 by title  
8 only?

9 MADAM READING CLERK: Senate Bill  
10 Number 124, sponsored by Senator DeLuca,  
11 Representative Gilligan, and others: An act to  
12 amend Title 26 of the Delaware Code relating to  
13 Delaware's Renewable Energy Portfolio Standard and  
14 Delaware Manufactured Fuel Cells.

15 Mr. President, that completes the  
16 reading of Senate Bill Number 124 by title only.

17 THE PRESIDENT: Senate Bill Number  
18 124 is before the Senate. Senator DeLuca.

19 SENATOR DELUCA: Thank you, Mr.  
20 President. Senate Bill 124 is an accumulation --  
21 it's actually enabling legislation, and it's the  
22 result of over a year's work with Bloom, the State  
23 of Delaware, and University of Delaware on behalf of  
24 the administration to bring together a partnership



1 in the State of Delaware.

2 The company has agreed to locate a  
3 manufacturing facility here in Delaware to produce a  
4 fuel cell product, provide 800 jobs, with the  
5 possibility of those numbers, with suppliers and  
6 other agencies moving in, to go to around 1,500  
7 jobs.

8 It's a unique opportunity that we  
9 have here in the state. We tried to give everyone  
10 some explanation of the process that was going to  
11 take place this week or earlier, by where we, you  
12 know, the House and Senate -- the Senate agreed that  
13 we would work this legislation over the next two  
14 weeks at the request of the governor.

15 I will just try and give you a short  
16 explanation of what is included in the bill. We  
17 have plenty of witnesses here to provide the answers  
18 to the technical questions that I'm sure we're going  
19 to get.

20 There is an amendment to the bill  
21 that makes a technical edit. I think we should take  
22 care of that first. It simply adds one word to  
23 numerous lines in the bill. So I would request that  
24 Senate Amendment Number 1 be brought before the



1 Senate for its examination.

2 THE PRESIDENT: Madam Reading Clerk,  
3 for purposes of consideration by the Senate, could  
4 you please read Senate Amendment Number 1?

5 MADAM READING CLERK: Senate  
6 Amendment Number 1 to Senate Bill 124, sponsored by  
7 Senator DeLuca.

8 Mr. President, that completes the  
9 reading of Senate Amendment Number 1 to Senate Bill  
10 Number 124 by title only.

11 THE PRESIDENT: Senate Amendment  
12 Number 1 is before the Senate. Senator DeLuca.

13 SENATOR DELUCA: Thank you, Mr.  
14 President. If you just take a look at the  
15 amendment, it may look like it has a lot of lines on  
16 it. But, basically, in numerous places throughout  
17 the bill it adds the word "project" after the word  
18 "provider." And it's simply a technical amendment.  
19 So, if there's no questions on that, I would ask for  
20 a roll call.

21 THE PRESIDENT: Secretary, please  
22 call the roll on Senate Amendment Number 1 to Senate  
23 Bill Number 124.

24 THE SECRETARY: Senator Blevins?



1 SENATOR BLEVINS: Yes.

2 THE SECRETARY: Senator Bonini?

3 SENATOR BONINI: Yes.

4 THE SECRETARY: Yes. Senator Booth?

5 SENATOR BOOTH: Yes.

6 THE SECRETARY: Yes. Senator

7 Bunting?

8 SENATOR BUNTING: Yes.

9 THE SECRETARY: Yes. Senator  
10 Bushweller, absent. Senator Cloutier, absent.

11 Senator Connor, absent. Senator DeLuca?

12 SENATOR DELUCA: Yes.

13 THE SECRETARY: Yes. Senator Ennis,  
14 absent. Senator Hall Long? Yes. Senator Henry?

15 Yes. Senator Katz, yes. Senator Lawson, yes.

16 Senator Marshall.

17 SENATOR MARSHALL: Yes.

18 THE SECRETARY: Yes. Senator  
19 McBride, absent. Senator McDowell, absent. Senator

20 Peterson, yes. Senator Simpson, yes. Senator

21 Sokola, yes. Senator Sorenson, yes. Senator

22 Venables, yes.

23 President, the roll call on Senate

24 Amendment Number 1 to Senate Bill Number 124, 15 yes



1 and a success.

2 THE PRESIDENT: Having received the  
3 required majority vote, Senate Amendment Number 1 is  
4 adopted by the Senate and is part of the bill.  
5 Senator DeLuca.

6 SENATOR DELUCA: Thank you,  
7 Mr. President. There are three main parts to Senate  
8 Bill 124. The first part adds the statutory  
9 definition of "qualified fuel cell provider" and  
10 "qualified fuel cell provider project," to the  
11 Regulable Portfolio Standards Law. And there are  
12 some points to make in conjunction with this:

13 Provider must have begun  
14 manufacturing operations in Delaware by the time the  
15 project comes online. The project must be certified  
16 as an economic developmentally opportunity by DNREC  
17 and DEO. The project is contingent upon tariff  
18 being filed and approved by the PSC according to  
19 Section 364 of the statute.

20 The second part of the bill is  
21 sections two to six of the legislation. It makes  
22 Delmarva Power and Light responsible for RPS  
23 obligations to all of its customers and creates a  
24 process to assure that any supplier of contracts in



1 place are grandfathered through the transition.

2 This part is necessary as to provide  
3 enough headroom for Delmarva to fulfill a portion of  
4 its REC requirements under the Renewable Portfolio  
5 Standards Act, which baseload-type energy generated  
6 and manufactured in Delaware. The bill creates a  
7 structure to ensure that the current suppliers will  
8 not be harmed and at the end use customers will not  
9 be harmed by the transition.

10 The final remaining sections of the  
11 bill create a regulatory framework by which the  
12 Delaware Public Service Commission will review a  
13 tariff to be filed by Delmarva Power deploying  
14 Delaware-manufactured fuel cells as part of a  
15 30-megawatt project.

16 The framework requires that there are  
17 three -- there are minimum provisions that must be  
18 in the tariff. As an example, the 30-megawatt  
19 project must be a Delaware-manufactured fuel cell.  
20 It must provide some room for additional  
21 20 megawatts of customer-sited installations.  
22 Anything above the original 30 megawatts will have  
23 to be -- require future Commission review and  
24 approval.



1                   The term of this is for 20 years.  
2                   The levelized cost impact to customers cannot exceed  
3                   the highest cost energy source already approved by  
4                   the Commission and Delmarva's portfolio as of  
5                   January 1, 2011.

6                   In addition, the legislation requires  
7                   that the PSC access the incremental costs to  
8                   Delmarva's customers in relation to at least some of  
9                   the following factors: Whether the qualified fuel  
10                  cell provider project utilizes innovation baseload  
11                  technology; whether the qualified fuel cell provider  
12                  project offers environmental benefits to the state  
13                  relative to the conventional baseload generation  
14                  technology; whether the qualified fuel cell provider  
15                  project promotes economic development in the state;  
16                  and whether the tariff, as filed, promotes price  
17                  stability over the term of the project.

18                  That's a simple version of what the  
19                  bill does. We have a number of people here. If  
20                  there are questions, I would be glad -- happy to  
21                  call a witness.

22                  THE PRESIDENT: I have a list  
23                  starting with Senator Bunting.

24                  SENATOR BUNTING: Thank you, Mr.



1 President. On the bill, my concern is not about the  
2 invention of what Bloom has done with fuel cells at  
3 all. I think we all agree that it's a wonderful  
4 invention.

5 My issue -- and it was an issue with  
6 deregulation -- we are now shifting the cost to the  
7 residential consumers through a tax. Whether you  
8 call it a tariff or not, it's still a tax. That's  
9 my -- the methodology of funding of this is what my  
10 concern is.

11 The residential users in this state  
12 right now took the blunt of deregulation when  
13 commercial user -- it was shifted from the  
14 commercial to the residential user. We are adding  
15 on another cost to the consumer, and which have very  
16 little say, actually, in many cases in the  
17 communities that we represent.

18 Most of the friends that we all know  
19 that have larger facilities buy their power out of  
20 state through commercial vendors through the  
21 deregulation process. The residential vendor in  
22 this state, the residential consumer, has very  
23 little options open to them to buy power. And this  
24 is another cost added onto already the bills that



1 they are receiving. Thank you.

2 THE PRESIDENT: Senator Marshall.

3 SENATOR MARSHALL: President, thank  
4 you. The idea of Bloom locating in Delaware and  
5 building and developing its manufacturing facility  
6 for a high-technology product is certainly, you  
7 know, welcome, and hopefully it will meet the  
8 economic development objectives that we have heard  
9 about.

10 But I think we need a witness, if we  
11 had one, Senator, who could take the plain-talk  
12 approach and explain some of the complex issues  
13 involved here.

14 And then also I hope that we have  
15 someone here from the Delaware Economic Development  
16 Office, because I have questions regarding lines 185  
17 and 186 and the fact that our state taxpayers are  
18 investing a substantial amount of money here.

19 And now we're talking about, in the  
20 bill, about a termination payment in the event the  
21 company would fail. So I think, on behalf of the  
22 taxpayer, we need to know more about the language in  
23 the bill.

24 THE PRESIDENT: Senator DeLuca?



1                   SENATOR DELUCA: Thank you, Mr.  
2 President. Senator, we will address them one at a  
3 time. I would say first we would ask Geoff Sawyer  
4 to come forward as a witness and answer the  
5 technical questions about the intricacies of the  
6 bill and how it functions. And after that, if we  
7 need another witness to address the questions, we  
8 will get them.

9                   THE PRESIDENT: Can you identify  
10 yourself, sir?

11                   MR. SAWYER: Hi. My name is Geoff  
12 Sawyer. I'm the Deputy Chief of Staff for Governor  
13 Markell.

14                   THE PRESIDENT: Senator Marshall.

15                   MR. SAWYER: I actually can address  
16 the termination payment question. The termination  
17 payment is actually a payment that's going to be due  
18 from Bloom to the State of Delaware if they stop  
19 manufacturing while this EPA is still in existence.

20                   So, in many ways, it's protecting the  
21 ratepayers if Bloom decides to make a business  
22 decision to move elsewhere and, you know, get rid of  
23 the manufacturing facility here and the jobs go  
24 away. So that's the termination payment.



1           It's not something that taxpayers are  
2 going to be -- you know, it's not a burden on  
3 taxpayers; it's actually a benefit.

4           THE PRESIDENT: Were there specific  
5 questions about the bill for Mr. Sawyer?

6           UNIDENTIFIED SPEAKER: Mr. President.  
7 If the company ceases to operate in Delaware, the  
8 State has invested substantial millions of dollars  
9 from the strategic fund --

10          MR. SAWYER: Yep.

11          UNIDENTIFIED SPEAKER: -- other  
12 initiatives within our economic development, tax  
13 credits, and go on and on and on.

14                 What will the conditions be of an  
15 agreement between the State of Delaware and the  
16 company? I mean, this looks to be new language that  
17 I have never -- I don't think we have ever had  
18 contained within legislation here.

19          MR. SAWYER: Okay. The economic  
20 development deal will have, just like all of our  
21 economic development deals, there will be an  
22 agreement between DEDO and the economic development  
23 partner. In this case it would be Bloom.

24                 And in there, there will be



1 callbacks, such that if they don't meet their  
2 employment metrics -- and at this point the metric  
3 is 900 with an additional 600 -- if they don't meet  
4 those metrics over time, then they have to repay the  
5 economic development money back to DEDO.

6 In addition to that, we have  
7 structured into this deal, into the legislation, a  
8 termination payment such that if they stop  
9 manufacturing for any reason in Delaware, they would  
10 owe the State of Delaware -- we have a scale. We  
11 have a scale. It hasn't been finalized, but it  
12 starts at \$25 million in year one.

13 So if, for example, this tariff gets  
14 approved by the Commission and then they decide to  
15 shut the manufacturing facility in Delaware or never  
16 build it, then they will owe the State of Delaware  
17 \$25 million as well as the amount of money that DEDO  
18 has given them. They will have to pay that back,  
19 as well.

20 So there are sort of two callbacks  
21 here. First is in the DEDO agreement, itself, and  
22 the second is in the legislation, which has to do  
23 with more specifically a tariff and what happens  
24 during the term of that tariff if the manufacturing



1 jobs go away. Because we wanted to, obviously,  
2 protect our interests and our return on investment,  
3 so to speak. And we also wanted to protect the  
4 ratepayers' return on investment, as well.

5 UNIDENTIFIED SPEAKER: Mr. President.  
6 Will you explain the tariff and how that works? I  
7 mean, if a residential customer or constituent of  
8 mine asks the question what are we doing and why,  
9 you know, just a very plain you're at a community  
10 meeting.

11 Why is it safe investing the money,  
12 and what does it mean? Because within the bill, as  
13 Senator Bunting identified, there is a small  
14 increase to the ratepayer, to the consumer.

15 MR. SAWYER: I will do my best to  
16 explain the tariff. I can tell you the reason why  
17 we are in a tariff structure versus probably a  
18 structure you are more apt to understand, which is  
19 like a power purchase agreement or a tolling  
20 agreement.

21 Let me explain the reason why we are  
22 at a tariff structure. And that is in the  
23 negotiations between Delmarva and Bloom in which we  
24 were a part of, Delmarva raised concerns that under



1 today's accounting rules, EPAs are considered to be  
2 imputed debt. And when they are imputed debt,  
3 that's going to add more costs to the ratepayer.

4 And so that structure was layering on  
5 another layer of costs that we didn't want to do.  
6 So, essentially, we said let's get back together and  
7 see if we can do this another way with the same  
8 overall goal of having, you know, power being  
9 generated from a Bloom box and being consumed by  
10 Delaware customers. Is there another way we can get  
11 rid of that accounting issue so we can lower the  
12 costs and the cost impacts to ratepayers?

13 And that's when we came up with this  
14 tariff structure. And, as I understand it -- and  
15 there is someone from Delmarva here that probably  
16 will have a little more expertise if you want that.

17 But, as I understand it, the tariff  
18 structure is one in which you are basically  
19 submitting to the PSC a piece of paper that says  
20 Delaware-manufactured fuel cells will generate this  
21 amount of electricity, and we are going to charge a  
22 certain amount of rate for that electricity, a  
23 certain amount of rate for the different attributes  
24 of that electricity, such as RECS and other things.



1 And then that's going to go -- and customers are  
2 going to have to pay that back.

3 And so that may be too simplistic.

4 And, you know, Todd Goodman from Delmarva is here if  
5 you wanted to get into it more. But it really was  
6 solving a problem that we identified early on in the  
7 negotiations, which was the PTA structure just added  
8 a layer of costs we wanted to get rid of, and so  
9 that's why we switched to a tariff structure. But,  
10 in effect, it's essentially the same thing.

11 UNIDENTIFIED SPEAKER: Do you want to  
12 --

13 MR. SAWYER: Go ahead.

14 UNIDENTIFIED SPEAKER: One other  
15 question: On behalf of the consumer, at what point  
16 will the assessment begin being collected? When  
17 will it show up on a residential bill?

18 MR. SAWYER: It will be -- I believe  
19 the first one will be the month before -- I think  
20 it's the month before the facility goes live or the  
21 month after.

22 I'm looking over to my -- the crew  
23 over here. But it will be in 2012, and it will be  
24 probably, I want to say, the third or fourth quarter



1 of 2012 when you actually had installed fuel cells  
2 in Delaware. And then they will see a  
3 non-bypassable surcharge on their bill which will  
4 reflect this energy being used.

5 UNIDENTIFIED SPEAKER: Thank you.

6 THE PRESIDENT: Senator Bonini for  
7 the witness?

8 SENATOR BONINI: Yes, please. How  
9 much are we giving to get this done? I just have  
10 one question. What is the total cost of the package  
11 we are putting together to have these guys down  
12 here, to decide that they want to come here, I mean?

13 MR. SAWYER: Okay. The economic  
14 development package is -- I think it's \$11.25  
15 million, and that's for 900 jobs, as well as  
16 3 percent of their cap ex up to \$50 million --

17 SENATOR BONINI: I'm sorry. Say that  
18 again.

19 MR. SAWYER: Three percent of their  
20 capital expenditures up to \$50 million.

21 SENATOR BONINI: Okay.

22 MR. SAWYER: So if they spent  
23 50 million, then it will be 3 percent of 50 million,  
24 whatever that number is.



1 SENATOR BONINI: Okay.

2 MR. SAWYER: Um, if they bring the  
3 additional 600 jobs, it's essentially another, I  
4 think, 3.75 million. It's based on a 6,250 per job  
5 is what we said, \$6,250 per indirect job.

6 SENATOR BONINI: Okay. And that's  
7 direct subsidy?

8 MR. SAWYER: Direct subsidy.

9 SENATOR BONINI: Okay. So the 6,250  
10 is direct subsidy. Thank you for that number.

11 And how much are we charging  
12 individual ratepayers in premium? How much more are  
13 they going to pay? Actually, let me back up a  
14 little bit.

15 This tax -- and somebody explained  
16 that a tariff tax, there isn't any; somebody is  
17 paying it under compulsion from the government. Is  
18 this for all Delmarva Power ratepayers, or just  
19 those ones receiving this renewable resource?

20 MR. SAWYER: It's for all of  
21 Delmarva's customers, yes.

22 SENATOR BONINI: Okay. And how much  
23 is the estimate that that's going to be per  
24 ratepayer?



1 MR. SAWYER: Right now we have done  
2 modeling to -- we have done modeling, and Delmarva's  
3 consultant has done modeling --

4 SENATOR BONINI: That's fine. I mean  
5 just --

6 (Two speakers talking at once and making  
7 it indecipherable.)

8 MR. SAWYER: -- and stated to be  
9 about a dollar per megawatt hour. And let me  
10 explain what a megawatt hour is.

11 A megawatt hour is essentially what a  
12 residential consumer uses in a month, so it's about  
13 a dollar a month levelizing the impacts over the  
14 term of it.

15 SENATOR BONINI: Okay.

16 MR. SAWYER: And what was the other  
17 component of your question?

18 SENATOR BONINI: Well, this is the  
19 first point. This is going to every single person  
20 who gets power from Delmarva.

21 MR. SAWYER: Okay. Let me just  
22 finish.

23 SENATOR BONINI: Sure.

24 MR. SAWYER: At the end of the day,



1 we're are not asking you to approve a rate impact.  
2 What we are asking you to do is approve a structure  
3 by which we'll go to the PSC, and we will say to the  
4 PSC -- you know, the PSC is going to run their own  
5 log, and they're going to have their own conclusions  
6 in terms of rate impact. And they are going to --  
7 they're going to -- at the end of the day we're  
8 going to have an argument in the single legislation  
9 that Senator DeLuca mentioned, is that whatever that  
10 cost increase is, whether it's 50 cents or whether  
11 it's a dollar, does that, when you factor in the  
12 economic development but also factor in the fact  
13 that we have innovative baseload technology here in  
14 the state that's helping us satisfy RPS, you look at  
15 there is an environmental benefit to this technology  
16 versus for traditional generation.

17 So you factor all those in. And the  
18 PSC is ultimately going to have to weigh whether or  
19 not that added cost equals the benefits that we  
20 think are there, the tangential benefits.

21 SENATOR BONINI: Okay. But we are  
22 also -- but we make that initial decision for them,  
23 because -- I mean this isn't simply a case of --  
24 and, by the way, thank you for those figures. Hey,



1 everybody would say okay, we can reclaim \$6,250 over  
2 a certain period of time, these are going to be  
3 high-paying jobs, this is a good company. Okay.

4 But the unknown here is -- and if I  
5 go back to George's comments, is we're talking about  
6 the tax, and not a trivial tax, on every single  
7 ratepayer.

8 And my, you know, and you're right.  
9 The equation is, when you put all this together, you  
10 know, and you divide it by job -- I know that's sort  
11 of a blunt instrument -- but you divide it by job,  
12 you come up with a pretty big number.

13 And I guess, you know, I understand  
14 your point is that the Governor's Office is saying,  
15 "Yeah, this is well worth it; it's a good deal."  
16 But I would be more comfortable if I kind of knew  
17 what that number was.

18 And then this question may not be for  
19 you, because it may be for Colin or the gentleman  
20 from Bloom. This is natural gas, which is not a  
21 renewable energy. You burn it. You never get it  
22 back.

23 How does pumping natural gas to  
24 create electricity qualify as renewable energy? And



1 I don't mean it to be a leading question. I just  
2 don't understand it.

3 MR. SAWYER: Sure. I mean, first of  
4 all, the Bloom Technology -- and I will invite  
5 Colin, because he will probably do a better job.

6 SENATOR BONINI: Okay. I can hold  
7 that question till later.

8 MR. SAWYER: Okay.

9 SENATOR BONINI: I'll hold that  
10 question until later. Okay. Thanks.

11 THE PRESIDENT: Senator Lawson for  
12 the witness.

13 SENATOR LAWSON: Thank you. How are  
14 you doing, Joe?

15 MR. SAWYER: Hey.

16 SENATOR LAWSON: Just a quick  
17 question. You explained to us that if Bloom Energy  
18 terminates the contract or fails to produce, there  
19 is a benefit or we get our money back, so to speak,  
20 or a penalty.

21 What happens if it's the other way  
22 around, new technology comes in and Delaware doesn't  
23 want to be involved in this anymore? How does that  
24 play out?



1 MR. SAWYER: I'm not sure I  
2 understand. So a new technology comes in that we  
3 think is better than Bloom?

4 SENATOR LAWSON: Yeah, or we want to  
5 change our mind for whatever, we want to stay with  
6 conventional. What happens there?

7 MR. SAWYER: You would have to be, I  
8 think -- I mean -- I'm not sure how to answer that,  
9 but to say if a new technology came in, then we  
10 would have to, you know, think about the same issues  
11 we thought about with Bloom, which is how do we fit  
12 them in, how do we provide the benefit to the  
13 ratepayer and to the taxpayer and to everybody and  
14 sort of maximize and optimize everybody's interests  
15 and figure out, you know, what works with that new  
16 technology. It doesn't make sense to try and  
17 structure some other sort of --

18 SENATOR LAWSON: But doesn't this  
19 legislation speak to that? Doesn't it keep us on  
20 the hook for the 20 years?

21 MR. SAWYER: Oh, yeah. Absolutely.  
22 I mean, there is not a right for us to terminate if  
23 there is a better type of technology. Is that what  
24 you are saying?



1 SENATOR LAWSON: Yeah.

2 MR. SAWYER: Yes. There is no right  
3 for us to terminate.

4 SENATOR LAWSON: So the ratepayers  
5 continue to pay that for 20 years whether they are  
6 producing or not?

7 MR. SAWYER: Yes, they would.

8 SENATOR LAWSON: Wow!

9 MR. SAWYER: Well, I mean, the way  
10 that we see it is that, number one, the way the deal  
11 is structured, it starts at a price that stays  
12 constant and drops in the back end.

13 So, in essence, we think it becomes  
14 cost neutral to ratepayers at year ten. That's  
15 ultimately a decision for the Commission. But, in  
16 essence, you know, we think, at worst, this is a  
17 ten-year bet that the technology is the best thing  
18 out there.

19 SENATOR LAWSON: Okay. Thank you  
20 very much. I appreciate that.

21 THE PRESIDENT: Senator DeLuca for  
22 the witness?

23 SENATOR DELUCA: Not for the witness,  
24 just comments to the questions, if I can, while the



1 witness is -- are there any other questions for the  
2 witness?

3 THE PRESIDENT: I've got a list, so  
4 --

5 SENATOR DELUCA: Okay. Well, I'll  
6 move the witness be excused at this point unless  
7 there is questions.

8 THE PRESIDENT: I think I've got  
9 questions for the witness from other senators.

10 SENATOR DELUCA: Would you rather do  
11 that than -- I just wanted to answer their questions  
12 a little bit. A, Senators, we are not approving a  
13 tariff. That's up to the Commission as to what that  
14 would be.

15 When we went through this process for  
16 solar and we went through this process for wind,  
17 wind being the most notable that was here on the  
18 floor, and it went through -- I could be wrong, and  
19 probably Harris can stand and correct me, but I  
20 think if you look at the compatible costs for wind  
21 to a ratepayer, it's about \$5 a month versus a  
22 dollar.

23 As far as new technologies coming on  
24 board, we address them as they get here. This is a



1 ground-breaking bottom step of this ladder as to  
2 where these technologies can go.

3           As far as it not being a renewable  
4 energy source, these things can work on swamp gas if  
5 you want to pay the cost of getting swamp gas. All  
6 right? We don't have a lot of it. And, well, we  
7 can (laughter) maybe -- we're not allowed to recycle  
8 methane, I don't think, so I'm not sure we can use  
9 it.

10           But the bottom line is these things  
11 will run on basically anything. The natural gas  
12 being part of the distribution system is probably  
13 the cheapest way for this to go, and you get more  
14 bang for your buck out of it.

15           If I can convince these guys ten  
16 years down the road that they should be building  
17 these things in a packet of red size and put them on  
18 the average house, they can run off of solar; they  
19 can run off of natural gas in the house; you can  
20 probably figure out a way to run them off your lawn  
21 clippings if you want to be able to do that.

22           So the technology is there. If  
23 somebody invents a better product ten years from  
24 now -- I don't think the state has ever walked away



1 from a contract or an obligation we had with people.  
2 We look at it. We modify it. We go forward.

3 And I'm sure Delmarva would be right  
4 in line with the fact of changing our contracts  
5 around to use more and more of this type of product  
6 as it becomes cost effective.

7 THE PRESIDENT: Senator Booth, did  
8 you have a question for the witness?

9 SENATOR BOOTH: Yes. Thank you. I  
10 don't think I got an answer, we got an answer to the  
11 question. What is the difference between the tariff  
12 and a tax?

13 MR. SAWYER: Um, the tariff is  
14 actually a -- it's a -- maybe I should -- can we get  
15 Todd up here? It's a Public Service Commission type  
16 of filing.

17 SENATOR DELUCA: Let me try that  
18 before we bring another witness up: Senator, in all  
19 honesty, we would level a tax starting in the House  
20 of Representatives.

21 This is enabling legislation that  
22 allows the Public Service Commission to hear this  
23 case, to look at the rates, and see if they can  
24 logistically establish a tariff on ratepayers that



1 would compensate for the type of product that we are  
2 trying to produce.

3 We are not passing a tariff. We are  
4 passing enabling legislation that lets the Public  
5 Service Commission make a decision.

6 SENATOR BOOTH: All right.

7 MR. SAWYER: And I did a little bit  
8 of rate work when I was in private practice. And I  
9 can tell you in the water field, there is a lot of  
10 tariffs that get filed with each, you know, sort  
11 of -- it just sets the rate structure by which you  
12 are going to charge certain customers.

13 And so it's sort of a title of a  
14 document that sets a rate structure, is my best way  
15 of explaining it. And I'm sure Todd can, if you  
16 want.

17 SENATOR BOOTH: All right. Um, I may  
18 get a chance -- opportunity to ask that question to  
19 another witness.

20 DP&L currently has the ability to go  
21 before the Public Service Commission with any type  
22 of idea pertaining to renewable or combustible or  
23 whatever type of project; is that correct?

24 MR. SAWYER: Yes.



1                   SENATOR BOOTH: So this wouldn't  
2 necessarily grant new authority to DP&L to approach  
3 Public Service Commission about rate increases.

4                   MR. SAWYER: It would not. It would  
5 not. The difference here is that, because we want  
6 to run it on natural gas and because of the  
7 structure that we are concerned about in terms of  
8 the imputed debt, so it can't be just a straight  
9 purse agreement; it's got to be the structure that  
10 we have structured to lower the impact on  
11 ratepayers -- we need the enabling legislation to,  
12 number one, allow the Delaware-manufactured fuel  
13 cells to count towards Delmarva's RPS obligations.  
14 Because that, number one, provides dolly back to the  
15 ratepayer and, number two, is an important piece of  
16 this deal.

17                   The second thing is we need to create  
18 a regulatory structure by which -- we didn't want to  
19 just say this is a normal, straight-of-the-mill  
20 regulatory filing. Because we wanted to define what  
21 a Delaware-manufactured fuel cell is. We wanted to  
22 define what it meant when they stopped manufacturing  
23 here, even though this EPA is in place, i.e. the  
24 termination payment. You know, we wanted to set the



1 parameters here that protected the ratepayer. So  
2 that's why we need enabling legislation.

3 SENATOR BOOTH: But Delmarva  
4 currently has the ability to go in front of the  
5 Commission, the Public Service Commission, to ask  
6 for a rate increase for whatever idea that it comes  
7 up to, whether it's a renewable energy process or  
8 not a renewable energy process.

9 But what this legislation does -- and  
10 I understand that, and I'm not going to go back  
11 through the explanation. But why -- why wouldn't --  
12 why, when this proposal came forward to us -- and  
13 I'm not in the energy field, if you haven't figured  
14 that out by now -- but why, when this proposal came  
15 to us -- it was last Thursday, all right, it was  
16 presented to me -- why wouldn't we go through the  
17 normal process and allow the company to go through  
18 the Public Service process Commission first, rather  
19 than bringing it to us to change the decision making  
20 this process a renewable process, which will  
21 actually give the Public Service Commission a  
22 different way of looking at a rate application;  
23 would it not?

24 MR. SAWYER: As I think I understand



1 the question, I mean, in essence, we couldn't even  
2 go to the Commission with this structure without the  
3 enabling legislation.

4 And at the end of the day, we are  
5 asking Delmarva and Bloom and the administration to  
6 make its case to the independent commission that,  
7 number one, that these fuel cells with their  
8 benefits -- economic, development, environment, et  
9 cetera -- outweigh the extra costs.

10 And that's the argument that's going  
11 to have to be made in front of the Commission that,  
12 you know, quite frankly, you know, that's on us.  
13 And so we need you, as a legislature, to enable that  
14 process.

15 Otherwise, I'm not sure we can get  
16 there, because of the concerns I raised earlier, the  
17 imputed debt question. I mean a straight EP -- I  
18 guess there is a way where Delmarva could purchase  
19 the Bloom boxes, try to rate base them, and go  
20 before the Commission.

21 We explored that as an option to see  
22 what that would do to the rate impacts, and our  
23 sense of it was --

24 SENATOR BOOTH: Excuse me. I don't



1 mean to interrupt. You just said you explored that  
2 as an option?

3 MR. SAWYER: We did. We explored a  
4 lot of options to maximize --

5 SENATOR BOOTH: All right.  
6 Can you tell me when?

7 MR. SAWYER: Not -- we discussed it  
8 internally. We discussed it --

9 SENATOR BOOTH: I mean, was it -- has  
10 it been since Thursday, or when was it?

11 MR. SAWYER: No, no, no. It's been  
12 during this seven to ten-month process that we have  
13 been negotiating this deal. I would say it happened  
14 in maybe three weeks ago, four weeks ago.

15 SENATOR BOOTH: Uh-huh.

16 MR. SAWYER: We were exploring all of  
17 our options to try and reduce the costs to the  
18 ratepayer. And so we asked that question. And we  
19 said, "Well, what happens if Delmarva purchases them  
20 and goes to rate bases them?" And it was -- it had  
21 an increase in the cost impact to customers.

22 SENATOR BOOTH: I guess my question  
23 is that I think we are subverting what we already  
24 passed, or this body or the General Assembly and



1 previous governors have passed, is that they had a  
2 process in place that would seem like it would work  
3 in this particular case, if seven months ago or  
4 whatever Delmarva had actually went through the  
5 process with Public Service Commission and said, you  
6 know, we are interested in pursuing this, and then  
7 allowed them to do it.

8 Now, by passing this legislature, I'm  
9 not -- I'm kind of thinking that Public Service  
10 Commission is going to be swayed by our  
11 consideration on this, on this legislation. But,  
12 regardless, I yield to Senator DeLuca. I'm still  
13 not done yet.

14 THE PRESIDENT: Senator DeLuca?

15 SENATOR DELUCA: Thank you, Mr.  
16 President. Senator, in all honesty, I understand  
17 what you are saying. But if you look back to the  
18 wind negotiations, they couldn't have went straight  
19 in front of the Public Service Commission with that  
20 deal, either, until we passed enabling legislation.

21 While they are capable of going to do  
22 things they want to do on their own, they are not  
23 capable of adding definitions that don't exist in  
24 the code that we have to add in order to enable



1 this.

2 We are adding those definitions, as  
3 we did with wind, to enable the Public Service  
4 Commission to have them here. So, while they are  
5 free to do what they can do under the contract that  
6 they have and under the guidance that they have from  
7 the Public Service Commission, they are not, in  
8 fact, free to do this, because these terms do not  
9 exist, and these examples do not exist in the code  
10 or structure as we have it today.

11 They also are not capable of putting  
12 the deal together between University of Delaware,  
13 the State of Delaware, and the company to build a  
14 manufacturing facility here and bring 800 jobs to  
15 1,500 jobs here.

16 We, as a state, and we, as  
17 legislators, have that capability. They do not.  
18 They could simply purchase equipment from anywhere  
19 and bring no jobs to Delaware, and we would be  
20 paying for a rate as high as anyone.

21 It's the way the technology field  
22 works. I mean, we negotiated what we thought was a  
23 deal with the wind farm. We negotiated where we  
24 thought they were going to be built. But the true



1 fact of the matter is, if we didn't and we didn't  
2 write those terms in, they could build that product  
3 anywhere, anywhere in the world and put it on a ship  
4 and float it over here and install it.

5 The deal is because the government  
6 got involved in it, the company got involved in  
7 it -- it's a tri-part deal -- Delmarva Power got  
8 involved in it with the company. We have a  
9 long-term agreement to provide employment, to  
10 provide jobs, to provide a base technology in the  
11 State of Delaware. We are enhancing the definitions  
12 under renewable power, and we are opening up a new  
13 technology field. That is what we are doing.

14 I know we can debate whether we like  
15 the cost or don't like the cost or like the product  
16 or don't like the product. But I don't think we  
17 should confuse the issue that they can do this  
18 without us doing enabling legislation, because they  
19 can't.

20 THE PRESIDENT: Senator Booth, do you  
21 have questions for Mr. Sawyer?

22 SENATOR BOOTH: I'm not done yet.

23 THE PRESIDENT: Okay.

24 SENATOR BOOTH: Thank you,



1 Mr. President. I guess, after listening to Senator  
2 DeLuca's opinion about this, do you follow with the  
3 same opinion, that the Public Service Commission  
4 cannot make a decision without this legislation?

5 MR. SAWYER: It was definitely our  
6 view that we could not go before the Commission with  
7 this tariff as structured. And, to be honest, I  
8 think this legislation helps to protect the  
9 customers better than if we tried to find a wiggle  
10 away around and get before the Commission  
11 beforehand.

12 So, in answer to your question  
13 straightly, we were of the view that we needed this  
14 legislation. I mean, if you think about it, if we  
15 could have gone straight to the Commission with  
16 this, we probably -- we might have, because, you  
17 know, different politics, and it would be based  
18 solely on the technology and, you know, the benefits  
19 of this technology, which we think are not only  
20 reasonable but good.

21 SENATOR BOOTH: Now, the legislation  
22 as it's proposed with Delmarva's customers is going  
23 to apply to customers in the State of Delaware but  
24 not to surrounding states or other customers?



1 MR. SAWYER: That's correct.

2 SENATOR BOOTH: So would you look at  
3 it that the customers of the State of Delaware are  
4 subsidizing DP&L and the other customers?

5 MR. SAWYER: Um, I'm not -- I don't  
6 think Delmarva gets anything out of this deal, so  
7 they are not subsidizing DP&L.

8 At the end of the day, it's, you  
9 know -- I guess what we are asking is if there is a  
10 premium that we -- the question before the PSC is,  
11 number one, what is that premium above market that  
12 this deal creates. And we believe that it's around  
13 a dollar. PSC may have a different view. It may be  
14 lower. It may be higher. Who knows? We will see.

15 At the end of the day, the Commission  
16 will be asked whether that premium that will be  
17 assessed to ratepayers is worth the jobs, the  
18 environmental benefits, the technology. And there  
19 is one other thing in there. Price stability, the  
20 fact that it's like buying a 30-year warranty. The  
21 price is set for basically 15 years, drops  
22 considerably for the last -- for four years, and  
23 then drops off the table the last year.

24 SENATOR BOOTH: And so, basically,



1 none of the other customers with Delmarva and the  
2 other states are going to have to pay any of this;  
3 is that correct?

4 MR. SAWYER: That's correct.

5 SENATOR BOOTH: Okay. Thank you.

6 THE PRESIDENT: Senator Bunting, do  
7 you have a question for the witness?

8 SENATOR BUNTING: Yes. I think I --  
9 and the constituents I work with, I would kind of  
10 like a simple answer.

11 I have been in sales and built a  
12 couple businesses. And we talk about dollars a  
13 month, et cetera. I want to know how many millions  
14 of dollars it ultimately is going to cost. I mean,  
15 it's a simple question, and I'm sure you did a  
16 business plan and you came up with your modeling.

17 And I understand the tariff. This is  
18 a European concept of methodology of funding. But,  
19 you know, then the Public Service Commission, we say  
20 it's enabling.

21 I go back to deregulation. When I  
22 took a position, Dr. Robert Mann was the chairman.  
23 And, magically, out of the position I took and some  
24 other things that happened, he magically got taken



1 off as president of the Public Service Commission.

2 So it worries me that yes, it's  
3 enabling. But to me, it's not enabling; it's  
4 telling them. Thank you.

5 THE PRESIDENT: Senator Simpson, do  
6 you have a question for the witness?

7 SENATOR SIMPSON: Yes, I do. And I  
8 would like to ask Senator McDowell to close his ears  
9 on this one. (Laughter)

10 Did you explore the option of  
11 replacing the green energy fund tariff with this new  
12 tariff?

13 MR. SAWYER: No, not that I'm aware.

14 SENATOR SIMPSON: Do you know the  
15 amount of the green energy tariff as opposed to this  
16 one, or do I need to find that from someone else?

17 MR. SAWYER: Yeah, I mean, you might  
18 want to -- somebody might want to put Colin on the  
19 hook for this one.

20 SENATOR SIMPSON: Okay. Thank you.

21 THE PRESIDENT: Other questions for  
22 the witness? Senator DeLuca?

23 SENATOR DELUCA: Seeing none, may the  
24 witness be excused?



1 THE PRESIDENT: The witness is  
2 excused.

3 SENATOR DELUCA: Do we have other  
4 questions that someone would like to pose? Senator  
5 Bonini, what would you like?

6 SENATOR BONINI: Can I have --

7 SENATOR DELUCA: Pick a litter.

8 SENATOR BONINI: Colin would like to  
9 call Colin to the floor. I've been waiting for that  
10 for a long time.

11 SENATOR DELUCA: I respectfully  
12 request that the Secretary of DNREC be called.

13 THE PRESIDENT: Without objection, if  
14 you can identify yourself, sir.

15 MR. O'MARA: Collin O'Mara, Secretary  
16 of Natural Resources and Environmental Control. And  
17 I think this is the first time I've been on the  
18 floor this year, so ...

19 SENATOR BONINI: Yeah. Last time you  
20 were here, and we were grilling you. (Laughter) It  
21 may be a repeat. Colin, welcome. I want to go back  
22 to the question. Explain to me why natural gas is a  
23 renewable energy.

24 MR. O'MARA: So the point of the



1 renewable portfolio standard is to try to bring more  
2 clean sources into the -- into the state so that  
3 we'll have cleaner air, you know, and also address  
4 our climate responsibilities.

5           And one of the reasons that we like  
6 this technology is that it isn't a combustion  
7 technology, and so there isn't a lot of CO2 emitted.  
8 There is no additional pollutants like hydrogen  
9 dioxide or sulfur dioxide.

10           And so, from a cleanliness point of  
11 view, it's --

12           SENATOR BONINI: I'm sorry?

13           MR. O'MARA: From a cleanliness point  
14 of view --

15           SENATOR BONINI: Okay.

16           MR. O'MARA: -- it's more like a pure  
17 renewable resource than it is like traditional  
18 generation.

19           The other thing that we like about  
20 it, that it's fuel agnostic. One of the problems  
21 right now, in the existing RPS, a fuel cell that  
22 runs on a renewable resource, like methane from a  
23 landfill, for example, is eligible.

24           The problem is that there isn't that



1 much of it. We don't have a lot of pipelines with  
2 that type of technology. There isn't a lot being  
3 pumped into the system. Technologies like -- or  
4 fuels like hydrogen and others aren't available at  
5 sale.

6           And so what we want to do is help  
7 enable the technologies that can handle those fuels  
8 to avoid this chicken or egg problem, that we don't  
9 want to wait for the technology until the fuel is  
10 available. We would rather have the technology and  
11 begin to become more cost effective, really kind of  
12 become more commercialized.

13           SENATOR BONINI: Can I interrupt you  
14 real quickly? And you think one of the advantages,  
15 if I can remember from the gentleman from Bloom, is,  
16 as Senator DeLuca said, all sorts of energy sources  
17 can go into this thing to get your electricity?

18           MR. O'MARA: I think the goal in the  
19 long run is to have the most cost-effective,  
20 lowest-polluting fuel go into it. But today that is  
21 natural gas. That's the sale that we are talking  
22 about.

23           SENATOR BONINI: Okay. Are there any  
24 other non--- I mean, what else is in the renewable



1 portfolio standards? Is it wind, solar? What else  
2 is in there?

3 MR. O'MARA: There is wind and solar.  
4 Fuel cells are in there. They have renewable gas.  
5 Landfill gas is run through some kind of technology.  
6 It is eligible.

7 SENATOR BONINI: But this will be the  
8 first one that uses traditional fuels, but it's  
9 going to be classified as a quote-unquote renewable?

10 MR. O'MARA: Correct.

11 SENATOR BONINI: Okay. So that is --  
12 it is a significant change.

13 MR. O'MARA: Right.

14 SENATOR BONINI: Okay. And  
15 currently -- and I know I grilled you on this  
16 before, and I appreciate it. Currently, what is the  
17 kilowatt-hour cost of natural gas? Is that four  
18 cents, five cents, something like that?

19 MR. O'MARA: If you are buying from  
20 the stock market, on average, like delivered?

21 SENATOR BONINI: Yes.

22 MR. O'MARA: It can be as high as,  
23 you know, eight to 12 cents, depending on the time  
24 of day.



1 SENATOR BONINI: Okay.

2 MR. O'MARA: And so the point of  
3 generation is lower than that. But by the time you  
4 take it from the plant till the time it's delivered  
5 to the customer, it's a couple times --

6 SENATOR BONINI: Okay. So it's  
7 higher than I thought. And what will this be, give  
8 or take? And I realize you can't predict the  
9 future. But what is this, give or take?

10 MR. O'MARA: So we're still in  
11 negotiations, but the levelized cost over the  
12 lifetime that we are still working through is around  
13 that 15 cent mark.

14 SENATOR BONINI: About 15?

15 MR. O'MARA: Yeah. So it's a little  
16 bit above --

17 SENATOR BONINI: Okay.

18 MR. O'MARA: -- where the fuel market  
19 is right now. But we do believe those lines will  
20 cross when --

21 SENATOR BONINI: Okay. And I  
22 understand that. But, you know, I'm a finance guy  
23 here. 15, eight. 15, eight. I mean, that's, I'll  
24 say, or 10 or 12. Even so, that's still -- we are



1 clearly paying a premium. And get me -- let me  
2 help -- one other reason we are paying the premium  
3 is that we think, especially when we see the price  
4 over time, that this will become competitive or even  
5 lower than the current non-renewables.

6 MR. O'MARA: Right. Yeah. And I  
7 think it's important to put it in a broader context,  
8 as well, because we do need additional natural gas  
9 generation in the state.

10 And although there are dirtier plants  
11 that are closing, we are building new plants in  
12 different parts. And so we use this as part of the  
13 solution. Because, unlike other major 400-megawatt  
14 gas plant that we need to build also, this  
15 technology can be customer-sited.

16 And so the traditional combined cycle  
17 technology can lose as much as 7 to 10 percent of  
18 its efficiency by the time I move it, I move the  
19 electrons from the plant to your house. And so we  
20 view this as part of the solution but not displacing  
21 the need for additional gas generation in the state.

22 SENATOR BONINI: Okay.

23 MR. O'MARA: So all that combined  
24 will bring the price down.



1                   SENATOR BONINI: So a significant  
2 benefit, then, of the technology is the on-site  
3 generation.

4                   MR. O'MARA: Possibly.

5                   SENATOR BONINI: And you are not  
6 losing the bleed-out over time.

7                   MR. O'MARA: Exactly.

8                   SENATOR BONINI: Okay. And I guess  
9 the other question -- and thank you -- it's very  
10 helpful -- is we are looking at the 12 cents versus  
11 the 8 cents. We are going to lock that in.

12                   And we are hoping that the economic  
13 model, that that's going to make sense over time.  
14 But we don't know. We all thought the wind was  
15 going to be similar. It turns out we had to sell  
16 really expensive compared to the general thing.

17                   And then you're saying -- and let  
18 me -- and I apologize -- we got a little  
19 confusing answer from Geoff. A dollar per household  
20 is the estimate per month? Is that --

21                   MR. O'MARA: Yeah. So the  
22 modeling --

23                   SENATOR BONINI: I mean, obviously,  
24 you can't be exact. I get it.



1                   MR. O'MARA: The unit of energy used  
2 is a megawatt-hour, so it's a thousand-kilowatt  
3 hours. And the average household uses about 12,000  
4 of those a year, so roughly one a month, one  
5 megawatt hour a month. And that impact of that unit  
6 is about a dollar, based on the current modeling.

7                   SENATOR BONINI: Okay. So I guess  
8 I'm confusing it. If one's at 12 or 15 and one is  
9 at 10 or 12, how do you get a dollar out of it?

10                  MR. O'MARA: Oh, because you're only  
11 using those for a small fraction of your total  
12 energy consumption. So you're not going to be  
13 replacing, you know, your entire house with this  
14 unit.

15                  SENATOR BONINI: Yeah.

16                  MR. O'MARA: This is going to be  
17 probably 3 or 4 percent of your total electrons.

18                  SENATOR BONINI: Okay. And now that  
19 -- basic (inaudible) let me bring it out. This is  
20 obviously a very successful company, and I actually  
21 did some research and that sort of thing.

22                                But the reality is the reason they  
23 are getting these big contracts is because they have  
24 tax subsidies to do it. Okay? Nobody is going to



1 say, "Okay, I got a business, I got a house, I'm  
2 going to buy the 15-cent technology when I can buy  
3 the 8 cents."

4 The only reason that this works is  
5 because of the subsidies the state and the federal  
6 government has set up. And the only reason that we  
7 can get this company in here is that we have the  
8 renewable portfolio standards, which is currently  
9 what? How much percentage?

10 MR. O'MARA: Right now it's at eight  
11 and a half, I believe. It goes up to 25.

12 SENATOR BONINI: It goes up to 25?  
13 So but my point is we created a market with  
14 incentives. Now we're trying to fill that market.  
15 And the people who pay at the bottom end are the  
16 ratepayers.

17 And I understand -- I mean, I  
18 understand if we feel something and say okay, it's  
19 worth that, but, you know, I have some concern about  
20 that. It's very helpful. Thanks, Colin.

21 THE PRESIDENT: Other questions for  
22 this witness? Senator Sokola and then Senator  
23 Booth.

24 SENATOR SOKOLA: Thank you. To



1 Senator Bonini's point, there are many ways that  
2 people pay. And, you know, you could pay in dollars  
3 for clean energy, as you have described it.

4 What do you pay for with other kinds  
5 of energy? Have we ever given a good analysis of  
6 what coal-fired plants cost or what other types of  
7 energy cost?

8 MR. O'MARA: There have been a lot of  
9 studies done in the last few years. The most recent  
10 one, there is one by the American Medical  
11 Association that is working with the National  
12 Science Foundation, and it estimated that the U.S.,  
13 as a whole, spends about \$120 billion a year from  
14 generation from coal, in particular, because of the  
15 health impacts from that technology that form lung  
16 disease and other types of respiratory illnesses.

17 And so there are hidden costs that  
18 are cheaper. One of the other challenges that we do  
19 face is that, you know, we do have some clusters and  
20 other types of ailments in our state that do tend to  
21 be concentrated around some of our older types of  
22 generation.

23 Now, the administration has taken a  
24 lot of steps in the last few years to try to clean



1 up our energy supply. But in the long run we are  
2 going to need to achieve both our environmental  
3 goals and our economical goals and our public health  
4 goals with technologies that make sense.

5 This is one of those, as are some of  
6 the next-generation natural gas -- the larger  
7 natural gas units, as well.

8 But there are hidden costs that we  
9 don't see when you just say, you know, 4-cent coal  
10 to, you know, 12-cent renewable.

11 SENATOR SOCOLO: Would it be even  
12 anywhere close if we added the real costs in  
13 particulates, in cancer, in neurological disease  
14 from mercury, in acid rain, the damage to cars, the  
15 damage to people, the damage to fish in the streams?

16 Would it be anywhere close if we  
17 actually did add the real-dollar costs that each of  
18 those things adds up to our pocketbook every month?  
19 And that doesn't even count the quality of life. If  
20 anybody sees somebody die of cancer, that's the  
21 quality of life issue.

22 MR. O'MARA: You are absolutely  
23 right. And there are studies that range from as  
24 much as, you know, 50 or 60 cents a kilowatt hour,



1 so, you know, five times the value of the energy,  
2 itself, to as little as one time.

3 But everyone agrees -- there is a  
4 general consensus across both economists and health  
5 professionals that the cost impacts are  
6 significantly understated when you just look at the  
7 value of the energy and not the costs of the  
8 consequences of the way that energy is extracted,  
9 particularly when you look at it all the way from  
10 the extraction of the material, to the transport, to  
11 the burning, to the actual air, itself, in a vacuum.  
12 If you look at that full life cycle, you are looking  
13 at several times the value of the energy, itself.

14 SENATOR SOCOLO: Thank you.

15 THE PRESIDENT: Senator Booth for the  
16 witness?

17 SENATOR BOOTH: Yes. Thank you, Mr.  
18 President. Colin, welcome. Colin, when you were  
19 answering Senator Bonini, you used the phrase of  
20 "we." I assume you are talking about the Department  
21 of Natural Resources?

22 MR. O'MARA: When?

23 SENATOR BOOTH: When you were  
24 answering Senator Bonini on his questions, you were



1 using the phrase "we." Was that the Department of  
2 Natural Resources?

3 MR. O'MARA: I think it's referring  
4 to the administration as we were evaluating this  
5 proposal.

6 SENATOR BOOTH: All right. The  
7 Department of Natural -- or excuse me -- the  
8 Delaware basis initiative, is it going to be the --  
9 is this the first time that this is called a  
10 renewable source? So, in other words, California  
11 doesn't consider this base as being a renewable  
12 source? I mean, will we be the only state that  
13 calls it renewable?

14 MR. O'MARA: Thank you for the  
15 question. And it's a good question. Right now it's  
16 20 states in the country that allow -- put fuel  
17 cells into their portfolio. Eight of those allow  
18 any kind of fuel.

19 And so New York, Pennsylvania,  
20 Connecticut, and going up the eastern seaboard, in  
21 particular. And it's for this reason: Because a  
22 lot of the other fuels aren't available yet. So we  
23 will be the ninth state in the country to allow this  
24 type of technology into our RPS.



1                   SENATOR BOOTH: To be considered  
2 renewable?

3                   MR. O'MARA: Yeah. We will be the  
4 ninth state to be considered renewable.

5                   SENATOR BOOTH: All right. The other  
6 question that I have -- and it came up in caucus --  
7 and I'm kind of curious because you didn't -- you  
8 actually weren't the one that answered this.

9                   But it referred to the competition  
10 between this fuel cell technology and the wind  
11 that's been proposing that we've been working on for  
12 about five, six years.

13                   And my question was -- and I'll put  
14 it the same way -- this legislation, is this going  
15 to blow the wind project out of the water down  
16 there? I mean, are we not going to have wind to  
17 consider anymore?

18                   MR. O'MARA: The requirements of the  
19 portfolio standard that Delmarva has grown for both  
20 the wind project, as it's currently proposed, and  
21 this project. There are a lot of challenges to  
22 face -- facing the Blue Water project right now.  
23 And most of them are financial, about how do you  
24 raise the capital, how to price and actually deliver



1 the project.

2                   So they both could, potentially, go  
3 forward. But right now this is a sure thing where,  
4 if we bring this company, it will not only be  
5 manufactured here. One of the big differences is, I  
6 believe -- I wasn't here for the 2008 debate,  
7 obviously. But one of the big differences is that  
8 that debate was predicated solely on the hope that  
9 you might be able to attract manufacturing later if  
10 we had this market, as opposed to now we are saying  
11 we already have somebody that's willing to  
12 manufacture here and then export to the rest of the  
13 country.

14                   And so I think they are different.  
15 But there is room for both of them, potentially.  
16 But I think there is financial questions around the  
17 wind project that we all should be concerned about  
18 as of right now.

19                   SENATOR BOOTH: The wind project was  
20 also dependent a great deal on forcing a contract on  
21 DP&L to utilize whatever it produced, too. Isn't  
22 that somewhat similar to what we are asking here  
23 today?

24                   MR. O'MARA: I think the major



1 difference is that we have Delmarva as a partner at  
2 the table. They were interested in the technology.  
3 And I think one of the challenges that's some of the  
4 next generation of pure renewable resources is that  
5 they don't run 100 percent of the time.

6           You know, wind may run at 35,  
7 40 percent. And they have to figure out a way to  
8 integrate that energy when it's coming into the  
9 grid. And they have to figure out a way to kind of  
10 utilize it while having sufficient resources to make  
11 sure the lights stay on everywhere else.

12           This is a baseload technology. And  
13 so Delmarva views this as a way to actually address  
14 multiple challenges at the same time, including some  
15 areas where there is maybe not enough transmission  
16 or there's issues with brownouts or blackouts,  
17 things like that, and having more generation on  
18 site.

19           There's other places that, you know,  
20 need a lot of energy all the time, maybe at the end  
21 of a transmission line. And so the technology can  
22 help in a lot of different ways because it's  
23 100 percent or 98 percent reliable compared to other  
24 technology.



1           So I think they are different, but I  
2 think that Delmarva was a willing partner the entire  
3 time, because they see the potential of this being  
4 both a cleaner source but also a very reliable  
5 source of energy.

6           SENATOR BOOTH: Colin, my last  
7 question: The process for this is to go in front of  
8 the Public Service Commission. Is the Department of  
9 Natural Resources going to be there to testify? Is  
10 it going to be on the technical aspect of it, or is  
11 it going to be as a proponent of it?

12          MR. O'MARA: So we will be  
13 participating. We do intervene in a lot of Public  
14 Service Commission caucus rounds.

15          SENATOR BOOTH: As a proponent or as  
16 somebody that's offering technical assistance?

17          MR. O'MARA: In the legislation  
18 there's specific questions that we are going to be  
19 asking in concern about the environmental benefits  
20 and some others.

21                 And so we will be advocating for the  
22 project in the environmental context. There will be  
23 DEDO and others that will be advocating for economic  
24 development, and then the Commission, itself, will



1 look at the rate piece. But we will be talking a  
2 lot about the environmental benefits.

3 SENATOR BOOTH: All right. Thank  
4 you.

5 THE PRESIDENT: Senator McDowell.

6 SENATOR MCDOWELL: Thank you,  
7 Mr. President. Mr. Secretary, I'll just be brief.  
8 You remember my senate vote, as you know, one of my  
9 concerns, and you and I have talked about it.

10 I just kind of want to get you on the  
11 record and make sure I understand it, that it is  
12 your belief that we can -- if we have concerns,  
13 which I think we do, about the fledgling industry we  
14 created, renewable industry we created, and that we  
15 are not -- that we don't inadvertently do something  
16 to damage their progress.

17 I think right now we are somewhere  
18 between 657 and 700 jobs in that industry that have  
19 been created, and so we want to keep that on track  
20 as we go.

21 You have assured me that we can,  
22 after the fact -- we don't have to hold anything up  
23 or place it on this legislation -- but after the  
24 fact we can look at the architecture of the RPS and



1 make certain that we can keep the proper balance  
2 with this fledgling industry with this new entry and  
3 both can flourish. Is that correct?

4 MR. O'MARA: Yes. The way the  
5 legislation is crafted, we believe that the -- some  
6 of the RECS that could be applied to the solar carb  
7 out will only affect utility-scale projects and not  
8 really affect the 600 or 700 jobs that we have seen  
9 created because of the legislation that you  
10 originally authored.

11 And so we believe that. And we also  
12 believe there is flexibility about what the  
13 conversion factors and things like that should be.  
14 And part of that will come down to the findings of  
15 the Commission to make sure they make good economic  
16 sense and environmental sense.

17 SENATOR MCDOWELL: Thank you.

18 THE PRESIDENT: Senator Lawson.

19 SENATOR LAWSON: Hey, Colin. How are  
20 you?

21 MR. O'MARA: Good, sir.

22 SENATOR LAWSON: A quick question:  
23 What is cleaner: Conservation or a chemical  
24 reaction of natural gas with this process?



1 MR. O'MARA: The cleanest, quickest,  
2 cheapest form of energy is the energy you don't use,  
3 so --

4 SENATOR LAWSON: So that would  
5 supersede renewable?

6 MR. O'MARA: Absolutely.

7 SENATOR LAWSON: That's fine. Thank  
8 you.

9 UNIDENTIFIED SPEAKER: Mr. Secretary,  
10 did you hear my previous question regarding the cost  
11 of our Green Energy Fund --

12 MR. O'MARA: Oh, yes.

13 UNIDENTIFIED SPEAKER: -- kilowatt  
14 versus the tariff that is being proposed here?  
15 Could you tell me what the difference is? Do you  
16 recall those numbers?

17 MR. O'MARA: Yes. The number is  
18 somewhere between a factor of a hundred -- a  
19 thousand less with the Green Energy Fund. The Green  
20 Energy Fund is .00074.

21 UNIDENTIFIED SPEAKER: Well, there is  
22 no way it's going to replace this?

23 MR. O'MARA: No.

24 UNIDENTIFIED SPEAKER: That's enough



1 on that. Is there a potential for reduced costs to  
2 those using this technology because of reduced  
3 transmission costs?

4 MR. O'MARA: For units that are  
5 customer sited?

6 UNIDENTIFIED SPEAKER: Right.

7 MR. O'MARA: Because they will  
8 have -- I think of a data center or like a coal  
9 storage, a coal storage facility or a hospital or  
10 a -- anyone that has 24-hour demand, there is a lot  
11 of time loss that you are avoiding because of the  
12 technology.

13 UNIDENTIFIED SPEAKER: So there is a  
14 potential for future economic development from being  
15 able to offer on-site generation at reduced costs?

16 MR. O'MARA: Absolutely. And I think  
17 there is a lot of applications in agriculture, for  
18 example. There has been a lot of activity the last  
19 few years trying to move towards more natural gas,  
20 towards, you know, small, small combined heat and  
21 power units, things like that. And we view this as  
22 very complimentary to those activities.

23 UNIDENTIFIED SPEAKER: Thank you.

24 THE PRESIDENT: Other questions for



1 the witness? Senator DeLuca?

2 SENATOR DELUCA: May the witness be  
3 excused?

4 THE PRESIDENT: The witness is  
5 excused. Senator DeLuca?

6 SENATOR DELUCA: Seeing no other  
7 questions, roll call.

8 SENATOR MCDOWELL: Mr. President.

9 THE PRESIDENT: Senator McDowell?

10 SENATOR MCDOWELL: If I just might  
11 make a few brief comments: Mr. President, I spoke  
12 to the secretary about -- and I'll start with what  
13 are some concerns but not negatives.

14 And the concerns are that we don't  
15 take the proper steps to protect our fledgling  
16 renewable industry. And I believe we can and must  
17 do that. And I think the secretary answered very  
18 affirmatively that that can be done and will be  
19 done. And so that gives me a great feeling of  
20 assurance.

21 Mr. President, there are four reasons  
22 that we should do this. And, by "this," I mean take  
23 advantage of this opportunity, which is the kind  
24 that does not come along very often.



1           The first reason we should do this,  
2 perhaps the last also, is jobs. These jobs are not  
3 just another set of jobs. They are very high  
4 technical jobs. Many of them will require some  
5 advanced degrees, advanced training. Many of them  
6 will require training that actually doesn't exist  
7 right now. It will have to be created as we go.

8           And these are the best kind. These  
9 are both blue collar and degree jobs. And so this  
10 is what we really, really want to see. It isn't  
11 very often that you have the opportunity to create  
12 what is, for us, a relatively large chunk of these  
13 kind of jobs. 1,500 jobs represents a very large  
14 advance in this state.

15           You know, we felt that on the other  
16 end when we lost two automobile factories in a short  
17 period of time. Because, with such a small state,  
18 that loss of blue collar employment really racked  
19 us.

20           Well, I don't know that we can get  
21 those back right away, but we certainly have this  
22 opportunity.

23           To Senator Lawson's questions,  
24 question, I think they were appropriately placed.



1 But I would say that we can never be sure. We can  
2 never have a guarantee. We don't live in an age of  
3 guarantees that if we do X, Y, and Z, we are going  
4 to build an automobile plant and for the next 50  
5 years we can send generation after generation to  
6 work at that plant.

7           So, to a certain extent, we have to  
8 take the opportunities as they arise, and I think  
9 that, particularly, when we are in a period of  
10 enormous technological flux that we are now in. And  
11 I think the entire energy field is in such a time of  
12 flux. Can we guarantee who the winners will be?  
13 No, neither we can or Michigan or New York or  
14 California.

15           So we have to get in the game. I  
16 like to think of it that if you're going to win the  
17 Kentucky Derby, you have to get a horse in the game.

18           Now, we may only be at the quarter  
19 mile point at this time, but we have a horse in the  
20 game, in the race. And it's a thoroughbred. Make  
21 no mistake: Bloom Energy is a thoroughbred. They  
22 have brilliantly created and gained a step-up on a  
23 whole large field of technology development.

24           They have put the proof on the ground



1 by putting their system out in places where they are  
2 working, and it can be seen and watched, and you  
3 know that these work.

4           So I think the third point is that  
5 this deal allows us to do something that also  
6 doesn't come along very often. It allows us to  
7 build a real niche market in a highly technological  
8 field that we know is going to explode. We know  
9 that energy of the future is not going to look like  
10 the energy of the past. We just don't know exactly  
11 what it's going to be.

12           But this gives us the opportunity to  
13 build with the wonderful system that the University  
14 of Delaware, with their research capabilities, with  
15 their applied science capabilities, with their  
16 technology part, with their -- what's the name of  
17 the data wares shop that they built? -- and combine  
18 these -- and the (inaudible) institution that's  
19 already there -- roses to our side. The successful  
20 put-together of this project gives us a chance to  
21 really put Delaware on not just the national, the  
22 world technology map.

23           And so in spite of some concerns I  
24 have or others have, I think we need to grasp this



1 opportunity, congratulate the governor's team for  
2 putting it together, and let's get it done.

3 THE PRESIDENT: Senator Lawson, then  
4 Senator Bunting.

5 SENATOR LAWSON: Thank you, sir.  
6 Just in response to Senator McDowell's comment, I  
7 understand jobs are critical to the state. There is  
8 no doubt about it.

9 I would hope he puts as much energy  
10 and enthusiasm into saving the jobs at Dover Downs  
11 as we do manufacturing or looking forward to these  
12 900 jobs somewhere down the road. We are facing  
13 1,100 jobs lost immediately as opposed to 900 jobs  
14 coming along a year or so down the road and 1,500  
15 jobs years after that.

16 As far as guarantees go, certainly we  
17 know there is no guarantees. But, certainly, we  
18 have to look forward to try and see if we can best  
19 protect our constituents, not ourselves.

20 One other thing: Senator DeLuca, if  
21 I could, if it's possible for you to call someone  
22 from Bloom up to the stand, I have a few questions  
23 for them, if you wouldn't mind, sir.

24 THE PRESIDENT: Identify yourself for



1 the record and we will --

2 MR. RICHMAN: Josh Richman, Vice  
3 President of Business Development for Bloom Energy.

4 SENATOR LAWSON: Thank you.

5 THE PRESIDENT: Senator Lawson.

6 SENATOR LAWSON: Thank you, again.

7 And it's good seeing you again, sir.

8 MR. RICHMAN: Likewise.

9 SENATOR LAWSON: Thanks for being on  
10 the East Coast.

11 MR. RICHMAN: (Laughter) Good to be  
12 back.

13 SENATOR LAWSON: Just a couple quick  
14 questions. When it says nameplate, is that the  
15 total generation capability of that particular unit?  
16 In other words, 30 megawatts, is that what the  
17 nameplate -- what that term nameplate means?

18 MR. RICHMAN: So the systems are  
19 scalable modular. When we talk about 30 megawatts,  
20 it's the sum of the units that collectively make up  
21 30 megawatts of potential generating capacity.

22 SENATOR LAWSON: Potential. Do they  
23 normally do that through a 365-day period?

24 MR. RICHMAN: Yes. So our



1 availability to date has been 99.5 percent.

2 SENATOR LAWSON: Wow. That's  
3 tremendous. What types of materials go onto these  
4 plates? Is it rare? Is that used?

5 MR. RICHMAN: The cells, themselves,  
6 are based out of a zirconia material. The only --  
7 that's widely available on four continents. The  
8 only real competition we have for that source is  
9 cubic zirconia, fake jewelry.

10 So it's a very low-cost material.  
11 And that's one of the things that differentiates  
12 this technology from legacy fuel cells, that by  
13 using lower cost materials and not relying on  
14 platinum, catalyst, or other precious metals, you  
15 can achieve high-volume, low-cost manufacturing.

16 SENATOR LAWSON: But are you using  
17 rare earth, like in the windmill, the wind turbine?

18 MR. RICHMAN: I'm not familiar with  
19 what is in a windmill, but I know that we do not use  
20 a lot of the precious metals that legacy  
21 technologies have used.

22 SENATOR LAWSON: Thank you. And you  
23 say that yours is more environmentally friendly than  
24 the combustion of natural gas. What is the



1 reduction in CO2?

2 MR. RICHMAN: You know, carbon  
3 accounting is complicated. It's around 50 percent  
4 reduction in CO2 compared to the degree of  
5 electricity you would get, not to mention the fact  
6 that because there is no -- and the CO2 reduction is  
7 really driven by efficiency, the way that you  
8 convert the fuel into electricity through that  
9 direct electrochemical reaction.

10 Now, on top of that, not to mention  
11 the fact that there is that dramatic reduction in  
12 CO2, there is also, because it's electrochemical and  
13 not combustion, there is no NOX, SOX, or the other  
14 harmful particulate emissions that were discussed  
15 earlier that causes lung cancer and other --

16 SENATOR LAWSON: So that's all  
17 environmentally friendly, as well; it's just on the  
18 CO2 issue?

19 MR. RICHMAN: So there is CO2  
20 reduction based on efficiency. Plus the fact that  
21 it's electrochemical rather than combustion, which  
22 virtually eliminates NOX, SOX, and other  
23 particulates.

24 And then the third thing that hasn't



1     been discussed yet is that the technology during  
2     normal operation does not require any water.

3                     So by being water neutral, that's  
4     another major differentiation in terms of an  
5     environmental aspect to the use of this technology  
6     relative to the legacy generations generating  
7     technologies.

8                     SENATOR LAWSON:    So there is many  
9     other benefits other than just the CO2 benefits --

10                    MR. RICHMAN:    Exactly.

11                    SENATOR LAWSON:    -- that we are  
12     concerned with?

13                    MR. RICHMAN:    Yeah.  I think we  
14     should be concerned with all of those, and we  
15     address all of them.

16                    SENATOR LAWSON:    Thank you very much.  
17     Thank you, Senator.

18                    THE PRESIDENT:    Senator Bunting for  
19     the witness?

20                    SENATOR BUNTING:   No.  Not for the  
21     witness.

22                    SENATOR DELUCA:    Okay.  May the  
23     witness be excused?

24                    THE PRESIDENT:    The witness is



1 excused. Thank you. Senator Bunting?

2 SENATOR BUNTING: Thank you,  
3 Mr. President. I agree with the elements of Senator  
4 McDowell and what he said.

5 My concern is not with the -- not  
6 with the technology. My concern is the methodology  
7 of funding this. I think there could have been a  
8 better way to do this than dropping it on the  
9 poorest of Delawareans now with the residential  
10 rates. We are adding another thing on their rate  
11 structure.

12 They have little say unless we  
13 represent them. And that's my concern. There is  
14 some other solutions, I believe, in the financial  
15 arena. But I know this train is on track, and it's  
16 going in a direction, and I'm going to have little  
17 to no say where it goes.

18 But I will say this: We just cannot  
19 continue adding more costs on the residential  
20 consumer. This is not going to bother the  
21 commercial consumer an iota, because they don't buy  
22 through Delmarva; they buy out on the open market.

23 THE PRESIDENT: Senator Bonini?

24 SENATOR BONINI: Thank you,



1 Mr. President. I just want a response real quickly  
2 to Senator McDowell, who is clearly (inaudible) and  
3 deserves credit for that.

4 I'm torn, because I think, clearly,  
5 the Governor's Office, quite frankly, along with  
6 Bloom and Delmarva, Colin, have cut a pretty good --  
7 a really good deal, a deal as tight as you can get.

8 But at the same time, George is  
9 exactly right. We are -- no question that this  
10 technology is being subsidized by ratepayers. And  
11 here -- but we're going to get guaranteed 900 jobs  
12 or they don't pay the money.

13 But Senator McDowell, I heard pie in  
14 the sky for electric deregulation. I heard pie in  
15 the sky for Blue Water Wind. And I guess my overall  
16 question is, neither of those panned out as we were  
17 told they would pan out. Why should we believe you  
18 now?

19 And I will be honest. I want an  
20 answer to that question. And maybe that answer is  
21 that hey, this bill, you have to have the jobs or  
22 you don't get the money.

23 And, quite frankly, I haven't decided  
24 how I'm going to vote yet. But I will tell you



1 that, especially with the Blue Water, you know, we  
2 were basically sold a bill of goods, I think  
3 well-intentioned, and I just want to make sure that  
4 we are not doing that again.

5 THE PRESIDENT: Senator DeLuca?

6 SENATOR DELUCA: Roll call.

7 THE PRESIDENT: Mr. Secretary, please  
8 call the roll on Senate Bill Number 124 as amended.

9 THE SECRETARY: Senator Blevins?

10 SENATOR BLEVINS: Yes.

11 THE SECRETARY: Senator Bonini?

12 SENATOR BONINI: No.

13 THE SECRETARY: No. Senator Booth?

14 SENATOR BOOTH: Not voting.

15 THE SECRETARY: Not voting. Senator  
16 Bunting?

17 SENATOR BUNTING: Yes.

18 THE SECRETARY: Yes. Senator

19 Bushweller?

20 SENATOR BUSHWELLER: Yes. Yes. Mark  
21 present, please.

22 THE SECRETARY: Senator Bushweller,  
23 from absent to marked present, voting yes. Senator  
24 Cloutier?



1                   SENATOR CLOUTIER: Mark present,  
2 please. Voting yes.

3                   THE SECRETARY: Senator Cloutier from  
4 absent to marked present, voting yes. Senator  
5 Connor?

6                   SENATOR CONNOR: Mark present.  
7 Voting yes.

8                   THE SECRETARY: Senator Connor, from  
9 absent to marked present, voting yes. Senator  
10 DeLuca? Yes. Senator Ennis?

11                  SENATOR ENNIS: Mark present. Voting  
12 yes.

13                  THE SECRETARY: Senator Ennis from  
14 absent to marked present, voting yes. Senator Hall  
15 Long? Yes. Senator Henry? Yes. Senator Katz?  
16 Yes. Senator Lawson? No. Senator Marshall?

17                  SENATOR MARSHALL: Yes.

18                  THE SECRETARY: Yes. Senator  
19 McBride? Senator McBride from absent to marked  
20 present and voting yes. Senator McDowell?

21                  SENATOR MCDOWELL: Mark present,  
22 voting yes.

23                  THE SECRETARY: Senator McDowell,  
24 from absent to marked present, voting yes. Senator



1 Peterson? Yes. Senator Simpson?

2 SENATOR SIMPSON: Yes.

3 THE SECRETARY: Yes. Senator Sokola?

4 Yes. Senator Sorenson? Yes. Senator Venables?

5 Yes.

6 Mr. President, the roll call on  
7 Senate Bill Number 124, as amended by Senate  
8 Amendment Number 1, 18 yes, two no, and one not  
9 voting.

10 THE PRESIDENT: Having received its  
11 required majority vote, Senate Bill Number 124 as  
12 amended has passed the Senate.

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CERTIFICATE

I, Lorena J. Hartnett, a Notary Public and Registered Professional Reporter, do hereby certify that the foregoing is as accurate and complete a transcription as possible from the audio of the proceeding held at the time and place stated herein.

The said proceeding was recorded by another party and then reduced to typewriting under my direction. I was not present at said proceeding and am transcribing only that which is audible by means of audio recording.

I further certify that I am not a relative, employee, or attorney of any of the parties or a relative or employee of either counsel, and that I am in no way interested directly or indirectly in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office on this 30th day of November 2015.



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Lorena J. Hartnett, R.P.R.

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