

**VIRGINIA TOBACCO INDEMNIFICATION
AND COMMUNITY REVITALIZATION COMMISSION**

701 East Franklin Street, Suite 501
Richmond, Virginia 23219

Research and Development Committee Meeting

Friday, May 3, 2013

9:00 o'clock a.m.

Hotel Roanoke & Conference Center
Roanoke, Virginia

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1 APPEARANCES:

2 The Honorable Kathy J. Byron, Chairman

3 The Honorable Charles W. Carrico, Sr.

4 Ms. Mary Rae Carter, Deputy Secretary

5 Rural Economic Development

6 Mr. Burgess "Butch" H. Hamlet, III

7 The Honorable Daniel W. Marshall, III

8 Ms. Sandra F. Moss

9 Ms. Connie Greene Nyholm

10 The Honorable Edward Owens

11 Mr. Kenneth O. Reynolds

12 The Honorable Frank M. Ruff

13 The Honorable Ralph K. Smith

14

15 COMMISSION STAFF:

16 Mr. Neal Noyes, Executive Director

17 Mr. Ned Stephenson, Deputy Executive Director

18 Mr. Timothy S. Pfohl, Grants Program Administration Director

19 Ms. Sarah K. Capps, Grants Coordinator - Southside Virginia

20 Ms. Sara G. Williams, Grants Coordinator - Southwest Virginia

21 Mr. Benjamin Dawson, Grants Assistant - Southside Virginia

22 Jessica Stamper, Grants Assistant - Southwest Virginia

23 Ms. Carolyn Bringman, Performance Data Analyst - Richmond,
24 Virginia

25 Ms. Stacey Richardson, Executive Assistant - Richmond, Virginia

1 May 3, 2013

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3 DELEGATE BYRON: Good morning to everyone. Glad
4 to have you all with us. So, welcome, this is the Research and
5 Development Committee meeting.

6 I'll ask Neal to call the roll.

7 MR. NOYES: Delegate Byron.

8 DELEGATE BYRON: Here.

9 MR. NOYES: Senator Carrico.

10 SENATOR CARRICO: Here.

11 MR. NOYES: Deputy Secretary Carter.

12 DEPUTY SECRETARY CARTER: Here.

13 MR. NOYES: Mr. Hamlet.

14 MR. HAMLET: Here.

15 MR. NOYES: Delegate Marshall.

16 DELEGATE MARSHALL: Here.

17 MR. NOYES: Ms. Moss.

18 MS. MOSS: Here.

19 MR. NOYES: Ms. Nyholm.

20 MS. NYHOLM: Here.

21 MR. NOYES: Mr. Owens.

22 MR. OWENS: Here.

23 MR. NOYES: Mr. Reynolds.

24 MR. REYNOLDS: Here.

25 MR. NOYES: Senator Ruff.

1 SENATOR RUFF: Here.

2 MR. NOYES: Senator Smith.

3 SENATOR SMITH: Here.

4 MR. NOYES: Ms. Thomas will not be here today.

5 Madam Chairman, you have a quorum.

6 DELEGATE BYRON: All right. Everyone has read the
7 minutes of the meeting.

8 MR. OWENS: I move for approval.

9 DELEGATE BYRON: I have a motion to approve the
10 minutes and a second. All those in favor, say aye. (Ayes).
11 Opposed? (No response).

12 All right. I want to make a comment or two, so I'd
13 ask you to bear with me for a moment. A couple of things that
14 we've been talking about, a few items concerning R&D, and I
15 think it warrants us having a workshop. I think we need to have
16 that meeting working with staff in the next month or two where
17 we can look back over the grants that we have to date and
18 perhaps have the R&D center come in and talk about business
19 plan or what stage some of these developments are in.

20 Because of the uniqueness of this Committee and the
21 grants that we give out and the risks that we associate with any
22 of these research projects probably would be a good thing for us
23 to do and kind of take a look at it and see where we're at and see
24 if where we are going and then see if we need to make any
25 changes.

1 With that, also, I'm going to take off the agenda today
2 the discussion of contracts and grant agreements, and we're
3 going to bring that up with the chair and vice chair, and staff are
4 going to look at that because there are some things that have
5 been brought up that maybe it's not appropriate yet or maybe it
6 is, but before we bring it up and get into a bunch of details, I
7 think we need to look at it a little closer and let you know when
8 the workshop will be scheduled, as well. Unless there are any
9 other comments from the Committee or anything you'd like to
10 see at the workshop, please get in touch with me and let me
11 know or let Neal know what you'd like to have as part of that
12 workshop.

13 So, without further ado, I'll ask Jerry Giles to discuss
14 the results of the last vetting process.

15 MR. GILES: Madam Chairman, good morning to
16 members of the Committee and the audience, and I apologize for
17 having my back to you. This is, in fact, the presentation of the
18 findings of the Review Panel with respect to Round 8, and we're
19 getting pretty well along in the overall process. I will start as I
20 normally do with the scoring criteria with the Review Panel and
21 the teams used in assessing the quality and robustness of the
22 applicants that we run through the process. I would encourage
23 all members of the Committee and certainly all members of the
24 audience this morning to focus on these now 11 elements,
25 because that is, in fact, what is exactly the guide book that we

1 follow.

2 We've been using these since the beginning of this
3 process. They have followed us in pretty good stead. Certainly
4 the Review Panel team leaders, and I think members of the R&D
5 Committee can agree, whether you're on the R&D Committee or
6 an investor or you're a bank lender, there are elements that are
7 truly relevant to assessing the relevancy, as well as the
8 execution of this before you commit funding to the project.

9 This is our standard scorecard that we use, if you will.
10 I'll point out to members of the R&D Committee that you have a
11 constituent scorecard already and you have them in advance. I'll
12 point out to the audience the scores down below are not
13 necessarily the same as what is presented to each of the four
14 applications that went through the process.

15 It was an interesting round, and we had two projects,
16 and the first two on the list is 2634 and 2636. They were
17 basically both in the transportation phase, but extremely
18 different ends of that space, and both involved a system driven
19 off of battery technology and other advanced technology
20 elements.

21 In 2637, we'll talk about that in just a moment, but
22 basically in the fossil fuel phase and a strategic target with some
23 strategic technology in terms of getting incremental yields to
24 basically get additional juice out of that orange, if I can use that
25 analogy.

1 2639 of BC Genesis, LLC coming through the process,
2 the second round of grant funding, and we were happy to see
3 these folks, and I'll comment in just a few minutes on some of
4 the take-aways from the Review Panel recap in terms of scoring,
5 as well as the other three.

6 Once again, in listing the Review Panel members, and
7 it says Round 6, but that's a typo on my part, it should be Round
8 8. We've got six universities, three out of state, a world class
9 engineering firm as a consulting arm, a world class science
10 laboratory, SRI International, SJF Ventures, and as the
11 Committee designated, most of the data there go back SJF
12 Ventures, and as we designated or the Committee designated,
13 the data there or most of it, we have a rotating seat.

14 Due to confidentiality matters, I'm not going to the
15 audience, and all members of the R&D Committee already have
16 individual scoring cards. So let me go through that pretty quickly
17 some of the key findings and take-aways of the vetting panel
18 overall once we finished face to face activities.

19 I'll start with EVO Motors, and just by way of
20 quick background, this is the University of Virginia requesting
21 \$2 million to support prototype development by EVO Motors, LLC
22 of a "ultra-premium, high performance basically electric-powered
23 sports car (S-class)" vehicles. The target market, as described in
24 the business plan, is the US Mid-Atlantic. They're interested in
25 getting funding to go into full-scale prototype development. I'll

1 list some of the conclusions both from the scientific side and the
2 commercialization side for this particular application.

3 Very quickly, comments with regard to the scientific
4 scoring elements. Observations were made on basically all of the
5 individual use scorings. There are no major R&D break-throughs
6 that need to happen and conversely little to no IP seems likely to
7 result. They have assembled a team of partners with relevant
8 component credentials. That said, there is no clear evidence of
9 engineering integration expertise for management presently in
10 place. No definitive plans in place on wind tunnel crash testing.
11 A lack of demonstrated battery performance, as well as lack of
12 demonstrated performance for the design, drive training, and
13 aerodynamics to achieve desired outcome.

14 Also, concerns about the performance, which go into
15 the overall construct to whether or not sufficiently vetted at this
16 particular point in time.

17 Under commercialization, a vehicle concept appears to
18 be well suited for its niche market if it performs. The plans are
19 to build 150 of these units annually and would be characterized
20 as low volume manufacturing of high quality vehicle with service
21 orientation. Some of the elements that went into the final
22 scoring concluded whether or not this particular allocation was
23 truly ready for future competition, which we as a group believe
24 will be forthcoming in developments. There's been developments
25 with respect to a firm development which they plan to start

1 taking orders with a very, very similar vehicle, with respect to
2 design and marketing thrusts and specifications as early as
3 August of this year.

4 DEPUTY SECRETARY CARTER: Could you tell us where
5 we are on the pages here to follow along with you?

6 MR. GILES: You should have an individual scoring
7 sheet for Application 2634.

8 DEPUTY SECRETARY CARTER: Thank you.

9 MR. GILES: I'm now on the second page of that
10 application.

11 There also were some questions concerning market
12 demand. This is a very unique end of the market. We're not
13 saying it doesn't exist, we're just not sure how deep it is and how
14 quickly the demand will be there and how quickly they will enter
15 that space and obviously the financial resources to bring it to
16 market.

17 Finally, the Review Panel very much across the board
18 thought that the overall accountability strategy for this project
19 was very optimistic. They projected \$9 million to reach
20 commercial production, which not mean at this stage but the
21 next stage, and they anticipate \$4 million coming from the
22 Tobacco Commission, R&D Committee for funding. If there's no
23 questions from the Committee, I'll move on to the next one.

24 2636, Fermata, LLC. This also involves the University
25 of Virginia. And by the way, since the University of Virginia is on

1 the Review Panel, they recused themselves and they didn't score
2 anything and they didn't make any comments in the review and
3 in the presentation as is standard operating procedure.

4 This basically in a nutshell is the same battery
5 technology and advanced manufacturing technology and focusing
6 very tightly in a targeted way on the delivery vehicle. This
7 vehicle might be used in the U.S. Postal Service, though as the
8 team pointed out, their target and market strategy is not USCS
9 Century, but that's certainly a large end user, along with FedEx,
10 UPS, and any number of examples you can think of, where if you
11 had an alternative to a gasoline or diesel power, it would fit into
12 the business model and make sense. And then you could switch
13 basically to this battery power technology and perhaps realize
14 some clean technology gains from social returns, as well as
15 financial returns.

16 Let me comment, if I may, on some of the scientific
17 conclusions related to this particular application. First, there was
18 limited technical risks; however, there was no demonstrated
19 compelling technical advantage demonstrated by this particular
20 model.

21 SENATOR SMITH: Would you repeat that?

22 MR. GILES: The conclusion was there was limited
23 technical risks; however, no compelling technical advantage
24 demonstrated, and there was no clear and compelling technical
25 advantage over that model versus alternatives. They appear to

1 have the capacity to create a prototype of strong technical
2 partners and resources. The milestones were given high scores
3 in terms of their clarity and their marketing scheme and
4 definitions. There were some questions concerning the
5 recharging infrastructure and lack of a convincing technical plan
6 for what's called V2G, which stands for Vehicle to Grid. Whether
7 or not that particular construct, whether it was totally effective
8 and whether or not it had sufficiently washed out. The team in
9 their presentation did not have any type of mock-up prototype so
10 it could be visualized, which we all know that's helpful if you can
11 do that.

12 The final conclusion was that there was less than
13 "laser focus" and really involves for this all to work and most
14 business models need to converge and synchronize.

15 Comments on the commercialization track: The team
16 as garnered initial market interest in the electric vehicle model
17 complete owners and conversely market concentration risks
18 resides with fleet buyers, meaning UPS and FedEx, and UPS
19 Horizon, et cetera. They can be major sources of really, but if
20 you lose them as a client, there aren't many others out there to
21 take up to sustain that business model and with this particular
22 application. It's a business model overall.

23 The observations with respect to commercialization.
24 The potential exists to have a strong value proposition and a
25 strong attractive return on investment for the fleet customer

1 overall. Partners have good reputations on the infrastructure
2 side. However, the management team does not have self-
3 evident marketing skills to bring this forward at this stage.

4 Another risk, which is not unique to this particular
5 company, the maturity of the V2G once they get the vehicle to
6 grid market may not synchronize with their business plan. A lot
7 of things have to happen in a pretty well synchronized fashion for
8 everyone to be happy with the results.

9 Finally, there were some questions about the Review
10 Panel team leaders, the majority of which are not even in
11 Virginia, and there were questions about the economic benefits
12 going to the Tobacco Region.

13 The next application is 2637. This is the Southwest
14 Virginia Higher Education Foundation requesting \$2 million for
15 applied research into recovery of metallurgical coal from slurry
16 impoundments in partnership with Alpha Joint Venture, who will
17 construct a ten-ton per hour dewatering facility in Southwest
18 Virginia. They've got pretty strong evidence in terms of testing,
19 which I'll comment on in a moment, their power testing program.
20 This does have some potential.

21 From the scientific side, the coal-drying technology
22 overall has been around for a good while. This team's single digit
23 moisture content results, based on bench testing, are impressive.
24 Testing has been performed at a half-ton per hour (bench scale).
25 The risks of the first 20x scale-up are real, but not quantifiable

1 by the team or any investment.

2 In terms of commercialization observations, strong
3 institutional and management team overall for this stage of
4 development, good market possibilities, especially for Virginia. A
5 large addressable market is in place today, and they appear to
6 have the ability to move beyond coal materials to other markets.
7 Strong potential for return on investment for the host and
8 provider, but it appears the IP could be duplicated.

9 Application Number 2639. Floyd County - BC
10 Genesis, LLC. This is a Floyd County Economic Development
11 Authority requesting \$837,286 for the second phase of applied
12 research on the biosynthetic cellulose materials. This funding
13 would be used to expand the applied research to focus on
14 surgical mesh applications as a way to accelerate market entry.
15 Tobacco funds would mainly support personnel costs and the
16 purchase of equipment that would be owned by the Floyd County
17 EDA.

18 With respect to the science and conclusions, solid
19 scientific niche; production scheme protected by trade secrets.
20 The team is followed through on Phase 1 milestones. The
21 product has definite attributes to make it better than the existing
22 competition. Intellectual property protection recognize that the
23 natural strain cannot be protected by patent. We won't get into
24 what that's really saying, but certain aspects of what they're
25 using, it has a raw material median being a natural strain

1 concerning intellectual property. They contemplate genetic
2 engineering to improve production, yielding a strain that could be
3 protected by intellectual property protecting the IP.

4 Comments on the commercialization side.
5 Commercialization was pretty laudatory in terms of the team's
6 leveraging the National Science Foundation progress towards
7 commercialization. Job creation for the county very positive, and
8 you'll see on the chart, it's listed from the application process,
9 and we thought those numbers were positive. The underpinnings
10 of the very first grant that you awarded a ten-year protection on
11 those jobs in Floyd County. The pace of growth appears
12 reasonable, achievable, and well-focused. There was some
13 concern over management's experience, but they have at this
14 point the right business people in place, not necessarily all
15 science, but business people.

16 The Review Panel would have liked a better
17 demonstration of manufacturing costs profile. They also would
18 have liked better demonstration of actual manufacturing costs
19 profile. So, unless you have questions, those are the conclusions
20 from Round 8 of the vetting process.

21 DELEGATE BYRON: We'll now allow some time for the
22 applicants to briefly take a couple of minutes and summarize
23 anything that's important to know about their project. Does
24 anyone have any questions for Mr. Giles before he finishes his
25 presentation? Thank you very much.

1 I want to mention to Commission members that
2 occasionally we'll have an applicant go through the process, and
3 you can see from the report you've got, it's a pretty extensive
4 process that they go through with and the expert team that
5 reviews all this. They'll come back, understandably so, and may
6 have gone through this process and realize they need to make
7 some changes that improves their application process. The thing
8 that has become difficult for the applicants needing to know, as
9 well, and that is because we have these go-before experts
10 because we are not. The idea that we can take this new
11 information with all the information and risks associated with it to
12 go back and study and apply it all, and that discussion would be
13 very difficult to do.

14 They do have an opportunity to come back to us again
15 a second time and come back with a much stronger application
16 and come before us and give us a better experience when we
17 vote on these. When you review an application, keep in mind
18 that there's a lot of money we're taking responsibility for, and if
19 you don't feel comfortable with it, ask questions and say, look,
20 you need to come back with a stronger application next time for
21 what you're trying to do.

22 Anyone have any questions so far? All right.

23 So, let's start with 2634, University of Virginia, Evo
24 Motors. Please come forward and state your name for the
25 record.

1 MR. ESTERHAY: My name is Jack Esterhay,
2 representing Evo Motors.

3 DELEGATE BYRON: Give us a summary of the best
4 selling points you can give us.

5 MR. ESTERHAY: There are really three points I'd like
6 to go over about the commercialization.

7 DELEGATE BYRON: Please, briefly.

8 MR. ESTERHAY: The first point that we didn't have
9 adequate engineering integration expertise in place. On page 68,
10 our technical document, on page 68 is a letter of TMI Auto Tech,
11 which is basically saying that they have direct contact with
12 Automotive Component Systems and sufficient automotive
13 manufacturing facility, anything that's necessary we can secure.
14 And all of this information was included in our application.

15 The second point, and if you go to page 61, we've
16 included all information about the computer simulation and the
17 dynamics that are needed, and we will test the model and we
18 have 200 engineering hours for that, and that's on page 61 of
19 our material.

20 Then the third point was the components might not
21 have been verified. The driving system that we have has been
22 used in the Coopers Pilot Program, and they've been very
23 popular. All the electric driving components have been fully
24 vetted. Then there were three points on commercialization, and
25 we're well aware of that and mentioned in our business plan on

1 page 25 or 27 of our business plan, and we compared the
2 performance of the vehicle, which there's been a lot of success.
3 Our vehicle will be quicker, faster, and lighter and long-range.
4 Our specifications have out-performed others.

5 The third point is market demand. We have been
6 looking for a niche market, and it is low volume and high priced.
7 There's room for more than one electric vehicle. The third point
8 as our capital strategy, \$9 million, and we have schedules like for
9 Phase 1, as well as for Phase 2. We provided the number of
10 engineering hours. I just don't know where we stand in terms of
11 that. I don't want to take up too much of your time. I just
12 wanted to address some of those points. I do agree it was a very
13 good process and we enjoyed it a great deal. I just want to
14 make sure that you've got all this information and any
15 documents that you need. I don't know if you'll read it all, but
16 it's all here, all the references that I mentioned.

17 We're really excited about this project, because we
18 think this is going to be a big deal because the vehicle with all
19 the engineering and technology will do well, and there's a lot of
20 things we can do in the Tobacco Region. When we talk about
21 jobs, we also have a letter from SolidBox, and that's in your
22 packet, and they've offered to relocate their business into
23 Virginia and into the Tobacco Region if the Commission awards
24 this grant, and that would be an additional eight to thirteen jobs.
25 We mentioned that in our vetting session. I believe this project

1 is worthy of your consideration. We've been working on this
2 project for almost a year now. I don't know if we have the ability
3 to wait longer, but I think now is the time for us, and I have
4 every confidence that we can deliver what we say and you'd be
5 pleased, and there's no question about it, and it's my mission in
6 life.

7 So, are there any questions?

8 DEPUTY SECRETARY CARTER: Are you getting funds
9 from other places, as well?

10 MR. ESTERHAY: Yes. Our application is drawing
11 funding from three sources. We have an in-kind contribution
12 coming from SolidBox, including most of the contractual services.
13 Commission funds would be used for materials. The building will
14 be constructed, and the title of that land will be titled to the
15 county. Commission funds would be used primarily for supplies
16 and materials, they have value. Evo Motors is contributing cash
17 to the project in a modest amount, but nevertheless contributing.

18 We're also receiving support from the University of
19 Virginia. They have agreed to provide excess to their specialized
20 facility, but most of their activity takes place in the footprint, and
21 there's maybe a couple of instances we might have to do
22 something beside the footprint. We've had a great deal of
23 support from the University of Virginia.

24 We also have a verbal offer from an investment group
25 for funding for the different phases. This is the prototype

1 production vehicle. I probably could get you that letter from, as
2 far as the prototype, but we have the investment group which
3 will provide matching funds for the next phase, in addition on the
4 fact if we get commission. I've been trying to put all these
5 things together. I understand there may be a desire to come
6 back later. I don't know if I can continue to keep all these
7 conditions or all these other people right at the line. There's a
8 pretty broad spectrum of people supporting this project.

9 SENATOR SMITH: Did this originate from Edison2?

10 MR. ESTERHAY: No, sir, we don't have any
11 connection with Edison2, the vehicle is really different. The
12 Edison2 vehicle is much more than an economy vehicle, a longer
13 range type of vehicle, and good gas miles per gallon. Our vehicle
14 is very different, designed for performance. Our vehicle is built
15 more for a particular customer, and our vehicle is really for a
16 niche market and performance. The point is this creates a really
17 exciting experience for a performance oriented vehicle and it's
18 unique. That's what creates this model.

19 SENATOR SMITH: I know worldwide there are so
20 many electric vehicles and so much battery technology.
21 Someone as large as Boeing is having huge problems as a result
22 of the technology. My concern is how do we advance on this
23 relatively small scale?

24 MR. ESTERHAY: I don't know much about aviation,
25 but that problem might be created or attributed to the cells.

1 What we're using is six-digit cells, Panasonic cells. What we're
2 using as opposed to lead acid batteries, but the uniqueness of
3 the battery tray, and that didn't come out earlier. What a
4 battery tray allows you to do to make the vehicle operate longer.

5 Our vehicle can be driven and we want the customer
6 to customize the battery use. This is almost customized and, of
7 course, the battery tray. It sounds so simple, and the reason
8 why it's not on a mass scale is because it doesn't make sense.
9 On a mass scale, you can't get any customizing. This is too
10 complicated for most. As I said, this is a unique vehicle, and
11 there's no other vehicle where you as a customer can arrange
12 something you'd like with the manufacturer.

13 The other aspect is that there are trays with the
14 vehicle. This allows the customer to try out the batteries they
15 want.

16 DELEGATE BYRON: Sir, we've got to move on.

17 SENATOR CARRICO: I assume that you're going to
18 make these vehicle on orders? Your niche market is for
19 performance vehicles and you have to get an order in order to
20 make the vehicle for that individual.

21 MR. ESTERHAY: We'll build the vehicle, just like in
22 Europe and U.S., we come in and buy the vehicle and drive it off
23 the lot. BMW in Europe will take an order for a car and three or
24 four months later until you get it. We'll do the same thing, take
25 a deposit for the vehicle and do it to the customer's specification.

1 You can take pictures of the car as it's being built.

2 SENATOR RUFF: You list an in-kind contribution for
3 this effort just shy of \$2 million.

4 MR. ESTERHAY: Yes, sir.

5 SENATOR RUFF: What kind of contract for services
6 have you got listed legal and printing and training for \$1.5?

7 MR. JACK ESTERHAY: Those benefits should be paid
8 in kind or in cash. The emphasis on in-kind are contracts for
9 engineering and contractual services.

10 SENATOR RUFF: All of that is in-kind?

11 MR. ESTERHAY: The engineering is in kind, yes, sir.
12 Advertising is like our responsibility.

13 SENATOR RUFF: For a \$4 million project, \$12,303.20
14 is cash?

15 MR. ESTERHAY: Those represent the expenses of
16 legal. I don't have all that in front of me. My recollection, that is
17 a registration and different taxes, there's accounting and payroll
18 and other services, they're expenses related to advertising.

19 MR. HAMLET: The drive train, what about the vehicle
20 that makes it more of a sports car? Is it power to weight
21 consideration or what do you do differently?

22 MR. ESTERHAY: A model right here. This is the
23 battery tread like the 1970s when the big sports car era, like the
24 Stingray. We're trying to integrate that with the modern features
25 are necessary as an electric vehicle with the tray. It's like a

1 sports car.

2 MR. HAMLET: In this design, what you're aiming for is
3 a sports car, the look and all that. What about the performance
4 side? What's the horsepower and weight ratio, or what is it that
5 differentiates for performance from other cars?

6 MR. ESTERHAY: It will out-perform any two-seater all
7 electric sports car under \$130,000. You'd have to pay over
8 \$130,000 to get a car that's quicker, all electric, two-door, two-
9 seat, faster, quicker, and lighter. This is for a performance-
10 concerned customer. A person who would buy this car wouldn't
11 buy it just to drive it to work every day. It's performance.

12 MS. NYHOLM: What he's asking is how does this
13 differentiate itself from a Lotus or Ford --

14 MR. ESTERHAY: We have an open cockpit vehicle, so
15 if it rains or something, it's really different than a racer. This
16 vehicle is designed to, it's a track car, light capability
17 characteristics, but also for a person who doesn't want to drive it
18 to and from work. Fun-time driving.

19 MR. HAMLET: Your batteries and your electric motor,
20 is there something different about that, that allows you to claim
21 higher performance, or is the performance all about weight?

22 MR. ESTERHAY: In an electric vehicle, it's the weight
23 of the battery. There's energy capacity and power, 3.1 unit
24 hours, which is really a big battery, a top-of-the-line battery
25 pack. You have to underline the use or the battery cell, and as

1 battery cells get better, we continue to put those in. The system
2 is actually very viable. We've laid out all the specifications and
3 we're outperforming our competitors.

4 DELEGATE BYRON: We need to move on. My only
5 comment would be on the scoring. Certainly, your product is
6 very important to you, and this reflects on the guideline, but as
7 investors, we have been given the greatest parameters of scores
8 and it's an investment we want to see come back to the tobacco
9 area relating to jobs and commercialization and it has to do with
10 what we're investing in. If it doesn't meet some of those, then
11 really your best example, so much explaining your project or to
12 go back and improve some of those scores to fit into the areas
13 that we want to see. That would be the best advice I could give
14 any applicant. It doesn't meet the first scoring range. We do
15 appreciate your comments. I don't see any further questions.

16 MR. ESTERHAY: Thank you very much.

17 DELEGATE BYRON: Next, we'll go to 2636. Fermata,
18 LLC.

19 MR. SLUTZKY: I'm David Slutzky, Fermata, LLC. I'll
20 just give you a quick update. There's been some changes in our
21 original submission of the business plan. One fundamental
22 change that we originally came to you and said we were going to
23 work with Edison2. We reached the conclusion that Edison2
24 probably would make a light delivery vehicle, and we weren't
25 clear that it would be manufactured, and they were more of a

1 concept car type operation. In the meantime, through the
2 Tobacco Commission, we were introduced to a different group,
3 Gordon Murray's Design in the UK. He's sort of a guru from
4 formula racing. He has developed over the last six years
5 \$80 million worth of investment in the state of the art vehicle
6 platform, is ready for manufacture. He is a North American
7 licensee, who we have joined forces with, contractual relationship
8 with them, we married our business plans, and we're doing a
9 distribution of a vehicle, and we think this will give us a
10 significant improvement to go forward with this proposition.

11 This is a vehicle we are very confident will be much
12 less expensive to produce and much less expensive to operate.
13 Our business plan has been revised and the grid expert, there's
14 an article, and we're talking about a demonstration project for
15 the vehicle grid that's in place, and the *New York Times* article
16 talks about the partners and their part of the pilot project.
17 Things have changed, and we have some investor capital, and
18 that wasn't the case when we initially applied. That's sort of my
19 summary. I'd like to make a comment about a couple of things
20 that were brought up I heard about today from the vetting
21 process.

22 Some concerns were raised about the market and the
23 degree to which we have an understanding of our market in our
24 initial application and that might have been a legitimate
25 complaint. What we've done in the meantime is that we have

1 some five and a half years researching the production of an
2 electric vehicle. They are partners with GM, Duke Energy, Frito-
3 Lay, there's tens of thousands of delivery vehicles. They folded
4 last year in March. The entrepreneurs that started that company
5 had some personal relationships in those five and a half years
6 and there's many fleet owners in the country and he's now under
7 contract as a consultant. We've had active discussions about
8 bringing him on in a very high level position, I'm not sure what
9 his position is going to be, but certainly taking control of our
10 marketing operations and he understands this market.

11 That's kind of a summary of my comments. I'll be
12 glad to answer any questions.

13 MR. HAMLET: Was it sort of a reset on the whole
14 concept when you found another vehicle partner, that you'd
15 scrap your own vehicle?

16 MR. SLUTZKY: Pretty much a standard vehicle, and
17 we were interested in an electric delivery vehicle. The value
18 proposition with fleets is that they spend \$5,000 a year in fuel
19 costs per vehicle, plus capital costs. If we could provide them a
20 vehicle that would perform what they needed to do, we could
21 lease it to them for less and we'd throw in the fuel for free at
22 locked-in fuel prices. That would be a very compelling value
23 proposition. We were going to add on leveraging that vehicle,
24 and our business model included that. That would be or give us
25 a significant revenue stream that we would expect.

1 The problem with Edison2 and to implement our
2 business plan, we needed to have a vehicle developer that
3 specialized in design and making a very light delivery vehicle.
4 Edison2 can do that. The problem is once you have a conceptual
5 design of a vehicle, you have to redesign it to make it
6 manufacturable and then be able to manufacture it. The state of
7 the art electric vehicle and in order to become, you have to
8 consider the structural element.

9 One of the problems is designing a vehicle that is
10 buildable and then find somebody that can build it. We originally
11 thought that Edison2 would get us going and then somebody
12 come in and fine tune the design and bid it out and find
13 somebody to build it. What we found with Mr. Murray, and he
14 already had perfected the very light vehicle platform when he
15 developed his IP for the vehicle platform, he tried to find an
16 original equipment manufacturer to make it, and he said there
17 really wasn't anybody who could. He spent more years and
18 developed a manufacturing program specifically around his
19 vehicle platform. His IP for the vehicle platform and the
20 manufacturing process of what he would license out to a few
21 licensees around the world to manufacture his vehicle. He is
22 going to deliver to us a vehicle ready for manufacturing and
23 deliver it to his North American licensees. A factory would have
24 to be built in order to produce this in year four. We've been
25 putting a lot of pressure on the North American licensee to put

1 their factory in Virginia. We assumed it might be somebody in
2 Detroit that would make our vehicle, but when you consider the
3 leasing operation and vehicle to grid, those are the types of jobs
4 we would be developing, marketing, and leasing operations both.
5 We think those jobs will be accelerated because we want to get
6 to market earlier, I kind of got ahead of myself.

7 If we can get the North American licensee to commit
8 to being in Virginia, it will create at least 800 additional jobs for
9 their assembly plant, there'll be supply chain opportunities in the
10 footprint. So if we're able to get this grant, one of the things
11 that we're going to do is we've got to work with you all on the
12 economic development package for this North American licensee.
13 They've been talking to North and South Carolina and we're
14 trying to convince them to be in Virginia.

15 In answer to the question why we got away from
16 Edison2, it's just that we had a better tactical partner.

17 MR. HAMLET: Other than the vehicle, more or less
18 marketing and sales arm of this manufacturer?

19 MR. SLUTZKY: A reasonable way to put it, but we
20 have exclusive rights for distribution to acquire all the delivery
21 vehicles and pickup trucks. Pickup trucks will probably come
22 after, and we can expand our market. Our first vehicle, we have
23 a potential market of \$900,000 per year. Consensually, the
24 distribution arm for the vehicle, and that's what we were going to
25 originally and leverage that capital asset to other streams, as

1 well hopefully.

2 UNIDENTIFIED: This a little different scenario here.
3 We're not the manufacturer, but we would be the distributor
4 instead, and that's not the model we had gone after.

5 MR. HAMLET: I have one question. I'm sorry to take
6 so long. This vehicle to grid idea, is it more like kinetic energy?

7 MR. SLUTZKY: I'll be real quick. The operator has to
8 wrap up their power output, and it's like when a thousand
9 customers shut off their air conditioning. To me, it's inefficient,
10 and it's very economically beneficial to the grid, flatten that curve
11 out as utilities migrate towards solar or wind, so the time curve
12 of their available supply is getting higher, therefore, they're less
13 efficient. We need to develop markets where stationary sources
14 and plants that have their own power-generating potential
15 capacity that's based on natural gas. They will sell electrons or
16 accept excess electrons from the grid on a contractual basis.
17 That market fits several of those called utility grievance
18 regulations.

19 If you take a quarter of the vehicles we have, they
20 would have storage capacity roughly equivalent to the entire
21 grid. It's an enormous source capacity. We have some that are
22 plugged in when not in use, and that's part of an organizational
23 connection to the grid, and that's the vehicle to grid business
24 plan that we have. It was discussed on the floor of the Senate as
25 recently as last November. The post office should get electric

1 vehicles, because we need to have vehicle to grid for electric
2 vehicles to work in scale. We don't want vehicles that create
3 problems like dragging current. We think that'll be huge. We
4 think it'll be profitable on the lease of the vehicle

5 DELEGATE BYRON: Thank you. We do have to move
6 along.

7 MS. NYHOLM: Tell us about your relationship with
8 Zytek Automotive.

9 MR. SLUTZKY: They are the North American licensee
10 for Gordon Murray, and we have a contract with them, and they
11 have to produce our vehicle, and they have to have the factory
12 up and running by a certain date and produce at our agreed-
13 upon volume. We've committed to orders for 75,000 vehicles
14 over a five-year period starting three years from now. They've
15 given us exclusivity from the delivery vehicle market. Our
16 original intent was to involve Edison2 in the concept stage of the
17 prototype, and we pay more to get that design and
18 manufacturable. They are paying the lion's share of it, the
19 development costs, which is about 14 million.

20 MR. NYHOLM: Do they have the exclusive license in
21 North America?

22 MR. SLUTZKY: Yes.

23 DELEGATE BYRON: Thank you. 2637.

24 MR. RAMAMURTHI: Madam Chair, I'm Jay
25 Ramamurthi. We want to thank Mr. Pfohl for his excellent

1 summary, and if you have any other questions, we'll be glad to
2 answer them. Other than that, I'll just let you move on.

3 DELEGATE BYRON: Are there any questions? All
4 right, thank you.

5 Next is Application 2639, Floyd County.

6 MS. MARTIN: Good morning, everybody, I am
7 Lydeana Martin from Floyd County, EDA. I also, if you have any
8 questions, I'll be glad to answer them, but our summary is before
9 you. We'll be glad to answer any questions if you have them for
10 us.

11 SENATOR RUFF: I have a little bit of concern about
12 the actual property. Is that a concern of yours?

13 MR. DAUGHARTY: Business consultant for the
14 company. I'm not sure what the Committee's issue was at that
15 time. Let me make it simple. You can't have air, you can't turn
16 it into a miracle product. That is the impact. The patent still
17 exists. Take the natural material and convert it into the medical
18 products we're talking about.

19 SENATOR RUFF: In your model, you believe that is
20 ahead of the curve actually being a product?

21 MR. DAUGHARTY: The simple answer is yes, to try to
22 make it even more positive.

23 DELEGATE BYRON: Any other questions?

24 MR. HAMLET: The point in the review was made
25 about the feeding technologies and it achieved the same or more

1 robust commercialization. Is it the existing products that the
2 Committee felt was part of the competition impediment, I guess,
3 for new technology?

4 MR. DAUGHARTY: It could be either. In this
5 particular instance, there are some alternatives that were
6 cheaper, but they don't have the same effect and same
7 performance characteristics. There are some that are more
8 sensitive to or slightly greater. You also have the situation where
9 given the fact that a large percentage of the Review Panel
10 participants are in the science field and they're scientists
11 themselves, or they may be aware, as well as the applicants,
12 seeing their competitive profile of other leading edge research
13 technology potential can be very robust, can be existing market
14 alternatives, as well as things in the scientific role.

15 MR. GILES: The criticism or once air exists, you can
16 do various things with it and the only kind of issue that's
17 currently, similar to air, that's not the purpose of this review.

18 MS. MARTIN: The media that they're using is in the
19 bacteria, and that bacteria can't be passed, but the process
20 they're taking through air has various capabilities that don't
21 occur naturally, and so those processes create the thrill of
22 competitive advantage for this opportunity.

23 DELEGATE BYRON: We will vote on these separately.
24 In the meantime, I'll ask Neal to give an overview of some of our
25 other scores to refresh your memory.

1 MR. NOYES: I'll refer members of the subcommittee
2 to page 60 in the materials that were provided, and the key
3 below shows which are approved and you compare these for time
4 with scores and the weight of the scores, and you can see what
5 represents or how that goes with the projects you're voting on.
6 You can see projects in the range of six have all been approved.
7 Five or below, we invited those applicants to return for a second
8 round in an opportunity to modify the application.

9 The diamonds in the boxes are all at the far right,
10 you'll see a score.

11 DELEGATE BYRON: Any questions from Committee
12 members?

13 DEPUTY SECRETARY CARTER: In 2010, we didn't
14 have the criteria.

15 MR. NOYES: That's correct.

16 DELEGATE BYRON: Let's start with Application 2639,
17 the second phase of the biosynthetic materials for Floyd County.
18 Do I have a motion?

19 SENATOR RUFF: I move it be approved.

20 SENATOR SMITH: Second.

21 DELEGATE BYRON: We have a motion and a second
22 to approve Application 2639 in the amount of \$837,286. Any
23 discussion? All in favor, say aye. (Ayes). Opposed? (No
24 response). That's approved.

25 Number 2637, and that is Alpha applied research for

1 coal requesting \$2 million. Do we have a motion?

2 SENATOR CARRICO: I move we approve it.

3 MR. OWENS: So moved.

4 DELEGATE BYRON: We have a motion by Mr. Owens
5 and seconded to approve Application 2637. Any further
6 discussion? All those in favor, say aye. (Ayes). Opposed? (No
7 response). That passes.

8 Next 2636. Request for \$2 million. That's for
9 Fermata, LLC, the prototype automobile you heard about, light
10 vehicle delivery. Do we have a motion on that? (No response).
11 All right.

12 Hearing none, move on to the next Application
13 Number 2634, Evo Motors, in the amount of \$2 million, and that
14 was for developing the prototype sports car vehicle. Do we have
15 a motion on that one? (No response). Hearing none, that
16 completes that round of grants.

17 I would just suggest if anyone did not get a favorable
18 motion and then determine if the scores are that far off and if
19 you want to go back and reapply, you'll have an opportunity to
20 reapply to our Committee and bring new information back for us
21 to consider. All right.

22 Neal, if you want to take us through the new grant
23 requests, and I believe there are six of them. We're going to
24 determine whether or not they go to vetting, the partnership for
25 vetting.

1 MR. NOYES: Thank you, Madam Chairman, members
2 of the Committee. Six new applications received by the
3 established deadline.

4 Eight million six hundred and change was requested.
5 And the available balance for R&D is of February 28th,
6 \$36,821,520.

7 Project 2697 - Bland County Economic Development
8 Authority. American Mine Research (AMR). Requesting
9 \$600,000 for a second phase of applied research focused on
10 underground mine wireless communications and atmospheric
11 monitoring. The Commission provided \$800,000 in 2010 to
12 support this work, and AMR has performed as promised, having
13 hired ten technical workers, provided all required financial match,
14 an submitted new products to the United States for regulatory
15 review and approval. New funding would be used for further
16 testing, completion of the development of Mine Net Mesh
17 products, hiring of two new engineering workers, and expanding
18 the approvals process internationally. Matching funds are
19 committed and available with Tobacco Commission funds to be
20 used for personnel and contractual services. The timeline for
21 Phase 2 extends through Quarter 4, 2014, and the deliverables
22 are clear and measurable. This application anticipates that ten to
23 twenty net new production employees would be required for
24 production after domestic and international product approvals are
25 secured, to be located at AMR's Rocky Gap location in Bland

1 County.

2 Members of the Committee, a portion of the Tobacco
3 Commission funds are requested and fall into the sales and
4 marketing category, and you will recall that after 2010, Phase I
5 award, you modified policy to limit the use of Commission funds
6 for such activities. Staff believes it will be possible to restructure
7 the overall budget ahead of Commission action in September on
8 this request. Staff recommends referral to VEDP for vetting.

9 DELEGATE BYRON: Any questions?

10 SENATOR RUFF: On that request, how much of it
11 would be for --

12 MR. NOYES: -- I don't know, I'd have to look back.
13 In reviewing it, it looks to me like it would be adjustable by
14 removing some of our funds for a different use, which it happens
15 with 75 percent of these projects of this type.

16 SENATOR RUFF: That is understood that this
17 applicant knows that if we support this plan.

18 MR. NOYES: Beyond the restricted amount that this
19 Committee has established by policy. Any other questions?

20 Project Number 2703 - Ferrum College. Ferrum
21 College requests \$1,400,000 to help complete the final
22 improvements on the prototype research boiler that is a part of
23 the college's research facility. The research objective is to
24 determine if agricultural waste streams can be combusted
25 together with low alkali materials, such as waste wood, without

1 detrimental effects on steam boilers used for heating/commercial
2 purposes. The application further states that the project will
3 allow Ferrum College to expand student training, developing a
4 strong and effective program related to biomass energy use and
5 production. Matching funding provided by English Biomass
6 Partners has already been used to build and install boilers, and
7 on-site testing is apparently already underway. The application
8 indicates that the Tobacco Commission funds would be used for
9 plant and equipment but lacks sufficient detail regarding exactly
10 what new equipment might be necessary for applied research
11 activities. While there may be commercialization opportunities
12 related to the licensing of IP developed during research, the
13 application estimates that approximately 20 FTEs engaged in
14 supply of feedstock at low hourly wage rates would result.

15 Staff suggests that the student learning opportunities
16 discussed might be most appropriately considered by the
17 Education Committee, and the objective of developing a
18 feedstock regimen might be most appropriately considered by
19 the Agribusiness Committee.

20 Staff recommends no further action at this time.

21 DELEGATE MARSHALL: You say this was
22 recommended to be moved to the Education Committee?

23 MR. NOYES: We have another round coming.

24 SENATOR RUFF: Madam Chairman, I believe the
25 recommendation would require or the request, we broke it down

1 into two categories. Then we'd have to refer half of it, I'd prefer
2 we'd do it that way.

3 DELEGATE BYRON: That doesn't change the time of
4 getting the applications in on time.

5 MR. NOYES: The applicant's application, the project is
6 not going to look the same though.

7 DELEGATE BRYON: Dealing with research is not
8 necessarily their criteria.

9 MR. NOYES: I'm recommending no further action at
10 this time. There'd have to be a motion to do that at some point.
11 At some point you accept or don't accept the staff's
12 recommendation.

13 DELEGATE BYRON: Since we don't have an education
14 applicant written today, we'll have to refer that.

15 DEPUTY SECRETARY CARTER: I understand that.

16 SENATOR RUFF: But we're going to have to have
17 enough time to do this.

18 MR. NOYES: Any other questions from the
19 Committee? All right.

20 2702 - Inova Health Care Services. EnerSol
21 Technologies. Inova Health Care Services, a not-for-profit health
22 care organization based in Northern Virginia, requesting
23 \$1,990,700 for the construction of a demonstration ten-ton per
24 day facility to incinerate hazardous and regulated medical waste
25 using Plasma Energy Pyrolysis System technology owned by

1 EnerSol. Some members of the Committee may recall a previous
2 application involving EnerSol with a different partner where the
3 project was to be sited out of the Commission footprint. This
4 application sites the project within the footprint, though the
5 location is yet to be determined. The PEPS Energy Pyrolysis site is
6 described as an environmentally superior alternative to current
7 waste disposal options, such as incinerators and landfills. The
8 PEPS has already been successfully deployed on a pilot scale with
9 the United States military, and it appears that permitting should
10 not impede this initiative.

11 Total project cost is shown as nearly \$7 million with
12 Inova committing currently available funds for the non-
13 Commission matching share. In effect, the application calls for a
14 prototype commercial scale demonstration unit that will enable
15 Inova and EnerSol to validate a green disposal methodology for
16 medical wastes. While there may well be both technology and
17 process tweaks to be addressed moving from pilot to commercial
18 prototype scale, the application is clear that it is financially viable
19 at the ten-ton per day processing level that needs to be
20 established ahead of Inova deploying like units at multiple
21 locations.

22 The proposed budget uses Commission funds in nearly
23 all line items, including personnel, contractual, plant, and
24 supplies and equipment, with Inova focusing resources on
25 personnel and equipment. Milestone and deliverables are clear,

1 with the facility estimated to be operational in Quarter 2, 2014.
2 There is a commitment to source necessary materials and
3 equipment from suppliers within the Commission footprint.

4 Just ten FTEs, skilled and semi-skilled workers, are
5 estimated, so the ROI is somewhat tenuous. A commitment by
6 Inova to construct and operate a second ten-ton per day facility
7 within the Commission footprint in order to first and fully satisfy
8 the terms of the grant agreement before moving forward with
9 locations elsewhere would be a gesture and has been discussed,
10 but the current application is silent on this matter.

11 Staff recommends referral to VEDP for vetting.

12 SENATOR RUFF: In a previous generation in
13 Mecklenburg County receiving medical wastes, when you talk
14 about this, that lit up the public. I wonder if we wouldn't be wise
15 to move forward with this without some commitments from the
16 locality to accept this. It would be a shame to spend money on
17 research and find that no county or city would be willing to
18 accept it.

19 MR. NOYES: With the glare of the applicant, the
20 locational decision with the agreement that political subdivisions
21 in advance of the meeting in September to consider vetting
22 outcomes, if that's what you want to do.

23 SENATOR RUFF: That would certainly be helpful.

24 SENATOR CARRICO: I would agree with Senator Ruff
25 that any community stand together and oppose it.

1 DELEGATE BYRON: Neal, I'm trying to recall the one
2 that was before us, and maybe it's different than the one I'm
3 thinking of. That was located in Northern Virginia.

4 MR. NOYES: EnerSol, a different partner. They
5 already have a waste facility right there, and I don't recall
6 medical or other type of waste that it was.

7 SENATOR CARRICO: Was it Washington, D.C. or
8 Northern Virginia wastes?

9 MR. NOYES: That's a political comment.

10 DEPUTY SECRETARY CARTER: I would agree with
11 Senator Ruff's suggestion.

12 MR. NOYES: We can ask them if they would state that
13 as a condition for expectation of this application with the motion
14 for vetting, should we incorporate that in that motion?

15 SENATOR RUFF: Yes, I think so.

16 MR. NOYES: Any other questions from the
17 Committee? All right.

18 Project 2700. Southwest Virginia Higher Education
19 Center Foundation. Paradigm of New York, Limited Liability
20 Corporation. They are requesting \$1,132,000 to enable Paradigm
21 to further develop, test, and obtain certifications, for example,
22 California Air Resources Board, EPA, and Mine Safety folks for a
23 diesel engine emissions control product that uses a high voltage
24 "corona and plasma field" in combination with catalytic filters to
25 reduce pollutants. Paradigm has created a prototype and has

1 filed an application the reactor system design. Research
2 objections involve optimizing the reactor by miniaturizing
3 electronics to enhance durability and efficiency. Target markets
4 for this product include small and medium-sized diesel engines
5 used in mining, generators, transportation, and construction. If
6 successful, manufacturing, sales and distribution of the Paradigm
7 system is promised within the Commission footprint with 68
8 clean energy jobs at \$49,000 per, and further capital investment
9 of \$1,648,000. It is noteworthy that there appears to be original
10 equipment manufacturing interest at this point.

11 Commission funding would be used for personnel,
12 contractual services, continuous charges, equipment and plant
13 and improvements. Matching funds are not yet committed and
14 available, so that your policy that no Commission monies may be
15 disbursed until all funds identified in the application as necessary
16 to accomplish project objectives are in hand will apply.
17 Milestones and deliverables, with project duration going through
18 Quarter 4, 2014, are clear and measurable.

19 Staff recommends referral to VEDP for vetting.

20 Are there questions?

21 DEPUTY SECRETARY CARTER: Matching funds are yet
22 not available. Do we know that?

23 MR. NOYES: Sometimes we don't, and the issue is
24 that ultimately this Committee, based on going through the
25 vetting process, decide to recommend it to the Full Board, and

1 the Full Board approve it, but we're not going to disburse our
2 funds and some proportion going forward, all funds necessary to
3 accomplish the project have to be in place.

4 DELEGATE BYRON: Is it fair to say that if the
5 application is somewhat favorable, that would have a bearing on
6 it, if the project has merit, in other words?

7 DEPUTY SECRETARY CARTER: The \$1.1 million to be
8 used to get certification from the EPA?

9 MR. NOYES: This technology needs to be recognized
10 as acceptable, yes, the certification. Certifications are part of
11 that.

12 SENATOR SMITH: If we have established that there is
13 a definite cost for vetting projects, what's the average cost when
14 we do that?

15 DELEGATE BYRON: It's not per applicant.

16 MR. NOYES: We have an agreement with VEDP.

17 MR. STEPHENSON: We have an agreement with
18 VEDP, and the total cost annually is between three to four
19 hundred thousand dollars a year, and that depends on how many
20 applications come forward as to the cost.

21 SENATOR SMITH: In the past year, how many have
22 we done so we could put a number on what that cost is?

23 MR. NOYES: It's somewhere between fifteen and
24 twenty thousand per. It's not an inexpensive process.

25 DELEGATE BYRON: It has to have some merit;

1 otherwise, you're voting on it as you read it.

2 DEPUTY SECRETARY CARTER: The money that they're
3 asking for, is this for every project that's sent to vetting, is it
4 different?

5 MR. NOYES: We need to miniaturize and try to
6 improve efficiency, but this is a necessary step in order to go
7 forward to commercial production of this system. There's no
8 point in doing this if it can't be certified.

9 DEPUTY SECRETARY CARTER: They're asking for
10 money for personnel and contractual services. That would be
11 helping EPA, as well?

12 MR. NOYES: It very well could be.

13 Any other questions?

14 Project Number 2699 - Southwest Virginia Higher
15 Education Center Foundation. LiteIdeas, LLC. The foundation is
16 requesting \$2 million to enable LiteSheet Solutions, LLC, a wholly
17 owned operating company of Connecticut-based LiteIdeas, LLC,
18 that is the owner of the IP, to continue research and establish
19 manufacturing operations at an as yet to be determined location
20 within the Commission footprint. LiteSheet is an early stage
21 "innovation" enterprise working in the globally highly competitive
22 LED lighting technology space where, according to the
23 application, the United States significantly lags other nations.
24 Four domestic patent applications have been filed, and
25 international filings are planned.

1 The overarching research and development objective
2 is to continue development of leading edge direct alternating
3 current LED driver and chip-on-board, light guide plate, reflector,
4 and diffuser designs for a wide range of products to be
5 commercialized. More simply, LiteSheet would use Tobacco
6 Commission funds to finalize development of its first generation
7 LED lighting system and obtain vital commercial certifications
8 (Underwriters Laboratory) while working to develop the next
9 generation of LED lights.

10 LiteSheet appears to have a number of non-Virginia
11 domestic partners and potential partners or clients, as well as
12 international partners that would allow our technology to
13 migrate, but as yet so no clear supply chain or a contracted
14 finished goods supplier that would presumably be located within
15 the Commission footprint ahead of LiteSheet itself being
16 manufacturing operations. The application states that the benefit
17 to the region will be in the form of job creation, tax revenue, and
18 the operations of a leading edge illumination company.

19 The foundation would hold equity as an investor. Job
20 creation is estimated at 65 FTEs within three years of
21 Commission funding. As for taxable private investment, the
22 Company estimates needing only an additional \$250,000 within
23 three years. Milestones and deliverables are clear, and show
24 design and manufacturing/assembly for first and second
25 generation products, as well as continuing operations and an

1 "expansion decision" in Quarter 1, 2015, and a project end date
2 in Quarter 3, 2015.

3 The budget indicates that Commission funds would be
4 used for equipment, and a detailed list is provided, though the
5 fund details section adds that funds may be reallocated to other
6 expenses as business needs are identified. The latter would
7 require an approval by the Committee or, on a limited basis, the
8 Executive Director. Most matching funds are not yet committed
9 and available.

10 Staff recommends referral to VEDP for vetting. The
11 no dispersal policy would be in effect.

12 Any questions? This would presumably be located in
13 the Tobacco Commission footprint.

14 MR. NOYES: Not specific. Could be a requirement.

15 SENATLOR RUFF: How could that be a requirement?

16 MR. NOYES: We could advise the applicant should
17 this move through vetting. It is an expectation. No funding
18 decision will be forthcoming unless.

19 MS. NYHOLM: I've having a little concern about the
20 application earlier about EPA having not made a commitment if
21 they're not in the footprint. If they're not in the footprint, why
22 are we entertaining that application, if they're not committed to
23 do it upfront, why are we entertaining that, for spending \$15,000
24 to \$20,000 on vetting?

25 UNIDENTIFIED: Just to clarify, all that will be in the

1 footprint.

2 MS. NYHOLM: I thought there were several that there
3 wasn't a commitment. If they're not going to do it in the
4 footprint, why are we doing this?

5 DELEGATE BYRON: There are several that haven't
6 made a commitment to come forward, manufacturing, R&D, or
7 whatever it may be.

8 MS. NYHOLM: If the footprint isn't going to benefit
9 from this R&D application performance, then why even should it
10 come forward?

11 DELEGATE BYRON: That was one example, and that's
12 why I pointed it out. It didn't really have to do with the
13 commercialization of it, but it had more to do with the leasing of
14 the vehicles and the business model. That one was different.
15 Sometimes I think we may have entertained some applications,
16 but I think it's important that we consider that. And that's a
17 major factor, that commercialization be done within the footprint.

18 DEPUTY SECRETARY CARTER: I thought that it was
19 always part of this whole process. That should be part of the
20 criteria, isn't it?

21 MR. NOYES: In every one of the staff
22 recommendations, I point out to members of the Committee
23 what it is that's being promised. When we open it up for vetting
24 like the vehicle in the staff write-up, it said manufacturing is not
25 promised, the promise is the leasing part. Then you make a

1 judgment as a committee whether it is sufficient. There is no
2 policy that says it must be manufacturing if there were, say,
3 5,000 distribution jobs, then you'd have to consider something
4 like that. I point it out that it's up to the Committee to make the
5 call.

6 Any other questions? Let's move on to Project 2698.
7 Southwest Virginia Higher Education Center Foundation,
8 Excavation Alert Systems, LLC. The foundation is requesting
9 \$1,500,000 to enable Evacuation Alert to finalize the
10 development of its ExcAlert devices, set up manufacturing in the
11 Region and begin commercialization. Excavation Alert proposes
12 to establish operations in a small industrial facility with adjacent
13 land for device testing. Initially, there would be three FTEs with
14 periodic visits by company principals based outside the
15 footprint, and the expectation is that employment and capital
16 investment would grow as a function of an expanding order book
17 (\$60 million annual revenue projected by the fifth year of
18 operations). Thirty-seven FTEs at an annual wage of \$57,000
19 and an additional \$4 million in taxable capital investment are
20 projected. A patent application for the ExcAlert System is
21 pending.

22 Milestones and deliverables are clear and measurable.
23 Please note Milestone 3 where Excavation Alert proposes to
24 evaluate potential mass manufacturers located in the Tobacco
25 Region and select a manufacturer to enter into a teaming

1 agreement for production. Tobacco funds would be used for
2 activities in all line items except transfer payments. Matching
3 funds, from a Series A convertible debt round and the Center for
4 Innovative Technology, are not yet committed and available.
5 The detailed business plan shows work continuing through
6 Quarter 4, 2015 with Tobacco Commission funds required
7 through that point, though the end date for shows a Quarter 4,
8 2014 end point. This needs to be clarified.

9 Staff recommends referral to VEDP for vetting.

10 SENATOR RUFF: Madam Chairman, I don't quite
11 understand and not being from areas where they've done a
12 whole lot, how much of a demand is there for this product?

13 MR. NOYES: The application, I think, is pretty good in
14 describing the consequences of a pipeline breakdown and the
15 costs associated with that sort of thing. This is protection
16 technology and people could walk the pipeline. The application
17 indicates there's quite a heavy demand, and they're going to be
18 building a lot more pipeline.

19 SENATOR CARRICO: This is a protection device.

20 MR. NOYES: That's my understanding, but I'm not a
21 scientist.

22 DELEGATE BYRON: Can someone answer that
23 question?

24 MR. RODGERS: There are a lot of transmission
25 pipelines in the United States right now, and there's about 2.1

1 million miles of natural gas distribution lines. Excavation damage
2 causes millions of dollars to damaged lines every year. What this
3 device will do is it will prevent damage to the pipeline from
4 excavation. Right now what you have is dial 811, and there are
5 shortcomings with that.

6 SENATOR CARRICO: I know in my career as a state
7 trooper driving down 301 in Caroline County, there was an
8 explosion. A farmer was out digging in his field, hit a natural gas
9 line, and it exploded, and it took a long time to get all the
10 companies together.

11 MR. RODGERS: All that has to be done in the Tobacco
12 Region and right now they plan to do it themselves.

13 MR. NOYES: The application says exactly what I told
14 you.

15 MR. RODGERS: This is going to be in the Tobacco
16 Region either way.

17 SENATOR RUFF: You'd be willing to put that in
18 writing?

19 MR. RODGERS: Yes, and the paperwork.

20 SENATOR RUFF: You heard Senator Carrico's
21 description. How would this stop that kind of thing?

22 MR. RODGERS: Right now, there are shortcomings
23 with excavation. You have to call 811 oftentimes. You can't
24 really rely on the person out there with a backhoe to do that.
25 They might alert somebody at Central Headquarters if they don't

1 know how to do it on the scene. It's a very simple design. It's
2 designed to go in the ground, above the pipeline, and if a
3 backhoe hits it, it will be a signal that will emit and it's safe and
4 environmentally safe, but it's a good solution to address the
5 problem that exists today.

6 SENATOR CARRICO: How far from the line is it before
7 you hit one of these?

8 MR. RODGERS: Above the line, maybe a matter of a
9 couple of feet, three or four feet above the line, but still below
10 the surface.

11 SENATOR CARRICO: All along the pipeline?

12 MR. RODGERS: Yes. Our strategy is to do it with new
13 pipeline, so all you have to do is stick it in the ground above the
14 pipeline.

15 SENATOR SMITH: Is this only going to be used in new
16 pipeline construction, or would you go back and do this through
17 the entire length of the pipeline?

18 MR. RODGERS: Primarily the new pipelines, but to
19 put it in some of the pipelines you'd have to dig them up, but the
20 strategy right now is new pipeline.

21 SENATOR SMITH: It doesn't apply to the existing
22 lines?

23 MR. RODGERS: It does, it's just that the initial
24 strategy, but it applies to Phase 2.

25 SENATOR SMITH: But it's not electronic?

1 MR. RODGERS: No, very safe, it's low cost to buy and
2 low cost to install and low cost to operate.

3 DELEGATE BYRON: Neal, are you done?

4 MR. NOYES: Yes.

5 DELEGATE BYRON: We have six applications before
6 us. One of them we already discussed, and I think we removed
7 that from the block.

8 SENATOR CARRICO: I move that we do this in a
9 block, all these recommendations, and the one we talked about,
10 there has to be prior authorization by the particular community,
11 the waste project.

12 SENATOR RUFF: The one dealing with the medical
13 wastes is going to be prior to vetting.

14 DELEGATE BYRON: If we don't do it prior to vetting,
15 all that energy of the partnership vetting something that no one
16 in the community wants or maybe they do want it. We need to
17 find that out first.

18 MR. NOYES: The proper outcome for the Committee
19 and the Commission that we will defer until January a decision by
20 the Commission on the project and introduce in the vetting
21 process a new application once the vetting process is started.
22 The vetting process will start Monday.

23 SENATOR RUFF: Madam Chairman, I would move
24 that 2702 pulled out of the block.

25 DELEGATE BYRON: 2702 and 2703 are out of the

1 block.

2 MR. NOYES: We have 2697, 2700, 2699, 2698 that
3 are included within the block that staff is recommending to send
4 to VEDP for vetting.

5 DELEGATE BYRON: Any further discussion? I've got a
6 motion and a second. All in favor, say aye. (Ayes). Opposed?
7 (No response).

8 SENATOR RUFF: Madam Chairman, I move that 2702
9 be left on the table until a local government has agreed to the
10 site within their jurisdiction.

11 SENATOR CARRICO: Second.

12 DELEGATE BYRON: Any further discussion on that
13 motion?

14 MR. OWENS: We have somebody here.

15 MR. RAMAMURTHI: Thank you, I'm Jay Ramamurthi,
16 and I could barely hear back there what was going on, but I
17 understand you want to get a local county to certify the location
18 of the site?

19 SENATOR RUFF: Yes.

20 MR. RAMAMURTHI: If I may, the system that's being
21 installed is certified by the U.S. Army and Fairfax County and
22 Northern Virginia. There was an earlier decision in the
23 application before where we made a partner as for waste to
24 energy from garbage. This is destruction of medical wastes and
25 the process is not incineration but gasification and make energy

1 from the gas. This process has already been vetted and
2 approved by Virginia DEQ and Fairfax County in Northern
3 Virginia. DEQ made the recommendation before. So we have an
4 enterprise in the county where it's located and it's going to be an
5 industrial warehouse where we put the stuff at eight to six
6 thousand square foot warehouse.

7 SENATOR RUFF: My concern is that I know when you
8 talk about transporting wastes, medical solids and every type of
9 waste or matter, it creates issues within local government. Until
10 you have identified a county that has gone through that and
11 accepts that, I would not support it. I'm supportive of the
12 concept, but not without that.

13 MR. RAMAMURTHI: We've done that in Fairfax County
14 as part of the environmental permitting process to get local
15 authorization and we had to do that before we sent in the
16 application. So we've gone through that process and we'll do
17 what's required.

18 MR. NOYES: The motion is that you have to have that
19 before we go through vetting.

20 DELEGATE BYRON: Before we go further with this
21 project and the Committee feels more comfortable that you have
22 an agreement from the community that you plan to do this
23 research in.

24 MR. RAMAMURTHI: Can we show we've been through
25 this process and we've been through DEQ and we don't expect

1 that to be a problem.

2 DELEGATE BYRON: If it's acceptable to Northern
3 Virginia, it's not necessarily acceptable to Southside Virginia.
4 That's the point.

5 MR. RAMAMURTHI: Northern Virginia, it was
6 permitted.

7 DELEGATE BYRON: I'm sure what you say is correct,
8 and if that's the case, you can take it to a particular locality and
9 get that done, but the motion is until it's acceptable to Southside.
10 Thank you very much.

11 We have a motion and a second.

12 MR. STEPHENSON: Madam Chairman, just for clarity,
13 is it my understanding or the staff understands that as soon as
14 the site is identified and accepted, we may move to vetting
15 without further Committee action?

16 DELEGATE BYRON: I would be agreeable to that. Did
17 you hear that?

18 SENATOR RUFF: Yes, I heard that.

19 DELEGATE BYRON: Ned is saying that assuming that
20 that's taken care of, that we can move this ahead without further
21 vetting or without coming back to the Committee again. If they
22 have that agreement with the local county, it can go forward.

23 SENATOR RUFF: Perfectly fine with me. Out at
24 Tangier Island earlier this week, they had an opportunity and, in
25 fact, Robert Redford came to Tangier Island to make a movie and

1 Tangier Island does not believe and they refuse to have a
2 Hollywood movie that would have made a lot of folks a lot of
3 money. If you don't have a receptive community, it can't go
4 anywhere, but we have to respect the community first. We just
5 have to have a receptive community first. How they get there,
6 that's fine with me.

7 DELEGATE BYRON: That's part of our understanding.
8 Any further discussion?

9 SENATOR SMITH: I agree with the concept, I'm not
10 sure that's in the motion in the record. The motion, was that
11 amended?

12 MR. NOYES: The motion is to table --

13 DELEGATE BYRON: -- Let's just withdraw it.

14 SENATOR SMITH: Maybe withdraw it and start over.

15 DELEGATE BYRON: The motion is that we send it to
16 the partnership for further vetting after it has been identified,
17 identifying the locality. All those in favor, say aye. (Ayes).
18 Opposed? (No response). All right, thank you. That was a
19 good discussion.

20 Now, we have Carolyn. This is a progress report.
21 We're going to use part of this as our workshop that we have
22 coming up, so if you want to save some of your energy for that
23 meeting, that would be great.

24 MS. BRINGMAN: R&D Investments. To date, you
25 have invested over \$77 million in six R&D innovation centers and

1 19 R&D projects. In the six R&D innovation centers, you've
2 invested \$33.4 million and \$29.7 million of that was for special
3 projects, and \$3.7 million of that was R&D funds that were
4 invested in operating costs.

5 The other question was \$43.6 million was invested in
6 19 R&D projects. The questions we looked at was how does the
7 Virginia Tobacco Commission, how are the R&D innovation funds
8 performing and how are the Commission's R&D projects
9 performing? To do this, the R&D innovation centers and the R&D
10 project leaders were asked about the comprehensive on-line
11 questionnaire, and this was self-reported and unaudited, and the
12 date is April 5th of this year. So this R&D investment will take
13 many years to mature, and we looked at four categories of R&D
14 investments.

15 We looked at R&D capacity, workforce development,
16 innovation, and four categories of R&D investments. We looked
17 at R&D capacity, workforce development, innovation and
18 technology transfer, and commercialization in the Tobacco
19 Region.

20 How are the R&D innovation centers doing? We've
21 invested \$33.4 million so far in construction and operating
22 expenses; \$18.2 million non-Commission funds secured for
23 construction, and five of six have completed construction and are
24 operational.

25 R&D capacity. We have 75,000 square feet allocated

1 to apply to R&D activities; 106 FTEs with an average salary of
2 \$62,500 for applied R&D activities there. That includes 14 paid
3 and unpaid student internships.

4 There are 45 companies engaged in applied R&D
5 activities. To date, there are five master research agreements
6 that we'll enter into and partner with universities and research
7 labs.

8 There are also 40 research awards valued at \$10.8
9 million, and that's over 10 million awarded to the center and
10 companies that are engaged in applied R&D activities.

11 DELEGATE BYRON: Does that include the one at The
12 Babcock & Wilcox Company, B&W, with the reactor?

13 MS. BRINGMAN: Yes. Workforce development. To
14 date, 240 students completed 26 credit-based advanced learning
15 courses offered, and there are 2,146 persons participated in 106
16 technical professional development conferences, workshops, and
17 seminars.

18 For innovation and technology transfer, first we looked
19 at publications, and you had six that were published in science
20 and engineering and journals and 19 research reports for
21 industry, and one other paper has been published. Now,
22 innovation and technology transfer. I'm looking at intellectual
23 property that was developed. As you can see, there's no
24 invention and disclosure or patent applications or patents
25 awarded or licensing agreements. There were 23 commercial

1 testing agreements signed and 25 intellectual property
2 agreements.

3 Commercialization in the Tobacco Region: 185 new
4 FTEs with an average salary of \$66,648 support
5 commercialization efforts; \$12.3 million in private capital
6 investment made in the Tobacco Region for commercialization
7 efforts.

8 Any questions so far?

9 So, how are the R&D projects doing? Nineteen
10 projects with \$43.6 million to date and \$59.5 million in non-
11 Commission funds secured for projects. Fourteen of 19 projects
12 on track to complete within budget and time remaining. R&D
13 projects created, there's 212 FTEs with an average salary of over
14 \$56,000 to support applied R&D activities for projects. There are
15 39 research awards valued at over \$71 million, and those are
16 contracts and subcontracts, and they have been awarded to the
17 grant beneficiaries as a result of their work on the project to
18 date.

19 As far as innovation and technology transfer, 12
20 science and engineering articles published, nine research reports
21 for industry, and eight other papers have been published.

22 Innovation and technology transfer for intellectual
23 property developed: 22 invention disclosures, 15 patent
24 applications, one patent awarded, three licensing agreements, 23
25 commercial testing agreements, and 25 intellectual property

1 agreements.

2 UNIDENTIFIED: Well, those numbers aren't the same.

3 MS. BRINGMAN: Twelve commercial testing
4 agreements, two intellectual property agreements. I think that
5 was a copying error.

6 As far as commercialization in the Tobacco Region
7 goes, seven of the 19 projects began commercialization from the
8 Tobacco Region; 158 new FTEs with an average salary of
9 \$68,253 to support commercialization efforts in the Tobacco
10 Region; \$18.2 million in private capital investment in the Tobacco
11 Region for commercialization efforts. Between \$251,000 and
12 \$1.1 million in revenue from sales have been received by grant
13 and beneficiaries for products that they have developed during
14 that time.

15 DELEGATE BYRON: Are those figures, the 158 new
16 FTEs, those numbers that are actually earning money right now?

17 MS. BRINGMAN: Yes. Those are the most recent
18 numbers reported by commercialization.

19 DELEGATE BYRON: Any questions?

20 SENATOR RUFF: You said that there were five that
21 were not meeting their target goals at this point. What were the
22 problems they were having?

23 MS. BRINGMAN: I don't know off the top of my head.
24 I can look that up and answer your question later.

25 DELEGATE BYRON: Some of the details she brought

1 up that I want to see happen in that workshop as we go forward
2 and go back and review some of these things and those are
3 things that we can get some more detailed information on to look
4 at so we know where we're going and successes and failures,
5 that certainly would be good information for us.

6 SENATOR RUFF: When you plan that workforce
7 meeting, are you going to segregate the top two so that they're
8 not skewing the numbers too much so we can really see what the
9 bulk of these are?

10 MS. BRINGMAN: We do have to do some follow-up,
11 what's happening and what we're doing to get yourself on track
12 and we'll try to do that for you.

13 DEPUTY SECRETARY CARTER: Would you explain the
14 difference between commercial testing agreement, number of
15 licensing agreements signed, and number of intellectual property
16 agreements signed?

17 MS. BRINGMAN: The licensing agreement, the
18 intellectual property agreement is a little more general.

19 DEPUTY SECRETARY CARTER: A little more general?

20 MS. BRINGMAN: Yes.

21 DEPUTY SECRETARY CARTER: Do you have to have
22 an intellectual property agreement prior to getting a license?

23 DELEGATE BYRON: I don't think so. Thank you. I'd
24 like a copy of your PowerPoint, and why don't you send it to all
25 the Committee members.

1 MS. BRINGMAN: Yes, and I've got some other
2 information that I'll send.

3 DELEGATE BYRON: Thank you.

4 Next on the agenda, Tim.

5 MR. PFOHL: I'd direct Committee members to page
6 94 and where Carolyn just mentioned the first action of the R&D
7 Committee in July, 2009, was to provide start-up operating funds
8 for the R&D centers distributed across the Tobacco Region. You
9 can see all six have current balances. I would note the current
10 balance percent remaining is simply the amount of money they
11 have not yet requested from their grant. They may have
12 incurred some of those expenses for operating funds, but they're
13 in the process of getting reimbursement. The Commission policy
14 is that the Commission director can extend those grants through
15 the fourth anniversary in order for the centers to continue using
16 funds and the fifth year begins the end of this coming July, and
17 then they would need your Committee recommendation for a
18 fifth year extension.

19 Given the fact that these are all signature efforts, our
20 recommendation would be to give approval to all six to continue
21 using these funds for a fifth year, then we'll revisit those two
22 large balances over the coming year.

23 DELEGATE BYRON: Any questions for Tim? Do we
24 need a motion?

25 MR. NOYES: Yes.

1 DELEGATE BYRON: We need a motion to extend what
2 Tim has just described. Any further discussion?

3 SENATOR RUFF: So moved.

4 DELEGATE BYRON: Does everyone understand the
5 motion? And we have a second. All in favor, say aye. (Ayes).
6 Opposed? (No response).

7 Ned will go over the grant agreement at a later time.

8 MR. STEPHENSON: In the workshop.

9 DELEGATE BYRON: We normally grant another grant
10 application deadline, but because there are some things coming
11 up that we're going to be discussing in our workshop and if
12 everyone is anxious to keep moving along, the great next speed
13 here, I was going to suggest that we wait until after before we
14 set a deadline for the next round in case we have changes that
15 need to be considered for the new applications or applicants that
16 are going to be submitting applications. Anyone disagree with
17 that or any comments on that?

18 MR. STEPHENSON: Madam Chair, this is a
19 suggestion, and we certainly can wait. There is a certain amount
20 of work that has to be done by VEDP if they are to stay on
21 schedule so we could skip a cycle if we --

22 DELEGATE BYRON: -- They already have applications
23 coming to them now.

24 MR. STEPHENSON: They have some that have been
25 sent today, but if you expect us to stay on cycle with three

1 meetings a year in which you vote to send some to VEDP, if a
2 meeting is delayed, they may not, that's happened before, but
3 we can look at it.

4 DELEGATE BYRON: Unless anybody objects, I would
5 just as soon skip a cycle, step back, and review everything we're
6 doing and go on from there. Does anyone object to that?

7 All right, do we have any public comment? Anyone in
8 the audience wish to speak? I don't see anybody running up to
9 the podium. Any Commission members have anything to discuss
10 or say?

11 All right. I will be getting together a polling for a date
12 for our workshop.

13 With that, unless there's something else, we'll
14 adjourn.

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17 **PROCEEDINGS CONCLUDED.**

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CERTIFICATE OF THE COURT REPORTER

I, Medford W. Howard, Registered Professional Reporter and Notary Public for the State of Virginia at Large, do hereby certify that I was the Court Reporter who took down and transcribed the proceedings of the **Virginia Tobacco Indemnification and Community Revitalization Commission, Research and Development Committee Meeting**, when held on Friday, May 3, 2013, at 9:00 o'clock a.m., at the Hotel Roanoke & Conference Center, Roanoke, Virginia.

I further certify this is a true and accurate transcript, to the best of my ability to hear and understand the proceedings.

Given under my hand this _____ of May, 2013.

Medford W. Howard

Registered Professional Reporter

Notary Public for the State of Virginia at Large

MY COMMISSION EXPIRES: October 31, 2014.