

1                                   **VIRGINIA TOBACCO INDEMNIFICATION**  
2                                   **AND COMMUNITY REVITALIZATION COMMISSION**

3                                   701 East Franklin Street, Suite 501  
4                                   Richmond, Virginia 23219

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9                                   **Research and Development Committee Meeting**

10                                  Wednesday, September 24, 2014

11                                  2:30 P.M.

12  
13                                  Holiday Inn Hotel & Suites

14                                  Bristol, Virginia

1    **APPEARANCES:**

2    The Honorable Kathy J. Byron, Chairman

3    The Honorable Charles W. Carrico, Sr.

4    Ms. Rebecca Coleman

5    The Honorable Maurice Jones, Secretary

6            Department of Commerce & Trade (by phone)

7    The Honorable Daniel W. Marshall, III

8    Ms. Sandra F. Moss

9    Mr. Edward Owens

10   Dr. Todd Pillion

11   Mr. Kenneth O. Reynolds

12   The Honorable Frank M. Ruff, Jr.

13   The Honorable Ralph K. Smith

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1 **APPEARANCES (cont'd):**

2 COMMISSION STAFF:

3 Mr. Timothy S. Pfohl – Interim Executive Director, Grants  
4 Program Administration Director

5 Mr. Ned Stephenson – Executive Director

6 Ms. Stephanie S. Kim – Director of Finance

7 Ms. Sarah K. Capps – Grants Program Administrator,  
8 Southside Virginia

9 Ms. Sara G. Williams – Grants Program Administrator,  
10 Southwest Virginia

11 Ms. Carolyn Bringman – Performance Data Analyst

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13 COUNSEL:

14 Ms. Heather Lockerman, Esq.

15 Senior Assistant Attorney General, Counsel to the Commission

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1 DELEGATE BYRON: My name is Kathy  
2 Byron. I'm Chair of this Committee and I'll ask Mr. Pfohl to  
3 call the roll.

4 MR. PFOHL: Delegate Byron?

5 DELEGATE BYRON: Here.

6 MR. PFOHL: Senator Carrico?

7 SENATOR CARRICO: Here.

8 MR. PFOHL: Ms. Coleman?

9 MS. COLEMAN: Here.

10 MR. PFOHL: Is Secretary Jones on the  
11 phone yet? Not yet, but we're expecting him momentarily.  
12 Delegate Marshall?

13 DELEGATE MARSHALL: Here.

14 MR. PFOHL: Mr. Moore could not be  
15 here today. Ms. Moss?

16 MS. MOSS: Here.

17 MR. PFOHL: Mr. Owens?

18 MR. OWENS: Here.

19 MR. PFOHL: Dr. Pillion?

20 DR. PILLION: Here.

21 MR. PFOHL: Mr. Reynolds?

22 MR. REYNOLDS: Here.

23 MR. PFOHL: Senator Ruff?

24 SENATOR RUFF: Here.

25 MR. PFOHL: Senator Smith?

1 SENATOR SMITH: Here.

2 MR. PFOHL: You have a quorum.

3 DELEGATE BYRON: Secretary Jones,  
4 can you hear us now, are you with us? Secretary Jones, can  
5 you hear us? Secretary Jones, Delegate Byron, can you hear  
6 us now? Does that mean yes? Let me go ahead and welcome  
7 Heather Lockerman. She will be representing us from the  
8 Attorney General's office and we welcome you. Secretary  
9 Jones, can you hear us yet?

10 SECRETARY JONES: I'm here.

11 DELEGATE BYRON: Good, welcome.

12 Next thing on the agenda we have the minutes from May 22<sup>nd</sup>.

13 We have a motion to accept the minutes.

14 MR. OWENS: Second.

15 DELEGATE BYRON: All in favor say aye.

16 (Ayes.) Opposed? (No response.) All right. Ned, you're next  
17 on the agenda.

18 MR. STEPHENSON: Thank you,  
19 Chairman Byron. Very quickly, at the last meeting of the R&D  
20 Committee, Chairman Byron asked us for some historical  
21 scoring data and if you look at the package that was mailed to  
22 you starting on page 24 you will find some average data on all  
23 of the scores that have been provided to you by VEDP's vetting  
24 panel and also an average of those that were approved by you  
25 and those which were declined by you. This may give you

1 some frame of reference for your work today and in the  
2 applications that are before you. For the visual learners  
3 among us, the subsequent pages give you those same  
4 numbers graphically. These were prepared by a staff member  
5 Savannah and they give you a little bit more information for  
6 those of you who are interested in reading those.

7 Finally, beginning on page 28, you will  
8 find the actual historical scores themselves so you can  
9 reference what you have done historically. We hope that will  
10 give the Committee some guidance as you go to work today.

11 DELEGATE BYRON: We appreciate that,  
12 Ned. I know we looked through this and it was really  
13 interesting to not only refresh my memory on some of these  
14 grants but also look back at the scoring and the investments  
15 that have been made. I think our next step that I would  
16 anticipate from the members would be even taking it further  
17 than that and get together at our next meeting and try to put  
18 some more of that together and see where some of the phases  
19 are and the progress that the grants are making. It also might  
20 help if the Committee members would like to see all that and  
21 it would be helpful going forward.

22 DELEGATE MARSHALL: Madam  
23 Chairman, maybe a recap to see where we are as far as capital  
24 investment and jobs created and what we want to  
25 commercialize et cetera, et cetera.

1 DELEGATE BYRON: All of that. I think  
2 as I get that information even maybe prior to a meeting I think  
3 that will be beneficial and we'll just keep going from there. I  
4 know Senator Carrico, we went out to the energy center here  
5 in Bristol and toured that this morning and to see what they're  
6 doing there and what the potential is for the money that we  
7 invested in that as well. I think that also would be beneficial  
8 to everyone.

9 MR. PFOHL: Madam Chair, as far as  
10 information for the Committee members, Carolyn Bringman,  
11 our Performance Analyst is wrapping up her annual survey of  
12 all the research centers and grantees to answer exactly those  
13 questions for you and the job creation and how much private  
14 capital investment there is. How much IT created and so  
15 forth.

16 DELEGATE BYRON: That's good, that  
17 will complement. I know that when we looked at some of this  
18 before it wasn't directly related to the project and now may  
19 just start putting everything all together in summary form.

20 DELEGATE MARSHALL: Tim, when will  
21 that information be available and when it is ready, would you  
22 email that to us before the next meeting?

23 MR. PFOHL: Certainly we can email it,  
24 yes.

25 MS. BRINGMAN: Within the next couple

1 of weeks, we'll have the preliminary data and we have that  
2 now and I just need to, we'll get all that together.

3 DELEGATE BYRON: You gave us some  
4 information at the last meeting that we have.

5 MS. BRINGMAN: I have some  
6 preliminary aggregate data for you. I can go over that with  
7 you now if you'd like or if you want me to email it to you, I can  
8 do that.

9 DELEGATE BYRON: If you have it right  
10 there, you can highlight it real quickly.

11 MS. BRINGMAN: All right. There's two  
12 questions, how are the Tobacco Commission's investments in  
13 R&D projects performing and how are the investments in the  
14 R&D centers performing. The R&D centers and project  
15 leaders were asked to complete a comprehensive online  
16 questionnaire. Since the Commission began funding R&D  
17 projects and centers prior to establishing a targeted fund for  
18 R&D the scope of this year's program was expanded to  
19 capture those additional projects in R&D centers. The R&D  
20 projects, so far you've invested \$47 million in 22 projects. \$69  
21 million in matching funds secured, \$105 million in grants,  
22 contracts and subcontracts awarded. You have 131 full time  
23 jobs with \$60,000 average salary and 57 part time jobs with  
24 \$30,000 average salary. Seventeen projects utilized  
25 intellectual property protection and nine begin

1 commercialization.

2                                   The results for commercialization so far,  
3 you have 160 full time jobs with \$77,000 average salary.  
4 Twenty-one part time jobs with \$19,000 average salary in the  
5 Tobacco Region. You've got \$21 million in private capital  
6 investment and \$2.7 million in sales revenue. And the \$2.7  
7 million in revenue received to date by the grant beneficiary  
8 from sales of technologies or products developed.

9                                   DELEGATE MARSHALL: The nine  
10 projects commercialized, of the nine how much from R&D,  
11 how much money from R&D went to those projects?

12                                   MS. BRINGMAN: I don't have those  
13 figures in my head but I can get that back to you.

14                                   DELEGATE MARSHALL: The breakdown  
15 between Southwest and Southside of the nine projects.

16                                   MS. BRINGMAN: I don't have that off the  
17 top of my head but I can pull that together for you. Now, as  
18 far as your R&D center status, you invested \$76 million in five  
19 R&D Innovation Centers and five learning and research  
20 Centers of Excellence. These research centers include the  
21 Center for Advanced Engineering and Research, the National  
22 Center for Modeling and Simulation, the National Tire  
23 Research Center, the Noblis Center for Applied High  
24 Performance Computing and the Virginia Institute for  
25 Performance Engineering and Research. These centers

1 include consulting services, on site research staff, business  
2 recruitment, shared space and shared equipment. The  
3 research staff is engaged in applied research, engaged in  
4 recruiting businesses to locate in the Tobacco Region,  
5 networking events such as conferences and professional  
6 development workshops. Two have credit based advanced  
7 learning classes and five have internship programs. I have a  
8 little bit of information on each of those for you.

9                   As far as consulting services, there are  
10 seven centers, 117 companies and those companies have used  
11 either consulting services and those 117 have either used  
12 shared space or shared equipment at the centers. Fifty-three  
13 have locations in the Tobacco Region. 110 have used  
14 consulting services provided by the centers. 47 used shared  
15 space and or shared equipment and fourteen have leased  
16 space at five R&D centers.

17                   On site research staff, four of the centers  
18 indicate they have on site research staff and they have  
19 researchers employed on site doing their own research and  
20 development. That could be utilized as far as intellectual  
21 property. There have been 143 grants, contracts and  
22 subcontracts have been awarded to the centers totaling more  
23 than \$5.6 million. Some researchers are employed doing their  
24 own research and development that could be utilized as far as  
25 intellectual property and licensing goes. As I said, 143 grants,

1 contracts and subcontracts awarded to the center totaling  
2 more than \$5.6 million in value. Currently at the centers  
3 there's 44 full time jobs with an average salary of over \$69,000  
4 and all of the centers have utilized some form of intellectual  
5 property protection or licensing agreements for the products  
6 they develop.

7                   For business recruitment and networking  
8 events, five of your centers engage and recruit businesses, to  
9 date 124 companies have been engaged and recruited and 43  
10 of those are located in the Tobacco Region. Four of your  
11 centers have networking events and to date 4500 events have  
12 been held at those centers and that has impacted 2600  
13 companies in the Tobacco Region attending those events. I'd  
14 like to note though that the majority of the networking events  
15 have been at the Institute for Advanced Learning and  
16 Research, which has a full-service conference center.

17                   Classes and internship programs. Two  
18 centers offer advanced accreditation. There has been 171  
19 classes at these centers and 879 Tobacco Region residents  
20 have participated in these classes. Five of your centers have  
21 internship programs with a total of 259 interns participating  
22 and completing 252 projects.

23                   DELEGATE BYRON: Any questions?

24                   MR. STEPHENSON: Carolyn, are these  
25 figures you've presented self-reporting to us by the applicant?

1 MS. BRINGMAN: Yes, they are self-  
2 reported.

3 DELEGATE BYRON: Sounds like we're  
4 off to a great start and thank you for all your work and we'll be  
5 looking forward to more information in the future. Thank you.

6  
7 Now, next on the agenda, does anyone  
8 have any questions for Ned on the information he shared with  
9 us? If not, Jerry Giles is here from the partnership and he's  
10 going to review the applications with us. I believe we had one  
11 visitor. We offered anybody that wanted to go to the vetting  
12 process and as your schedule allowed. All right. Jerry, do  
13 you want to start?

14 MR. GILES: I'll operate from over here,  
15 no disrespect not standing up but this microphone works  
16 better, I believe. On the screen to your left, you'll see the  
17 three slides. We just concluded round number eleven of the  
18 overall sequence. It's kind of hard to believe we've gone this  
19 far over that period of time.

20 The second slide I'd point out to you  
21 happens to contain the scoring elements that we asked the  
22 subject matter experts and team leaders to focus on as they  
23 review the original electronic application, which comes to the  
24 Tobacco Commission staff office. And supplemented with  
25 additional information that the applicant teams that approve

1 the vetting have a chance to embellish prior to submitting  
2 their best and final application.

3 I would point out these scoring elements  
4 with the exception of the addition of a score for business plan  
5 quality and value proposition defense have not changed over  
6 the entire sessions and they've held us in good stead and I  
7 think they're pretty self-explanatory for people whether or not  
8 they're involved in science and these activities.

9 The third slide, which will be difficult for  
10 you to see, there's no way to compress this or expand it. It  
11 contains the listing of the seven applications that went  
12 through the due diligence in round eleven. It gives an  
13 indication of the review panel members and it shows in a  
14 configuration, meaning the scores you see at the bottom do  
15 not match up with the numerical sequence at the top of the  
16 slide. The actual scores both from science and from  
17 commercialization and combined score and then a proposed  
18 business plan standalone. For the benefit of those that have  
19 difficulty reading the slide, let me just for a moment focus on  
20 the seven applications. There's application 2865, which is  
21 proposed in a numerical sequence, that's VTT LLC that  
22 happens to be a \$3 million request and over an extended  
23 timeframe, the creation of forty full time equivalent positions.

24 Number 2867 is actually a medical device  
25 application and that request is for \$750,000 with 51 in terms

1 of job creation over an extended timeframe.

2 Application 2868, which is basically the  
3 creation of a next generation high performance vehicle and  
4 that request is for \$838,786 and then in a relatively short  
5 order creation of eighteen full time equivalent positions.

6 2869, Electric Field Motors is a \$2 million  
7 request calling for fifty jobs to be created over time.

8 Application 2870 Radical Combustion  
9 Technologies, that's also a \$2 million request and also fifty  
10 jobs to be created.

11 Application 2871, the acronym is SMART,  
12 Spectrum Management Research Testbed and that request is  
13 for \$1,543,000 and that calls for five jobs to be created.

14 The seventh and final, which is 2872  
15 Micronic, that's a \$1,995,145 and they gave us a range of one  
16 hundred jobs over an extended timeframe.

17 The review panel members were the same  
18 as we've had in years past. University of Virginia, Virginia  
19 Commonwealth University, supplemented by Georgia Tech,  
20 West Virginia University and University of Maryland. Also SRI  
21 International and SJF Ventures. A rotating seat in terms of  
22 with one of the Tobacco funded research centers, CAER and  
23 CH2M Hill, a globally recognized engineering design firm, and  
24 they stood down in this round because they knew in advance  
25 they wouldn't be able to attend the presentation.

1 I won't go through the scoring profile, you  
2 can see it for yourself from the slides.

3 What I would like to propose Madam  
4 Chair, I normally go through each of the applications and  
5 review the executive summary as well as repeat the staff  
6 comments that came with the recommendation. Since some  
7 of the staff comments and rightfully so are extended in length  
8 because it would take a great deal of time to repeat all of that.

9 I would be happy to go through the  
10 executive summary that's provided by the applicant in the  
11 original application and I can start with 2865. This is  
12 basically a vehicle modeling and simulation center, the  
13 National Tire Research Center or NTRC and they propose to  
14 expand upon its economic development successes in southern  
15 Virginia by adding state of the art vehicle modeling and driving  
16 simulation capabilities. NTRC's global customers must reduce  
17 vehicle production costs and timelines to remain competitive.  
18 The integration of NTRC's modeling and hardware in the loop  
19 capabilities with high fidelity driving simulation creates an  
20 incomparable virtual design process. Relatedly, new vehicle  
21 technologies require human factors and transportation safety  
22 research using these one of a kind tools. This will generate  
23 high paying specialized jobs with minimal risk by further  
24 solidifying NTRC's emergence as a premier global vehicle  
25 technology and design center. In summary, this is basically

1 the kind of this is really a research technology infrastructure  
2 enhancement request.

3 I will now give summary comments that  
4 was provided to each of the applicant teams in this case 2865  
5 both from the science and commercialization phase,  
6 comments related to the science phase is as follows. Not a  
7 standard translational R&D model; no discussion defense of  
8 any new intellectual property to be created and in turn  
9 commercialization through the creation of new companies in  
10 the region. While the team declares a custom design of a  
11 unique global nature for the facility, the core infrastructure  
12 components exist already in an off the shelf fashion. Platform  
13 appears to be a highly technical service provider model for  
14 vehicle modulation/simulation. Addition of some clinical  
15 testing of driver impairment factors supplements the service  
16 provider menu. The existing team appears to have all the  
17 requisite technical performance credentials.

18 Moving on to the commercialization  
19 review panel summary comments. It is not certain that this  
20 will have a truly transformative impact on the region, would  
21 augment what is currently a specialty automotive cluster in  
22 the area. Very long term play with regard to sustainability of  
23 revenues and the creation of self-generated capital for next  
24 phase expansion. Projection is for forty direct jobs in 2022 if  
25 Tobacco Commission and other funding can be achieved.

1 Next is application 2867.

2 DELEGATE BYRON: Jerry, we have so  
3 many, I don't know if we want to stick with some questions as  
4 to what might be, we might have some questions rather than  
5 trying to go back. Does anyone have any questions on this  
6 particular application? Was it discussed at all during the  
7 vetting process and may not be your position to do so or staff  
8 may have brought their attention as to the amount specified in  
9 the request, I think that was over the amount that we  
10 specified and I know they're requesting \$3 million.

11 MR. GILES: Madam Chair, that was not  
12 specifically discussed, it's a please respond item at the review  
13 panel leadership. They certainly know what the limits are. In  
14 general, they tend to view that these grants are extraordinarily  
15 large.

16 DELEGATE BYRON: Is this new  
17 research?

18 MR. GILES: It's a new capability and  
19 new equipment, which does exist. It really kind of elevates the  
20 capacity in modeling and simulation with respect to driver  
21 reaction and part of the application referred to certain factors  
22 like alcohol and drugs and medication. I'm not sure if they  
23 tested for texting and driving but nevertheless there is some  
24 corollary benefits and derivatives from this. It is an enhanced  
25 infrastructure request.

1 DELEGATE MARSHALL: Would it be  
2 appropriate to ask the applicant these questions or to come  
3 forward and give us a brief explanation?

4 DR. HALL: I didn't have anything  
5 particularly prepared. I'm Dr. Robert Hall from Virginia Tech  
6 and Treasurer of the VTT LLC. Our technical individuals who  
7 weren't able to be here today and they sent their regards but  
8 this is a continuation of our desire to grow the modeling and  
9 simulation industry in southern Virginia. It's close to one of  
10 the biggest customers right now, which is the auto racing  
11 industry located at the Virginia International Raceway. So far  
12 at the last submission with the Tobacco Commission, we  
13 received \$5 million for the LPRE, which is the tire testing  
14 machine and we created 26 jobs already and closing in on \$10  
15 million of revenue in the first two years of operation. We are  
16 looking to induce one of the eight major automotive  
17 manufacturers to engage in a partnership with us on this  
18 venture with the simulator, which is exactly what we did with  
19 the tire machine back in 2010. General Motors was a partner  
20 in that and General Motors executives have come up with or  
21 have accompanied our team to China to see an existing  
22 simulator, which is one level below what this would be, which  
23 is a design that would be done by Virginia Tech engineers  
24 along with the engineers from the National Tire Research  
25 Center. We're hoping to induce General Motors, which offers

1 many opportunities. We hope the Tobacco Commission will  
2 give us the opportunity, your vote of confidence to help us woo  
3 one of those automotive manufacturers to come to Southside  
4 Virginia. In regard to your question about the \$3 million, at  
5 the time of our application there was some difference of  
6 opinion from various members of the Tobacco Commission  
7 whether a prior applicant was subject to the \$2 million limit or  
8 not and we were encouraged to ask for the \$3 million and  
9 accept what you're willing to give us.

10 DELEGATE BYRON: That's a good point  
11 and I appreciate that.

12 SENATOR RUFF: You referred to one of  
13 the manufacturers. What are the other manufacturers doing  
14 currently? Not the tire.

15 DR. HALL: Right now, none of the  
16 manufacturers have the level of simulation that would be  
17 involved with this project. The process of designing a car goes  
18 through at least for a year one company spent \$900 million in  
19 a year. This project we think would take out one third of that  
20 prototype process. An individual company could likely save  
21 \$300 million a year if they could be integrated into this type of  
22 process. But no one else as far as the simulation has the  
23 capabilities that we're talking about that combines all of these  
24 processes. This simulator will be different.

25 DELEGATE MARSHALL: Sir, in the tire

1 center, your partners in that is Goodyear and General Motors?

2 DR. HALL: Our partner is General  
3 Motors and Goodyear is a customer that we were able to lure  
4 from another company and I won't mention the name but they  
5 did also test for Goodyear, the NASCAR tires previously. They  
6 were able to run the tires at 55 miles an hour, which is a little  
7 slower than the NASCAR tire. We can run at 200 miles an  
8 hour and Goodyear decided to move all their testing but they  
9 are spending about a million dollars a year with us. General  
10 Motors was with us in 2010 and they put in \$5 million to  
11 match the Tobacco Commission's \$5 million to build the  
12 machine.

13 DELEGATE MARSHALL: If you build the  
14 simulation and General Motors is your partner, how many  
15 partners can you work with for other manufacturers?

16 DR. HALL: We can work with many  
17 manufacturers and we have it in our contract with General  
18 Motors now and we anticipate some of the other OEMs will  
19 start testing within the next six months on the tire machine  
20 and we anticipate the same model taking into consideration  
21 with the simulator. Even though we may have an initial  
22 partner, we will not be the sole provider that will, that won't be  
23 our sole customer on the OEMs.

24 MR. OWENS: Sir, if you don't get the \$3  
25 million, how will you make up the difference?

1 DR. HALL: We would begin to look for  
2 other partners. We would look in the Tobacco Region and we  
3 would also look to the universities to see if they would like to  
4 make an investment. It wouldn't be a death blow if we didn't  
5 get the entire \$3 million and we still have quite a bit of work to  
6 do in trying to induce one of the partners as well.

7 DELEGATE BYRON: Thank you very  
8 much.

9 SENATOR RUFF: Can I follow-up with  
10 Jerry?

11 DELEGATE BYRON: Yes.

12 SENATOR RUFF: On the scores, did I  
13 understand you correctly that there is no, could any university  
14 be doing this same research?

15 MR. GILES: I don't necessarily think  
16 that, I can't speak with actual certainty whether there's any  
17 other capability or anywhere else in the world right now that's  
18 similar to this. I don't think there's anything or other people  
19 getting into that market if it were a robust market. If one is  
20 going to save a car company and \$300 million per year when  
21 you consider that kind of money, maybe a quid pro quo, I  
22 don't think the \$300 million was shared with us. If a  
23 businessman says what's good for the goose is good for the  
24 gander.

25 SENATOR RUFF: Thank you.

1                   MR. PFOHL: If I could very quickly make  
2 an observation. This request as well as the one you're going to  
3 hear about from the Center for Advanced Engineering are a  
4 little bit different than what we typically see in the R&D  
5 program in that they are not a specific research task or on a  
6 specific process or product. This one and the CAER are both  
7 requests that would build a research capacity of those two  
8 centers. That may be putting too fine a point on it but as we  
9 noted in the staff comments, it does enhance arguably the  
10 long-term stability of these centers by offering an additional  
11 suite of services to customers locally. It is a little bit different  
12 than someone coming and saying we've got this product we  
13 think is a little bit better than someone else's.

14                   DELEGATE BYRON: Thank you. Any  
15 other questions. All right, Jerry.

16                   MR. GILES: The next one in sequence is  
17 2867 and this is the PICC medical security device. I'll define  
18 that for you momentarily. This is a line security and quality  
19 control device. The executive summary provided by the  
20 applicant states the following. The present general inventive  
21 concept relates to systems and methods of securing a  
22 Peripherally Inserted Central Catheter (PICC) against  
23 tampering, and allowing for a secure chain of command  
24 interface during a medical procedure, and more particularly, a  
25 PICC line security cover, securing the PICC line tubing, and a



1 Derrick, all members of our company. Let me have a couple of  
2 brief notes and address some of our goals. Our goal is to  
3 create this R&D medical device company and the products we  
4 put the R&D process to assembly and then production to  
5 create jobs in Southwest Virginia. The products we're talking  
6 about one is the tamper proof cover, the control on the PICC  
7 line and warding device for tamper. The biggest aspect I think  
8 that we have, there is no competition and we have a phased  
9 approach and comments are based upon our phased  
10 approach. We cannot market a product that has not been  
11 approved by the FDA so this is a prototype phase first. Our  
12 target is to reduce cost to the industry by extended expensive  
13 hospital stays. The market for us will be hospital surgical  
14 centers, cancer centers, drug treatment centers. People  
15 involved in this will be the health plans, insurance companies,  
16 providers and payers in general. The actual patients  
17 themselves will not be purchasing this device. The goal will be  
18 to allow people going in for drug treatment to be able to be  
19 released immediately with this device and not have extended  
20 expensive stays in hospitals.

21 DR. MILLER: Thank you for your help  
22 today. I'm Dr. Miller, 48 years of being a doctor. You know,  
23 as a storyteller in 1642 there was an article in the London  
24 newspaper that said if it will ever be used it's probably  
25 doubtful. It is not colorful, it is a bad material. Doctors don't



1 addict and drug deaths today exceed automobile accidents  
2 and alcohol. 105 people a day die from drug overdoses or  
3 drug problems. It's bacterial carditis and this is an infection  
4 and these people will get this because of the way they  
5 administer the medicine into drugs and the way they use it.  
6 This device is tamper proof, this thing will alert us through  
7 home healthcare and transitional health. It has to be  
8 monitored more closely. For instance, say it's not a drug  
9 addict, it may be someone with a little bit of Alzheimer's  
10 disease and so forth. Maybe we can keep them at home or  
11 treat people in the assisted living facilities with this device.  
12 We're not just talking about drug addicts, we're talking about  
13 cancer patients, we're talking about pediatric patients and  
14 we're talking about all kinds of infectious products. TPM  
15 where we give nutrients via IV.

16                   As you can tell, I'm so excited about this.  
17     And we've got a good team together here. We like what we've  
18     done and we don't see huge problems with it. If we have to,  
19     we'll capitalize it and use it in our patent. But this is a device  
20     that I'm so excited about. I have a medical directory of the  
21     entire state of Tennessee and the medical records of the entire  
22     state of South Carolina and health plans. I want to tell you  
23     that those plans are going to buy this immediately because  
24     the average admission to the hospital for this problem I've  
25     talked about is \$119,000. So again we're going to look at

1 costs, access and quality and look at how to get away from  
2 defensive medicine and we want to look at capability.

3 I'll be glad to answer any questions and  
4 you can see my passion for this but I'll be glad to answer any  
5 questions you might have.

6 DELEGATE BYRON: Any questions?

7 MR. PFOHL: Madam Chairman, the staff  
8 noted in the original comments when this was submitted,  
9 there were no concurrent matching funds that were proposed  
10 in the application. I know that's an issue we shared with you  
11 by email and your team was going to be looking into that. As  
12 the proposal was initially submitted, all the required matching  
13 funds would be the value of the intellectual property that their  
14 team is bringing to the project. Have you looked into any  
15 fundraising so that funds would be spent concurrently with  
16 ours?

17 UNIDENTIFIED: What we would do is  
18 use the value of the patent for a credit line to secure a credit  
19 line against us.

20 DR. MILLER: We also talked to a bank in  
21 Southwest Virginia for a credit line and so forth. Yes, if we  
22 need to go that route, we'll do it.

23 MR. PFOHL: Thank you.

24 DELEGATE MARSHALL: Thank you very  
25 much.

1 MR. GILES: Next in line would be  
2 application 2868, which is Design, Development and  
3 Manufacturing of a New High Performance Vehicle and  
4 Creation of Composite Manufacturing Capabilities in Southern  
5 Virginia. The request is \$838,786 with eighteen full time  
6 positions to be created over the next 36 months. The  
7 executive summary provided by the applicant. TMI AutoTech,  
8 a long-standing company in the footprint, will design and  
9 prototype a high-performance vehicle geared to amateur use,  
10 which will be named the TMI\_SNIPER. TMI will partner with  
11 existing Tobacco Commission funded research and  
12 development centers and international automotive companies  
13 to develop the TMI\_SNIPER prototype from the ground up.  
14 TMI\_SNIPER requires advanced materials, such as fiber  
15 reinforced composite materials, a manufacturing capability  
16 that is not currently available in our region. This project will  
17 create a new initiative to bring composite manufacturing  
18 capabilities to our region. TMI\_SNIPER will be completely  
19 manufactured in the Tobacco Region, creating approximately  
20 18 skilled jobs.

21 From the face to face presentation in the  
22 science category, TMI AutoTech has a track record of design  
23 capacity in its team, composite manufacturing experience is  
24 not self-evident. Composites seem to be a core technology of  
25 the proposed new vehicle. HP car could be built without the

1 composites center but it likely would be more difficult.  
2 Timelines seem very compressed, realistic? Critical  
3 component testing is vague. TMI seems to underestimate the  
4 timeframe required to achieve its tasks and milestones and  
5 does not take into account the need to test and qualify  
6 composite structural members on the new high performance  
7 car.

8 In the commercialization category. The  
9 team has experience in design and making cars; linkage to  
10 Honda Performance Development is a clear plus. Little was  
11 presented about the composite facility (no milestones, budget  
12 or outcomes.) Project seems ambitious for the money and the  
13 twelve month period.

14 DELEGATE BYRON: Any questions from  
15 anyone?

16 MR. LEONARD: I'm Matt Leonard from  
17 the Halifax County Economic Development and I'm here with  
18 Mark Swain, owner and vice president of TMI and others. We  
19 appreciate your time and all the effort that staff has put into  
20 our request and all the vetting that has gone into this. We're  
21 excited to have the possibilities and some of the aspects not  
22 mentioned in the presentation you have before you.

23 This project will use all of the R&D assets  
24 that the Tobacco Commission has already put into Halifax  
25 County in Southside Virginia. The additional funding is

1 critical to develop that type of manufacturing in the region.  
2 Dr. Doug has managed our center, which includes the  
3 laboratory for the last two or three years and we expect that  
4 will be used heavily as well in this project along with the  
5 modeling and simulation center that was funded by the  
6 Tobacco Commission.

7 As far as the technical aspects in regard  
8 to the timeline and commercialization and the ability to, we  
9 have a tremendous track record in developing automobiles.

10 MR. SWAIN: My name is Mark Swain, I  
11 appreciate the opportunity to be here. I've got a history since  
12 2008 that we came down from Canada and set up in the area  
13 and the Southside region has been great to do that. This is a  
14 brand new vehicle and I want to clarify that right now. A  
15 brand new high performance sports car and this is a new  
16 market and there's certainly a market demand for it. With  
17 regard to the timeline, we do want to go to commercialization  
18 quickly and we've done that before. So the timeline and a  
19 complete scale that runs over about a 42 week basis from  
20 start to finish what is required to get that done. I know that  
21 does seem quick but when you've got a product that we need  
22 to get to market, we do have a timeline. The reason we can do  
23 that, we have good capabilities in house. We're asking for  
24 eight hundred thousand and by far less at this point in time  
25 that if we just came in here cold turkey and wanted to start

1 out. Plus the knowledge, plus what we've learned from 2008  
2 to make it all happen. I just want to say this is doable and we  
3 thank you for your time and I'm open to any questions.

4 DELEGATE BYRON: Tim?

5 MR. PFOHL: Mark, recognizing this as a  
6 public meeting and your response will be recorded and  
7 published on our website. The application as we noted in the  
8 staff report depends heavily on private investors \$750,000  
9 toward the matching funds and the possibility of borrowing  
10 those funds was mentioned. Can you share anything with us  
11 on the status of that?

12 MR. SWAIN: Absolutely. We know that's  
13 a big part of this and since day one we've been working with  
14 some private investors. I have a few people that are waiting to  
15 hear the results from the Tobacco Commission and it would  
16 make them feel good if we have a foot already in the door and  
17 if we get positive results then or if we get it today, I'll certainly  
18 tell those people. We have a good basis for private investment  
19 and that is also a goal and we can also fall back to standard  
20 bank financing. From a business standpoint, that's not the  
21 best and we deal with a lot of private investors that like the  
22 project and want to see it take off. One thing helps the next  
23 but. What we hear today will certainly help us keep going but  
24 they've certainly been involved since day one.

25 MR. PFOHL: Thank you.

1 DELEGATE BYRON: Delegate Marshall?

2 DELEGATE MARSHALL: Mark, talk to us  
3 a little bit about the product? Who are the customers? I  
4 assume you're going to sell it in the States.

5 MR. SWAIN: Yes, this is a new vehicle  
6 and it's open to a worldwide market and to use the term  
7 gentleman driver's car and it is –

8 DELEGATE MARSHALL: What's the  
9 demographics, what's his income level?

10 MR. SWAIN: Fifty-plus, an  
11 entrepreneurial type person who are unique and they've done  
12 well up to this point in time and looking for a way to relax, like  
13 a race car driver and their kids and they might have the  
14 means to do it. As you know, Delegate Marshall, like the VIR  
15 track there and yes, there's a certain person we're going after.

16 DELEGATE BYRON: Senator Ruff?

17 SENATOR RUFF: Thank you, Madam  
18 Chair. I see the development of the car. What's the long term  
19 outlook or where are you going to manufacture this car?

20 MR. SWAIN: It will all be done at our  
21 current facility. We currently have 20,000 square feet at VIR,  
22 that's where the nuts and bolts of the car will be done. The  
23 cost of manufacturing will be done at the center for coating.  
24 The assembly and testing will be done at our current facility,  
25 which is in Alton, Virginia.

1                   SENATOR RUFF: How many cars do you  
2 anticipate you will be producing per year?

3                   MR. SWAIN: It will be 100, twenty per  
4 year and that's a very realistic estimate of twenty and that's  
5 worst case scenario. Our claim was based on twenty for three  
6 years to make sure and we didn't want to get into a situation  
7 where we couldn't get to the end.

8                   SENATOR RUFF: This is going to be  
9 eighteen people to make the twenty cars a year?

10                  MR. SWAIN: Yes. A lot of those jobs go  
11 across the board, assembly technicians on the shop floor and  
12 technicians at the new facility as well as engineers. There's a  
13 lot more to it than just bolts and other parts.

14                  DELEGATE BYRON: Thank you.

15                  MR. GILES: Next application is 2869,  
16 which is the Premium Efficient Electric Field Motors. As you  
17 see on the slide, it's a \$2 million request and fifty full time  
18 positions. The executive summary comments provided by the  
19 applicant is as follows. The electric motor and generator  
20 market is \$90 billion globally with yearly growth of about five  
21 percent. Electric motors consume fifty percent of electrical  
22 energy produced in the United States. However, standard  
23 magnetic induction motors have many drawbacks, including  
24 manufacturing cost and low operating efficiencies. Electric  
25 Force Motors has a fundamentally new electric motor and

1 generator technology based on its Electric Field Technology.  
2 Electric field motors are extremely efficient, thus lowering  
3 operating costs. In addition, manufacturing of electric field  
4 motors can be completely automated, thus lowering purchase  
5 costs compared to magnetic induction motors. Electric Field  
6 Motors seeks funding to develop manufacturing for its new  
7 motors.

8                   In the science phase, no prototypes yet  
9 developed; no data to justify proof of performance. State of  
10 technology development does not support declared economic  
11 outcomes. Potential for transformative technology, if it works.  
12 CEO invented the technology approach and is experienced in  
13 technology startups. Unrealistic timeline for milestones;  
14 unlikely to progress from prototyping to market  
15 entry/adoption during the proposed timeframe.

16                   The commercialization market for electric  
17 motors is very large. Trane and Dominion are two significant  
18 potential industry partners. If it works, it could be  
19 transformative. Madam Chair?

20                   DELEGATE BYRON: Any questions?

21                   DELEGATE MARSHALL: I have comment  
22 and then a question. Our goal for some of the new members  
23 is jobs. It looks like a little more down so on the  
24 commercialization. So I guess my question is and I wonder  
25 why or was the presentation just not good to satisfy the group

1 that you were working with with the science?

2 MR. GILES: I wouldn't describe it that  
3 way at all. I think the real point of the majority of the team  
4 leaders was this could potentially be a huge transforming  
5 opportunity. I think the potentials of the CEO and the team,  
6 particularly the CEO speak for themselves. The request is  
7 really to provide the funding to jump from where they are  
8 today into a manufacturing mode. I believe there was a feeling  
9 of the team leaders let's prove that it works before making that  
10 investment or before other outside investors make that  
11 investment. If it works, it's really a huge opportunity. The  
12 panel was not convinced they'd been through all the requisite  
13 steps to prove that as a fact. I hope that's responding to your  
14 question.

15 DELEGATE BYRON: At what point do  
16 you know that it works?

17 MR. ROGERS: In about two weeks,  
18 Dominion will be there, Trane will be there and we'll prove it.  
19 We'd like to invite all the panelists to come.

20 DELEGATE MARSHALL: What happens  
21 in two weeks?

22 MR. ROGERS: Two weeks is when  
23 they're going to have the prototype functional and apply power  
24 to it and what Dominion believed all along in fact does work.  
25 So two weeks, the timing didn't work out exactly right but in

1 two weeks it will be proven.

2 DELEGATE MARSHALL: So this could be  
3 contingent on two weeks?

4 MR. ROGERS: On with Rogers right now.

5 DELEGATE BYRON: So you're defending  
6 it in two weeks?

7 MR. ROGERS: The paperwork won't be  
8 signed in two weeks, contingent upon the technical validation  
9 would be very appropriate. There is another point I was going  
10 to make. I'm Ed Rogers, on behalf of Southwest Virginia  
11 Higher Education Center Foundation and I'm trying to speak  
12 slowly because of our excellent Court Reporter who told me in  
13 the past I talk too fast. Trisha Lewis with Greenville County  
14 and Bill Dougherty, who is the director of the Dominion Green  
15 Tech Incubator in Ashland, Virginia. The inventor and CEO  
16 unfortunately couldn't be here because he's speaking at an  
17 energy conference at the invitation of Dominion Resources.  
18 The prototype issue was really the issue that we think held  
19 back the scores. Just some observations. This kind of  
20 investment for this Committee is more of an art than science.  
21 There is no magic formula that can be an accurate predictor of  
22 success. As decision makers you have to gather facts and you  
23 have to gather opinions and make a judgment call. And the  
24 review panel is an opinion. They base their opinion upon the  
25 written materials they receive and a 45 minute presentation



1 we feel like the Tobacco Commission should be part of. I'll  
2 answer any questions you have.

3 SENATOR RUFF: Madam Chairman,  
4 what kind of private equity is put into this?

5 MR. ROGERS: Right now in the  
6 neighborhood of \$200-250,000, an angel investor capital, I  
7 know they're raising \$5 million from investors. Among those,  
8 although this is a public meeting, are the venture capitalists  
9 that Dominion's involved in as well as the venture capital fund  
10 that one of their major suppliers is involved in, a billion dollar  
11 company. They've got the support and endorsement of some  
12 major players and some of the players are looking for the  
13 Tobacco Commission as a lead and indication of the quality  
14 that we think that the opportunity with the Tobacco  
15 Commission can have and can help bring forth this private  
16 capital contribution.

17 SENATOR RUFF: Madam Chairman?

18 DELEGATE BYRON: Senator Ruff?

19 SENATOR RUFF: The original executive  
20 summary, it was supposed to be a fundraising effort from  
21 June to August 2013, how has that worked out?

22 MR. ROGERS: I actually read that  
23 myself, Senator Ruff and I don't remember saying that. Maybe  
24 it could have been 2014 and not '13. I really don't know  
25 where that came from. That probably should be shifted back

1 a little bit because it was meant to coincide with the technical  
2 development as well as timing of this. So I would say the  
3 fundraising, we're in the middle of that now.

4 SENATOR RUFF: So changing that from  
5 '13 to '14, how much of that money has been raised?

6 MR. ROGERS: I believe around \$250,000  
7 of private capital has been raised. We understand that no  
8 Tobacco Commission funds will be spent until a match for the  
9 amount we're asking for is demonstrated. And that's a  
10 condition we all feel we won't have any problem meeting.

11 SENATOR RUFF: You voluntarily said  
12 that you would raise \$5 million from the request of \$2 million  
13 so that's one to one, so can we still expect you to try to raise  
14 \$5 million?

15 MR. ROGERS: I believe so, maybe six.  
16 Do you know, Bill?

17 UNIDENTIFIED: Well, we have a C-note  
18 or a convertible note and the raise was \$6 million on that to  
19 convert it. So the target is \$6 million. We do have another  
20 offer that has come to us and we're analyzing that and the  
21 conversion occurs at \$3 million. I'm sure our prime investors  
22 wouldn't mind converting three instead of six. In  
23 conversations with Dominion and others especially with  
24 Dominion who is involved with the investment fund, they  
25 thought that probably the five was a better goal, but five is the

1 target today.

2                   The other company we're dealing with is  
3 a chemical company called Solvey and they have provided the  
4 material that we use.

5                   If I may speak very quickly to the point  
6 that is very important. The failure so far to get the prototype  
7 operating is because the tolerances in this electric field motor  
8 are very, very tight. What has happened is we applied the  
9 dielectric material the voltage is jumping from one place to  
10 another and we found we had some impurities in there, they  
11 act like a trigger. What we had to do is work with Solvey to  
12 increase the purity that coats the disk as well as the bonding  
13 material. It so happens in our organization we have a, one of  
14 the people is a chemical engineer and he has worked with us  
15 on that as well. So this science is proven, yes. And we  
16 applied 600 volts and it arced because so we're building a  
17 clean room right now that we can use that I think without a  
18 doubt that when the impurities are gone, we can get the 2000  
19 volts we need with the arc.

20                   MR. ROGERS: When we talk about all  
21 these challenges and the arc, this has not been unique. So  
22 we're talking about \$5 million and if we need to make that a  
23 condition, we'll make it a condition.

24                   DELEGATE BYRON: Do you think this  
25 two weeks you referred to here that the investors, that there

1 may be a little more maturity once you get this thing resolved?

2 MR. ROGERS: It's my understanding the  
3 investors do want to see the prototype operational before they  
4 pull the trigger. We're coming up on that. Both Solvey and  
5 Dominion, \$40 billion company were at the presentation for  
6 this project.

7 MR. PFOHL: A couple of observations.  
8 That was my fault for putting 2013 in the staff comments and  
9 not Ed's fault concerning the date on the fundraising. I'll take  
10 the bullet on that one. This and the other proposal that's  
11 been submitted by the Southwest Higher Ed Center  
12 Foundation both have revenue return proposals included in  
13 which the Foundation and the private beneficiary have made  
14 an offer to share either an investment position in the company  
15 with the Commission or possibly some sort of negotiated  
16 return on the Commission's investment to come back to the  
17 Commission. That's an issue that we keep bringing up and to  
18 Ed's credit, the Foundation keeps making this offer and we  
19 haven't come to a position yet on how the R&D Committee  
20 would recommend the revenue sharing/revenue return  
21 proposal with an applicant as has been offered here. So I  
22 don't have a clean answer to give you on that one but it's a  
23 question at some point we may have to wrestle with.

24 DELEGATE MARSHALL: As Ed has come  
25 up and told us about what your thoughts are?

1 MR. ROGERS: On the investment side?

2 DELEGATE MARSHALL: Yes.

3 MR. ROGERS: We're negotiating with the  
4 company to try to craft a proposal that works for them and  
5 works for the Foundation and the Foundation always  
6 considers itself a fiduciary for the Tobacco Commission. What  
7 it typically ends up being and we're training toward a deferred  
8 stock instrument, deferred stock in the company that provides  
9 a small dividend for a short period of time to cover the  
10 Foundation's costs in administering the grant, which can be  
11 significant. And then an opportunity for that deferred stock to  
12 be sold back or brought back after about seven or eight years  
13 and make sure the company is there until they buy back the  
14 stock. The company isn't allowed to leave the region until  
15 they repurchase the stock. There's no one size fits all.

16 MR. OWENS: Madam Chair, I think  
17 we've been over this once before. I think somebody had the  
18 very same proposal.

19 DELEGATE BYRON: We talked about  
20 that in the workshop.

21 MR. OWENS: Did we ever get a clear or  
22 legal decision on that?

23 MR. PFOHL: No, we have not. We just in  
24 the last three weeks transitioned our legal counsel, so they've  
25 got quite a stack on their desks and that's something we

1 intend to bring up, a position paper the next time the  
2 Committee meets.

3 MR. ROGERS: A grant to the  
4 Foundation, we think it's a better offer, a grant that becomes  
5 an investment or an investor in the company. The company  
6 having to repay that.

7 The home of the Higher Education  
8 Center, in this case there are strategic reasons for the  
9 company to put its manufacturing in Greenville County and  
10 Ms. Lewis is here from Greenville County and that's very  
11 important to the County and that's about as far here today as  
12 we can get and still be in the Tobacco Region so we're not  
13 trying to say this is in our own backyard.

14 MS. LEWIS: We look forward to this  
15 project and we're currently in negotiations within the county  
16 to find space, we're supporting what they're trying to do.

17 DELEGATE BYRON: Jerry, does it say on  
18 the application a discussion about the prototype or that might  
19 have changed the scoring, two weeks further along?

20 MR. GILES: I think that's a reasonable  
21 assumption, yes.

22 DELEGATE BYRON: Any other  
23 questions? All right.

24 MR. GILES: The next application up is  
25 2870, which is also from the Southwest Virginia Higher

1 Education Center Foundation, Regenerative Heat Retaining  
2 Element for natural gas pipeline compression engines, a \$2  
3 million request. As with the preceding application suggests  
4 fifty new jobs.

5 The executive summary states as follows.

6 Radical Combustion Technologies NG has a proprietary  
7 technology called Regenerative Heat Retaining Element  
8 (RHRE). RCT proposes to scale up its RHRE technology for  
9 retrofitting the very large, old engines used by the natural gas  
10 industry to compress natural gas for transport through the  
11 interstate pipeline system. The proprietary RHRE technology  
12 has been validated in rigorous proof of concept and smaller  
13 size scale scale-up tests. RCT's testing to date demonstrates  
14 RHRE technology solves the natural gas pipeline industry's  
15 pressing need to meet current and impending emissions  
16 requirements.

17 On the scientific side, the NOx or Nitrous  
18 control has not been shown to be sufficient, meaning ninety  
19 percent, to eliminate the need for selective catalytic reduction  
20 and meet EPA requirements. That is a technical aspect and  
21 one of our team leaders is an expert in this field. The IP  
22 position may not be strong enough to prevent design around.  
23 That means others could conceivably enter that space by  
24 getting around the IP position. Results of UAV performance is  
25 not directly applicable to current application.

1                   With respect to commercialization. The  
2 value proposition is the lower cost of operations and lower  
3 emissions and increase in demand due to regulatory  
4 environment. Concern over future regulations and whether  
5 they could be met. I think that's a concern about the  
6 technology in this particular space and not necessarily unique  
7 to this application. Solutions provided would be customized  
8 and could impact pro forma growth predictions. Meaning that  
9 it is not necessarily a mass production online off the shelf  
10 situation but there would be some customization.

11                   DELEGATE BYRON: Any questions?

12                   MR. ROGERS: I'm here to field any of  
13 your questions. One observation I'll make is that this  
14 company, they've done the best job of any company that I  
15 know of since I've been involved in going around and trying to  
16 develop a supply chain in the Tobacco Region. There are  
17 multiple, multiple companies within the Tobacco Region that  
18 supply products and services to them and I thought that was  
19 very, very impressive. They have support of Dominion  
20 Resources as well as several others. I'll be happy to answer  
21 any questions.

22                   DELEGATE BYRON: Well, are there any  
23 questions? Then we'll move on to the next one.

24                   MR. GILES: Next up is Application 2871,  
25 which is the Region 2000 Research Institute. Spectrum

1 Management Research Testbed with the acronym SMART.  
2 The request is for \$1,543,007. According to their projections  
3 they would be generating five full time equivalent positions.

4                   The executive summary is as follows.  
5 Americans are using more and more wireless devices and  
6 global mobile data volumes are more than doubling every year  
7 for the past four years. The result is a growing demand for  
8 access to regions of the wireless spectrum now held by  
9 government agencies or private entities for other purposes.  
10 The preferred way to increase capacity is to leverage new  
11 technologies that enable larger blocks of spectrum to be  
12 shared. Our goal is to create a new economic center of activity  
13 in southwest and southern Virginia around the emerging area  
14 of intelligent spectrum access.

15                   On the science phase, no specific  
16 research focus. I should point out this is similar to the very  
17 first application and really deals with the research  
18 infrastructure enhancement and not necessarily a traditional  
19 R&D plan as we're accustomed to seeing. The second  
20 comment in the science phase is seems to support university  
21 research, more a request to fund a research service model  
22 than a clear R&D plan.

23                   On the commercialization. Competition  
24 is or would, other testbeds both federal and academic level.  
25 The technology solution proposed is in fact scalable.

1 Management team at CAER and Virginia Tech is a strength.  
2 Limited return on investment for Tobacco Commission  
3 investment, meaning the amount of the grant, and limited  
4 undefined market at this juncture. Spectrum sharing likely in  
5 the future, but when. Spectrum management policy change  
6 remains unclear and unlikely in the near future. Madam  
7 Chair?

8 DELEGATE BYRON: Bob, you want to  
9 come up and make any comments?

10 MR. BAILEY: I'm Bob Bailey, Executive  
11 Director Center of Advanced Engineering and Research and  
12 just two or three quick comments. The first, which Mr. Pfohl  
13 already made, this is not your typical R&D proposal. The  
14 typical proposal you're used to seeing a business with some  
15 technology and R&D will either locate here or expand here.  
16 And we don't have a business, this is more about expanding in  
17 the region around what it is and what it promises to be. We  
18 think it's transformative technology. If you're not familiar with  
19 spectrum sharing, it's the equivalent of building a six lane  
20 highway and assigning everybody to a length. That's what we  
21 do at spectrum. We have a wide range of spectrum and video  
22 you're here and TV you're here. The problem with that is that  
23 you're all assigned to lane two and you're bumper to bumper  
24 traffic in lane two and you wonder why you can't get one of  
25 those other empty lanes around you. What spectrum sharing



1 would be spent until we were successful and get the EDA's  
2 portion of it as well. With that, I'd be glad to try to answer any  
3 questions.

4 DELEGATE BYRON: I wanted to ask you  
5 about that and I know that some, the Broadband Advisory  
6 Council that we reviewed spectrum sharing and there's a lot  
7 going on with regards to how to manage that and extremely  
8 expensive for the locality and when you consider imposing the  
9 fees on the localities they originally mentioned. Does this play  
10 into any of that? Or why aren't they reaching out now as far  
11 as the grant? I think you mentioned the EDA, is the EDA  
12 grant now available?

13 MR. BAILEY: The EDA public works, a  
14 quarterly public works program.

15 DELEGATE BYRON: With regards to the  
16 spectrum sharing or whatever the federal initiative –

17 MR. BAILEY: The federal initiative –

18 DELEGATE BYRON: That's going on  
19 right now with spectrum sharing. Has the research already  
20 been done or are you going forward without any research?

21 MR. BAILEY: What's coming from the  
22 SCC and the EIA, the recommendation is to go to spectrum  
23 sharing. What has to follow that is the research in a variety of  
24 ways to determine what issues are going to have to be done.

25 During the first application test and we

1 set it up, it will be with the U.S. Navy. Start with a 3.5  
2 Gigahertz band, which is where the radar is. One is because  
3 the characteristics match nicely with what you want to do with  
4 commercial products. The other is that it's empty 98 or 99  
5 percent of the time. Probably one of the first things we would  
6 need to do is do measurements on exclusions. How close can  
7 you get to a radar and still be able to do the spectrum sharing.  
8 There has to be some ranges, there is going to be some ranges  
9 like two thousand. That's one example; there could be more.  
10 There's measurements on interference and then enforcement  
11 policies. How do you make sure that somebody or that the  
12 user can get out and go find another frequency band that they  
13 can use and things like that. There's a long list of ideas that  
14 need to be done and looked at.

15 DELEGATE BYRON: There is no  
16 potential for commercialization.

17 MR. BAILEY: The commercialization  
18 would come out as these things are done and as the research  
19 is done and we can identify where exclusions are and identify  
20 the enforcement and there will be opportunities to develop  
21 technologies to address those issues.

22 DELEGATE BYRON: Any more  
23 questions.

24 MR. GILES: Madam Chair, if I may  
25 comment? Mr. Bailey is a sitting member of the VTT review

1 panel. I can assure you that there is no submission and  
2 scoring by Bob on his own application and he was basically  
3 outside the room when the rest of the panel members were  
4 developing their final scoring and final comments. That also  
5 applies to three of the applications we've discussed today from  
6 Virginia Tech. Those folks recused themselves on that.

7                   The final application, which is 2872 from  
8 the University of Virginia. There was no involvement on panel  
9 member representation when this application was discussed.  
10 A request for \$1,995,145. This is over a timeframe of there  
11 will be about a hundred positions and maybe more or maybe  
12 slightly less is anticipated.

13                   Executive summary comments are as  
14 follows. Micronic is a woman-owned Virginia small business  
15 established in November of 2008 to develop, patent, and  
16 commercialize an advanced state of the art water purification  
17 system. Since then, Micronic has developed MicroDesal™, a  
18 patented water-treatment technology that cleans water from  
19 any source cheaper and more efficiently and effectively than  
20 the competition. A relocation of its R&D operations to  
21 Southwest Virginia, partnering with University of Virginia at  
22 Wise, scaling for manufacturing and conducting field pilots for  
23 commercialization are components of this project.  
24 Approximately 12-15 high quality engineering and technical  
25 full time equivalent positions are planned in first twelve

1 months, growing to 18-20 by year two, followed by 60-100  
2 manufacturing jobs within 4-5 years.

3                   Comments from the science side. The  
4 team needs to demonstrate that the mechanical evaporation  
5 technology is in fact more cost effective than standard thermal  
6 evaporation. A functional prototype has been developed and  
7 tested but efficiency is still low. Contaminant build up in the  
8 system could be, this must be thoroughly examined during  
9 the following phase.

10                   On the commercialization side. Large  
11 addressable market; specific market for shale gas is of  
12 immediate need. Other relevant markets like mining, military,  
13 wells, and so forth. Impressive team, leveraging low cost  
14 human capital resources available to them in the region at  
15 UVA-Wise. Their proposed solution would eliminate the need  
16 for several systems. Potential to be simple and elegant with  
17 less moving parts and no chemical requirements.  
18 Water/wastewater solutions can be difficult markets to  
19 penetrate due to the environmental permitting; also highly  
20 capital intensive. Madam Chair?

21                   DELEGATE BYRON: I knew immediately  
22 this is a woman owned business. Women are precise to a  
23 penny.

24                   MR. GILES: Madam Chair, no offense  
25 intended.

1 DELEGATE BYRON: I like the \$.69. Do  
2 we have someone here that would like to speak?

3 MS. LEVINS: I'm Shannon Levins and  
4 I'm the director of economic development at UVA College at  
5 Wise. I'm joined by the CEO Karen Sorber and the vice  
6 president of operations at Micronic technology.

7 From the University of Virginia at Wise,  
8 we are very excited about this project. Patented water  
9 treatment technology gives the University of Virginia College at  
10 Wise an opportunity to moving to commercialization for this  
11 project and perfectly aligned in this field. But the second  
12 reason we're very excited about the project, about the analysis  
13 of the region and operations in Southwest Virginia. So we're  
14 very happy to be here and we look upon this as a win-win  
15 situation. At this time, I'd like to introduce Karen Sorber.

16 MS. SORBER: Thank you. And first I  
17 want to thank the Commission for the opportunity to present  
18 our case to the Committee. We do believe Virginia is a place  
19 for us to take the company to market and we will take it to  
20 market. Southwest Virginia is wonderful place for us to  
21 relocate. There is a critical mass of educational, county  
22 support and community support plus the potential that it  
23 offers and a potential customer base and a strategic partner  
24 base. Companies in the area with their support and we're  
25 talking about people that will be customers as well.

1                   Optifuel was gracious enough to give us  
2 temporary space since June and we had an area that we could  
3 go into and the electronic connections with our machines and  
4 thus we're in full operation. Just before you went to vetting  
5 we had a \$1.2 million check from the federal government.  
6 We're in the full execution of the grant now along with our  
7 director of operations. I just want to say we're thrilled to be  
8 here. Your additional investment in the company will help  
9 catapult us into the marketplace with additional opportunities  
10 and we look forward to staying in the region for a long time.  
11 Thank you. I'll be glad to answer any questions.

12                   DELEGATE BYRON: Delegate Marshall?

13                   DELEGATE MARSHALL: Who are your  
14 customers?

15                   MS. SORBER: Well, that's an interesting  
16 question because everyone uses water, everybody wastes  
17 water so everyone can be a customer. We thought in the  
18 beginning we'd go for desalinization because it takes all kinds  
19 of water. We found after the first prototype we were able to  
20 take care of the nastiest waters on earth. Four hundred  
21 billion gallons of water each year of wastewater is not reused.  
22 We can help make that reusable, fracking water, nuclear  
23 wastewater, acid mine drainage are three of the more  
24 technically difficult waters to treat, all of which we have  
25 traction on, different companies and other organizations.

1 DELEGATE MARSHALL: Will this be  
2 mostly for residential or somebody using a well system or  
3 municipal waters? Where's the biggest customers?

4 MS. SORBER: The produced market of  
5 wastewater that's the biggest customer or fracking water that's  
6 being trucked off the site could be cleaned on site and that's a  
7 huge market, eight billion or so per year. Community well  
8 markets, we want to look at those as well because they have a  
9 difficult time with nitrates and phosphorus in their well water.  
10 You've heard what happened in Toledo and bacteria was  
11 found and we'd be able to get it out. Small community wells,  
12 we're testing that this year with the Department of Agriculture  
13 and we're moving into doing community wells. We probably  
14 won't be going after the residential market any time soon but a  
15 few years from now, we might be.

16 DELEGATE BYRON: Senator Ruff?

17 SENATOR RUFF: You said you had a  
18 grant of \$1.2 million?

19 MS. SORBER: Three grants.

20 SENATOR RUFF: In the original  
21 summary, you said you were reaching out to raise a million  
22 dollars, have you raised any money from the private sector?

23 MS. SORBER: We were successful in  
24 getting the money from the federal government. At the time,  
25 we didn't know that and I was in a major fundraising mode at

1 the time. We have about five hundred thousand and our \$1.4  
2 million convertible note and if so available to some of the  
3 investors and they're considering. We have had one investor  
4 since the proposal came out and we have several on the fence.  
5 We don't need it as much as we thought and we are fully  
6 matched. We have our matches in place. Between the grants  
7 and the building, and we're moving next spring into the  
8 Appalachia Research and Energy Center in Wise. CEDA has  
9 initially helped with that and they're building it out for us and  
10 that's contributing to the match.

11 SENATOR RUFF: How much did you say  
12 that you raised?

13 MS. SORBER: The company has raised  
14 in total about \$3.3 million and we're capitalized at \$1.3 for six  
15 years, over the last six years.

16 SENATOR RUFF: That's all private?

17 MS. SORBER: All private money.

18 SENATOR RUFF: The grant is \$1.2?

19 MS. SORBER: Yes.

20 SENATOR RUFF: So you're in good  
21 financial shape that way?

22 MS. SORBER: You ought to see my bank  
23 account. We need to fully pilot in the drainage. Right now,  
24 our two pilots, one is with the Navy at a forward operating  
25 base and the other a community well and there's a difference

1 in the drainage in that environment. We're going to get help  
2 with a very important environmental analysis that was  
3 brought up in one of the comments from the team. There will  
4 be an evaluation of the permits needed and an evaluation of  
5 the ecosystem and the impact of the produced water as well as  
6 disposal of the wastewater. The produced water has to be  
7 evaluated for permits and putting it back into the environment  
8 and it will be very clean as you saw in the proposal.

9 DELEGATE BYRON: Thank you very  
10 much.

11 MR. GILES: That's it, Madam Chair.

12 DELEGATE BYRON: That certainly was a  
13 lot of work that you and the team did Jerry, so thank you very  
14 much.

15 MR. OWENS: On the application  
16 numbers, is there a claw back on these?

17 MR. PFOHL: Not currently claw back.  
18 There's been an R&D agreement. There's a section on events  
19 that would constitute that and there's an attachment and Ned  
20 I may need your help on this that states the job creation and  
21 private investment that's anticipated in the commercialization.

22 MR. STEPHENSON: Mr. Owens, I think  
23 it's probably a little bit of a stretch to say that there are claw  
24 back provisions like those you are used to in TROF. There are  
25 provisions for the Commission to recover grant monies under

1 certain events of default. There are a variety of events and one  
2 of them is commercialized out of the region among others.  
3 There's a recovery provision and enforcement of that is highly  
4 difficult in many of these cases.

5 MR. OWENS: Are all the jobs you  
6 described in here in the footprint?

7 MR. PFOHL: That's what the applicants  
8 have told us.

9 MR. OWENS: So besides our money,  
10 they have to have all their other money in place?

11 MR. PFOHL: It's required to have a  
12 match.

13 SENATOR RUFF: Mr. Chairman, 2865, I  
14 move that we fund that for \$1 million.

15 DELEGATE MARSHALL: Second.

16 DELEGATE BYRON: We have a motion  
17 and a second to fund 2865 for \$1 million. Is there any  
18 discussion? Hearing none, all in favor say aye. (Ayes.) Any  
19 opposed?

20 DELEGATE MARSHALL: Abstain.

21 DELEGATE BYRON: Mary Rae, no.

22 MR. PFOHL: The motion carries.

23 DELEGATE MARSHALL: Madam Chair?

24 DELEGATE BYRON: Delegate Marshall?

25 DELEGATE MARSHALL: I make a

1 motion we approve request number 2868 in the amount  
2 requested, \$838,786.

3 MR. OWENS: Second.

4 DELEGATE BYRON: We have application  
5 2868 in the amount of \$838,786, is there any discussion? All  
6 in favor say aye. (Ayes.) Opposed?

7 SENATOR SMITH: No.

8 MR. PFOHL: The motion carries.

9 MR. OWENS: Madam Chair, I make a  
10 motion that we approve 2872.

11 DELEGATE MARSHALL: Second.

12 DELEGATE BYRON: We do have a  
13 second and that's for \$1,995,145. Any further discussion on  
14 that? All those in favor say aye. (Ayes.) Any opposed? (No  
15 response.)

16 DELEGATE MARSHALL: Madam Chair,  
17 I'd like to make a motion that we approve 2870.

18 MR. OWENS: Second.

19 DELEGATE BYRON: 2870, RCT?

20 DELEGATE MARSHALL: Yes.

21 DELEGATE BYRON: For \$2 million, any  
22 discussion?

23 SENATOR RUFF: Madam Chairman, if I  
24 could ask Delegate Marshall is that conditioned that they  
25 match that \$2 million with \$2.3 million?

1 DELEGATE MARSHALL? Usually it's a  
2 one to one match. 2870 is on the table.

3 DELEGATE BYRON: What's your  
4 question?

5 SENATOR RUFF: Let me rephrase it.  
6 Would Delegate Marshall consider amending his motion so it  
7 matches the \$2.3, that's what they voluntarily proposed.

8 DELEGATE MARSHALL: Sure.

9 SENATOR RUFF: Second.

10 DELEGATE BYRON: We have a motion  
11 that is amended to approve 2870 for RCT in the amount of \$2  
12 million contingent on a match of \$2.3 million. Any further  
13 discussion? All those in favor say aye. (Ayes.) Any opposed?

14 SENATOR SMITH: No.

15 DELEGATE BYRON: We have one no, the  
16 motion carries.

17 SENATOR RUFF: Madam Chairman, on  
18 2869, I move that that be approved conditioned on that they  
19 raise the \$5 million by October 15<sup>th</sup> and they have a positive  
20 test.

21 DELEGATE OWENS: Second.

22 MS. COLEMAN: What is the amount of  
23 time?

24 MR. PFOHL: The standard requirement  
25 is 180 days from date of approval.

1 MR. ROGERS: If it could be 180 days on  
2 the \$2 million and there would be a default if we don't raise  
3 the balance of \$5 million because raising \$5 million in 180  
4 days may be difficult but I believe \$2 million is no problem  
5 and then make it the full \$5 million within the performance  
6 period.

7 SENATOR RUFF: You sounded more  
8 optimistic a few minutes ago.

9 MR. ROGERS: I'm always optimistic. It's  
10 one of my shortcomings but just a suggestion.

11 DELEGATE BYRON: Would you restate  
12 the motion?

13 SENATOR RUFF: My motion was  
14 conditional that they raise the \$5 million, \$2 million and the  
15 test would have to be positive by October 15. I think that if  
16 the test is positive and it is as great as it was projected to be  
17 then they ought to be able to raise that money. And if they  
18 cannot they can come back at the January meeting and we'll  
19 have further discussion.

20 SENATOR SMITH: Madam Chair, I  
21 thought we were discussing 2869. Previously, it was stated  
22 that a certain amount of funds would be raised in the year  
23 2013, that was a mistake and it's actually 2014. Would you  
24 repeat that sentence again or how many months it's going to  
25 be?

1 MR. PFOHL: The application indicated  
2 that they would do a series of fundraising in the June to  
3 August 2014 timeframe. That was in response to staff's  
4 questions regarding the proposal.

5 SENATOR SMITH: So they had  
6 previously stated that they would raise \$5 million in that three  
7 month period, is that correct?

8 MR. PFOHL: That was in the response  
9 from the project.

10 SENATOR SMITH: I thought I heard it  
11 differently just now.

12 MR. ROGERS: I think it's just an issue of  
13 timing of the prototype testing. I believe and I'm not the one  
14 out there raising the money so I may be speaking out of turn.  
15 I believe the issue related to the timing of the prototype  
16 testing, there's always challenges developing and we have to  
17 overcome those challenges and the prototype testing is going  
18 to be early October and I believe that's really the event that  
19 the investors are looking at.

20 SENATOR SMITH: Madam Chairman,  
21 you did make that statement regarding the three months  
22 fundraising previously at the previous meeting?

23 MR. ROGERS: I believe the dates that  
24 were mentioned in the June, August timeframe was an email  
25 response and a question from Tim and I don't remember the

1 exact wording that I used but I'm not denying it. In other  
2 words, we don't have problems with the condition of the \$5  
3 million to be raised as one of the conditions of the award in  
4 180 day timeframe. I would rather not do that but that's  
5 okay.

6 SENATOR SMITH: Those were your  
7 words you said you previously said you'd do it in a three  
8 month period. Maybe these months are different from future  
9 months.

10 MR. ROGERS: I say a lot of things and  
11 I'm not denying I said it and I don't remember the specific  
12 words I used.

13 DELEGATE BYRON: You were saying  
14 you anticipated that the prototype testing would be done and  
15 completed by then.

16 MR. ROGERS: That was my  
17 understanding. The prototype had to be –

18 DELEGATE BYRON: - Would it have  
19 changed hopefully your investors?

20 MR. ROGERS: Yes.

21 MS. COLEMAN: Madam Chairman, on  
22 October 15<sup>th</sup>, we'll know if the prototype works or not?

23 MR. ROGERS: I believe it will be before  
24 October 15<sup>th</sup>.

25 MS. COLEMAN: If it doesn't work, you'll

1 need additional time to make the prototype work? Then where  
2 do we go from there?

3 SENATOR RUFF: If it doesn't work, then  
4 we're done.

5 DELEGATE BYRON: They'd have to come  
6 back another time.

7 MR. ROGERS: Certainly, we would like  
8 to have the Committee members there if you want to come.

9 DELEGATE BYRON: Thank you. Let's go  
10 back to the motion. Senator Ruff, are we keeping the \$5  
11 million eighteen months as part of the –

12 SENATOR RUFF: 180.

13 DELEGATE BYRON: 180 days. \$5  
14 million and then the two weeks for the prototype to be done.  
15 Would you restate the motion?

16 SENATOR RUFF: I move that we approve  
17 number 2869 conditioned that by October 15<sup>th</sup> they have had  
18 a positive test and it is conditional that they raise \$5 million to  
19 match the \$2 million within 180 days.

20 MR. STEPHENSON: Madam Chairman,  
21 who gets to say whether the test is positive or not?

22 SENATOR RUFF: Madam Chairman, I  
23 move we send Mr. Stephenson there to verify the test.

24 [laughter]

25 DELEGATE MARSHALL: How are we

1 going to know the tests are good?

2 MR. ROGERS: Might have Dominion.  
3 One idea would be to have Dominion.

4 DELEGATE MARSHALL: If the tests are  
5 good, you're going to start raising money. If you start raising  
6 money that means it's working and if you don't raise the  
7 money then the test didn't work.

8 DELEGATE BYRON: We all heard the  
9 motion.

10 MR. PFOHL: Mr. Owens seconded the  
11 motion.

12 DELEGATE BYRON: Any further  
13 discussion on the motion? All in favor say aye. (Ayes.) Any  
14 opposed? We have two nos. (Ms. Carter, Senator Smith) All  
15 right. We work on motions, if we don't have any further  
16 motions we move on with the agenda. All right.

17 We'll briefly get an update on the  
18 workshops. We had a workshop a couple of weeks ago in  
19 Lynchburg and had a good two-hour discussion on various  
20 processes of the R&D Committee and some suggestions on  
21 different things that we might want to do in the future as a  
22 Committee. I'll ask Tim to review some of those with you.

23 MR. PFOHL: Just very briefly. We had a  
24 very spirited and productive discussion about the program  
25 requirements, objectives and so forth of the R&D program.

1 Two things the staff will be working on and one is to provide a  
2 briefing paper on the possibility of this program providing seed  
3 stage funding for companies. I can report that the Center for  
4 Innovative Technology, which does offer seed stage funding  
5 and offers of technical assistance and I'll start putting together  
6 that information.

7 The second briefing paper will be  
8 primarily with the help of legal counsel on the issue of  
9 whether the Commission is structured and capable of taking  
10 ownership positions in companies in the form of equity and  
11 intellectual property or potentially receiving some sort of  
12 return on revenues and profits and so forth.

13 The Committee decided not to make any  
14 program changes for now and announced that the next round  
15 of applications will be due October 17<sup>th</sup>. We had an R&D  
16 application workshop in southern Virginia a week or two ago  
17 and that was very productive and we have a number of  
18 prospective applicants lined up. The staff has been working  
19 on a slightly revised format for the R&D applications and we  
20 hope will have a little bit more clear information to provide. At  
21 this point, that's where we're at looking down the road.

22 DELEGATE BYRON: We did discuss a  
23 number of other grant applications and the possibility of  
24 decreasing the number of applications or decrease the number  
25 of funding cycles. When we put the date out there for future

1 applications and talking about it at the January meeting  
2 whether or not the funding rate can decrease or slow down a  
3 little bit and look at the progress we've made and give a little  
4 bit of a break in the applications. It's very difficult to try to  
5 limit the amount of applications that people can submit. We  
6 did agree to allow the partnership to limit the number of pages  
7 presented in each application and sometimes they become  
8 great novels to read and not quite something that can be  
9 handled. I believe that just about summarizes it.

10 Now, do we have any public comment,  
11 anyone that wants to speak to the Committee? Any further  
12 comments from members of the Commission? Hearing none,  
13 we have a motion to adjourn and we're adjourned.

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15 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 & Development Committee meeting when held on Wednesday, September 24, 2014 at 2:30 p.m. at the Holiday Inn Hotel & Suites, Bristol, 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 13<sup>th</sup> day of October, 2014.

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Medford W. Howard

Registered Professional Reporter

Notary Public for the State of Virginia at Large

My Commission Expires: October 31, 2018.

Notary Registration Number: 224566