

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 Tuesday, May 12, 2015

11 10:30 A.M.
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13 The Franklin Center for Advanced Learning & Enterprise
14 Rocky Mount, Virginia
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1 **APPEARANCES:**

2 The Honorable Kathy J. Byron, Chairman

3 The Honorable Charles W. Carrico, Sr., Vice Chairman

4 Ms. Mary Rae Carter

5 The Honorable Maurice Jones, [by phone]

6 Secretary, Department of Commerce & Trade

7 The Honorable Daniel W. Marshall, III

8 Ms. Sandra F. Moss

9 The Honorable Edward Owens

10 Mr. Kenneth O. Reynolds

11 The Honorable Frank M. Ruff, Jr.

12 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 – Deputy 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

12 Ms. Stacey Richardson – Executive Assistant

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14 COUNSEL FOR THE COMMISSION

15 Ms. Elizabeth Myers, Assistant Attorney General
16 Richmond, Virginia

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1 DELEGATE BYRON: I'm going to call the
2 Research and Development Committee to order and ask Tim if
3 you would 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 is not
9 available. Is Secretary Jones on the phone?

10 SECRETARY JONES: Here.

11 MR. PFOHL: Ms. Carter?

12 MS. CARTER: Here.

13 MR. PFOHL: She is Secretary Jones
14 designee to vote here today. Delegate Marshall?

15 DELEGATE MARSHALL: Here.

16 MR. PFOHL: Mr. Moore?

17 MR. MOORE: [No response.]

18 MR. PFOHL: Delegate Morefield?

19 DELEGATE MOREFIELD: [No response.]

20 MR. PFOHL: Ms. Moss?

21 MS. MOSS: Here.

22 MR. PFOHL: Mr. Owens?

23 MR. OWENS: Here.

24 MR. PFOHL: Mr. Reynolds?

25 MR. REYNOLDS: Here.

1 MR. PFOHL: Senator Ruff?

2 SENATOR RUFF: Here.

3 MR. PFOHL: Senator Smith?

4 SENATOR SMITH: Here.

5 MR. PFOHL: You have a quorum,
6 Madam Chairman.

7 DELEGATE BYRON: I hope you all have
8 had an opportunity to look at our minutes from our January
9 meeting.

10 SENATOR RUFF: So moved.

11 MR. OWENS: Second.

12 DELEGATE BYRON: All those in favor
13 say aye. (Ayes.) Opposed? (No response.) The minutes are
14 approved. Ned?

15 MR. STEPHENSON: Madam Chairman,
16 I'll be very brief. Your Committee has been in the process of
17 awarding R&D grants now for four years and I thought it
18 would be worthwhile to have a quick recap of the process you
19 have used and in particular a little bit about the scoring. I
20 have one or two slides here. I want to remind the Committee
21 and the audience that Jerry Giles and his group and VEDP
22 with each application put together a multidisciplinary team
23 and they plow fairly deeply into details of these applications.
24 They render a numerical score from their review of these
25 applications. Before you are half of the scoring elements in

1 the scientific side. They look at things like is the concept
2 proven and the stage of development and the credentials of
3 the people doing it. Is this the best technology known for this
4 process, what kind of milestones and resources and they look
5 at all of these things. Then they distill this down to a number
6 for you; we're going to present those shortly. On the
7 commercial side, the other half of the score, it is scalable and
8 do they have adequate intellectual property or what is the
9 demand for these products, what kind of management
10 capacity they have and can the goals be achieved. They spent
11 a lot of time looking at these and trying to arrive at a score.

12 In summary, I thought I'd give you a little
13 bit of the history. VEDP so far has scored 58 applications for
14 you totaling \$110 million. You have actually awarded forty of
15 those applications for a total of \$77 million. The historical
16 scores are shown there below. The highest score so far in the
17 58 that were scored is a 7.1 out of ten and the lowest score is
18 the 2.4 and the average, this is among all applications that
19 were scored, the average was a 5.36.

20 The second column shows those which
21 you have actually approved over the recent years and
22 obviously you approved the highest scoring application. The
23 lowest winning score for a grant award was actually 4.48 with
24 an average of 5.65. So this may give you a little bit of a frame
25 of reference and background as you review the applications

1 today because you'll see scores that vary all over the lot. So
2 with that, Madam Chairman, thank you very much.

3 DELEGATE BYRON: Any questions for
4 Ned? Thank you, Ned.

5 MR. PFOHL: Madam Chair, Jerry is
6 getting ready to present the vetting results. I'll give you some
7 background on this cycle. In November of 2014, the
8 Commission received thirteen proposals in response to the call
9 for proposals and in January your Committee met and
10 recommended six of the thirteen proposals to the vetting
11 process, which was conducted and led by Jerry Giles along
12 with the participating vetting members including several
13 universities and private organizations. Jerry can talk about
14 who was involved in the vetting. I just wanted to give you that
15 little bit of a set up.

16 DELEGATE BYRON: I believe the last
17 time we met, we talked about some changes. Were there some
18 changes made to the panel?

19 MR. PFOHL: In the process. In this
20 vetting round, the university representation was reduced and
21 in the next round we have identified two private sector
22 individuals with extensive business backgrounds, venture
23 capital development backgrounds and they will be part of the
24 next round of vetting.

25 MR. GILES: Good morning, Madam

1 Chair and members of the R&D Committee and I want to say
2 good morning to those assembled in the audience. We are in
3 round twelve of this overall process and it's been going on as
4 Ned mentioned and Tim this has been going on for about three
5 or four years. With respect to the basic metrics that were
6 applied, these are the same five scientific and five commercial.

7 DELEGATE BYRON: We're going to go
8 through the whole process and we'll hold our questions to the
9 end.

10 MR. GILES: These are the five
11 commercialization and scientific metrics we have been using
12 throughout the course of this process. The business plan
13 metric was added a couple of years ago but the core elements
14 of the first ten in terms of scoring historically.

15 There were six applications in round
16 twelve and those applications there's a numeric designation
17 and an abbreviation for that particular application is shown at
18 the top of the slide. The first dollar sign in the right hand
19 column is the amount requested for this particular
20 application. To the right of the dollar column, I've broken out
21 I guess for the first time the job creation numbers based on
22 what was specified in the application and the applicant's
23 materials indicated whether the jobs were in the research
24 phase, either/or designation or the commercialization phase
25 i.e. the C designation. Immediately below the application

1 listing is the identification of the review panel team members
2 for round twelve. We did make some modifications mid-screen
3 following the January 14 meeting of the R&D Committee
4 basically eliminating one of the universities and one of the
5 tobacco funded energy centers as well. We're in the process of
6 adding two additional players and I'll give you a capsule
7 summary of them at the end of the presentation as to who the
8 individuals are and their business and investment industry
9 credentials as well as their academic credentials. I'm going to
10 leave this slide up for the rest of the presentation. You'll see
11 the scoring profile and metrics. Please note inside the bracket
12 parentheses and these scores are basically not in numerical
13 sequence to the order of the applications themselves and that
14 would be inappropriate in a public forum such as this in case
15 there should be any existing or potential investors in the
16 audience.

17 In a capsule fashion, members of the
18 R&D Committee received detail scores and detail comments in
19 the panel process. I'm going to basically read to you but I'm
20 going to cut short the amount of words because we thought
21 we'd be an hour and a half to an hour and forty-five minutes
22 listening to me talking and that's not really necessarily
23 productive. I'll start out on each of these applications by
24 giving a capsule summary extracted directly from the
25 executive summary provided by the applicant teams for given

1 applications. Then I'll move from that for each of the
2 applications to the summary comments or staff comments and
3 recommendations from the Tobacco Commission staff. Some
4 of these are 2,000 to 2,500 words in length. It's just not
5 appropriate to read all of that verbiage but I'll try to hit the key
6 points. With each of the applications, I will then conclude
7 with a summary comments coming out of the review panel
8 process and face-to-face defenses if you will and they will be
9 broken out whether they are scientific, metric-oriented or
10 commercialization-oriented.

11 With that, we'll begin with application
12 2980, Nano Touch, which is coming in from the Center for
13 Advanced Engineering and Research. I'll read to you briefly
14 the executive summary provided by the applicant team, at
15 least the very first part of that. NanoTouch Materials invented
16 and has successfully manufactured the first and only
17 products in the world with surfaces that are NanoSeptic. The
18 NanoSeptic surface continuously kills bacteria, viruses and
19 fungi using material science and nanotechnology instead of
20 chemicals, diluted poisons or heavy metals, and does not
21 contribute to antimicrobial resistance or parenthetically
22 superbugs. The initial product line consists of peel and stick
23 NanoSeptic skins for door handles and NanoSeptic mats for
24 home, business, education and travel. With infectious disease
25 outbreaks in the news almost daily, timing is perfect for

1 products which provide cleaner places to touch or rest items.
2 I'll now move on to a capsule comment
3 from the staff recommendations. Funds are requested to
4 assist the private beneficiary, which currently is housed at
5 CAER, in developing its fifth generation product. Products are
6 targeted to the healthcare, senior care and childcare
7 industries to include travel mats for hospitality industry and
8 business traveler, snack mats for education, counter mats for
9 reception desks, place mats for food service, et cetera. Patent
10 documents were filed in December 2011, with action expected
11 in mid-2015. Research involves adjusting ingredients and
12 antimicrobial technology and further researching primers,
13 coatings, substrates and adhesives. Funds will be used to
14 develop a fabrication unit for consistent and scalable product
15 production. Funds are specifically requested for personnel,
16 \$995,000, contractual \$265,000, continuous \$242,000,
17 equipment \$165,000, property plant \$222,000, materials
18 \$110,000, et cetera. It appears that as much as half or more
19 of the request may be for company operations that are not
20 R&D funding priorities such as customer service, order
21 fulfillment, sales and marketing and to fund nearly 80% of the
22 construction of a new production facility for the company in
23 the New London Technology Park.

24 MR. PFOHL: Can I interject right there?
25 Madam Chair, just for the record, we want to clarify that that

1 statement nearly eighty percent of the construction of the new
2 production facility would come from Commission funds is a
3 miscalculation by the staff. It's actually kind of flipped. I
4 believe about 27% of the new facility would be funded with
5 Commission funds, so I apologize for that.

6 MR. GILES: Moving on in the same
7 application, related comment to the scientific side. There is no
8 technical R&D team and nothing in the proposal indicates
9 they will hire anyone with scientific background. They do not
10 convincingly understand the mechanism through which their
11 product works and therefore cannot fully develop this product
12 or future product without that scientific expertise. Although
13 not in the proposal, they did provide some third party
14 evaluation of the efficacy of their product, but did not indicate
15 the ability to reproduce those results to provide adequate
16 quality control under controlled and realistic operating
17 conditions.

18 Moving to the commercialization
19 summary comments. Potential market for proposed products
20 is major. However, proposer does not present a well-defined
21 strategy for growing market share via identified target markets
22 for entry. Intellectual property protection is not strong and
23 also heavily dependent upon work developed by and
24 relationships with contract consultants for R&D efforts.
25 Management team in non-technical areas has appropriate

1 software/network engineering. When fully commercialized,
2 this project will bring approximately 47 high-paying, advanced
3 manufacturing and technical jobs to Southern Virginia.

4 Moving now to staff comments and
5 recommendations. The proposal seeks funds to develop a
6 seventh-generation prototype of the unmanned,
7 remote-controlled Datamaran and commercialize a robotic
8 fleet of water vehicles, providing real-time intelligence of
9 oceanographic data. The company is targeting the
10 oceanographic observation industry. Proof of concept includes
11 testing of the first six generations of prototype, patent filings
12 and detailed design drawings were provided with application.
13 The applicant is proposing to build out a 5,500 square foot
14 prototyping space at SVAMC, purchase equipment and
15 tooling, hire thirteen design, engineers and assembly positions
16 during research phases with private capital investment of
17 \$250,000. Commercialization is stated at 47 jobs and \$1
18 million of private capital investment. Although the company
19 states it hope to raise \$4 million of equity via a Series A
20 offering the Spring of 2015.

21 Moving on to comments relating to the
22 science. We showed in this particular configuration in the pro
23 category. Sixth iteration of the boat demonstrated over 500
24 hours. Multiple forms of redundancy slated. Failure rate of
25 systems may be higher than normally acceptable. That's a

1 \$280,000, and contractual \$150,000. Outcomes are listed as
2 five jobs, \$60,000 average, and \$3 million private investment
3 in this second research phase and thirty jobs with \$5 million
4 private investment during the commercialization.

5 Review panel comments related to
6 scientific metrics. Strong technical team, straightforward
7 process, logical incremental development process, and focus
8 on industry certifications and specifications was strong.

9 Comments on the commercialization.
10 Established company with talent, infrastructure and
11 distribution and customers to support R&D and
12 commercialization. CNG and hydrogen storage market is
13 growing and is an area of strong interest in the U.S. energy
14 economy. The team has strong expertise and experience in
15 industrial markets. Current products provide some credibility
16 in future products and believable unit economics.

17 On the con side, market is small. Due to
18 market size, can it be transformative to the region? Financial
19 projects are reasonable but not exciting to warrant such a
20 large investment. Potential revenue return on investment is
21 low to job creation. Cost competitiveness is questionable in
22 international markets.

23 Moving to application 2983. Executive
24 summary provided by applicant. This is the Institute for
25 Advanced Learning and Research development of High Oil

1 Biomass. The proposed project focuses on developing high oil
2 biomass crops for the production of industrial chemicals and
3 fuels. Algenetix's PhotoSeed trademarked technology has
4 been shown to increase oil in the vegetative tissue of several
5 crops up to eight percent of the dry weight. The company is
6 seeking to now develop this technology in high yielding
7 biomass species such as Arundo, Miscanthus and energy
8 cane. Oil yields per acre are forecasted to be two metric tons
9 or approximately ten times that of soybeans. At this yields,
10 the technology creates an additional \$1,000 of value per acre.
11 End products include bio-diesel, oleochemicals, bio-coal or
12 industrial sugars.

13 Moving to staff comments and
14 recommendations. This focus on increasing oil yields in
15 biomass plants, Arundo, miscanthus and energy cane,
16 appears to have very solid proof of concept and several
17 established patents to support the project, including previous
18 validation on alfalfa, white clover and perennial ryegrass,
19 exclusive license for the PhotoSeed technology based on
20 patents held by AgResearch Limited, New Zealand and five
21 patents across two families, modification of oleosins, oil body
22 proteins, and proprietary modification for enzymes. Outcomes
23 in the research phase are three jobs and no private
24 investment. All Commission funds appear to be request to
25 contract with IALR researchers to hire technicians, conduct

1 plant propagation, manage field trials, et cetera. Matching
2 funds are to be committed by the company, San Diego-based
3 Algenetix, from an anticipated Series A2 financing in Spring of
4 2015 to pay the balance of the contractual costs to IALR for
5 this work.

6 The review panel summary comments
7 related to scientific elements of the application. Proposers
8 have demonstrated enhancements in oil storage pathways for
9 certain plant varieties but not in Arundo and Giant
10 Miscanthus, two key plants ultimately envisioned for
11 commercialization in the Tobacco Region. This is a primary
12 risk factor of the proposed project. Reviewers in general view
13 this proposal as a feasibility study and far away from potential
14 scale-up and future commercialization. Individual members
15 of research team are well suited for proposed work; however,
16 concerns exist over integration of the team and overall
17 research effort; level of integrated activity between parent
18 company Algenetix and IALR research team. Milestones as
19 stated are fairly generic and not well quantified, few
20 quantifiable metrics. In general, level of detail provided
21 regarding proposed research efforts is low. Economic viability
22 of this approach is largely unsubstantiated.

23 Commercialization comments. At this
24 stage of the R&D process, the pathway to commercialization is
25 not clearly defined. As an R&D project, it certainly is

1 with capital investment of \$2 million, Commercialization is
2 estimated to entail 75 manufacturing jobs with \$3 million
3 investment. Matching funds will support \$1.55 million of
4 additional equipment, \$450,000 property and improvements
5 and approximately \$1 million for operating costs including all
6 personnel.

7 Panel comments related to the science
8 metrics on the pro side. Packaging is environmentally
9 superior, no BPAs, and potentially cost efficient. CVF
10 technology is proven, needs to be adapted to food packaging.
11 Technical leader has significant relevant experience.
12 Technology addresses drawbacks of other packaging: weight,
13 breakage, corrosion.

14 The cons for science. Process needs to be
15 refined or educe material and energy use. Requires lower
16 cost/container to unseat alternatives. Pathway from R&D to
17 sustainable production in footprint region unclear. There are
18 too few technical milestones and they are too vague.

19 Commercialization comments on the pro
20 side. The understanding of a potential path to
21 commercialization through existing customers is defined. Job
22 creation potential could be very positive if R&D is successful.
23 On the con side, it is not clear if potential customers will view
24 the technology as disruptive as it was described.

25 Application 2987, Dan River Business

1 preamble, I'll be happy to provide an update in terms of
2 changes to the complexion of the R&D group.

3 DELEGATE BYRON: Thank you very
4 much. We're going to ask a couple of the applicants and I
5 know I've got some questions on some projects. Does anyone
6 have any particular questions right now for Jerry or the review
7 team? I want to thank you once gain Jerry for all your work
8 on this.

9 MS. CARTER: Madam Chair, I need to
10 recuse myself from two applications because my daughter
11 works at, 2983 and 2984.

12 DELEGATE BYRON: I don't know if there
13 will be any block votes but all right. The first one we had was
14 the NanoTouch, 2980. If you could specifically address the
15 scientific scoring.

16 MR. BAILEY: I'm Bob Bailey, executive
17 director for the CAER and we're the applicant. I also have
18 with us Mark Sisson and Dennis Hackeneyer. If there's a
19 particular question, we can figure out who would be best to
20 answer that question.

21 DELEGATE BYRON: Right now let's start
22 with the science. I have some questions about that. In
23 particular from my experience and it's in my district and I'm
24 very familiar with it and I was a little surprised at a couple of
25 the scores. Particularly the science area and your interview

1 whether it was technical experience and credentialing, not
2 having anyone with a scientific background. Could you
3 address that?

4 MR. SISSON: Madam Chair, Committee
5 members, thanks for the opportunity to speak to you today.
6 This grant is understandably very important to us. We have
7 developed something that we think will have a global impact
8 and something that can help the economic engine in Virginia
9 right from Forest, Virginia. Given the healthcare threats that
10 you see in the news every day such as Ebola, MERSA, health
11 outbreaks on cruise ships, SARS and MERS, you can
12 understand how excited we are about a business opportunity
13 that this presents. I think you'll also agree that given those
14 news headlines timing for this opportunity could not be better.

15 What we want to do today is just address
16 some actually inaccurate statements coming out of the vetting
17 community specifically related to the science section.
18 Hopefully, our comments today will help the overall review of
19 the vetting process.

20 One particular member of the Committee
21 dominated the discussion and really attempted to discredit
22 our technology from the start of the meeting. Actually, he
23 started prior to the meeting in the assumptions and questions
24 that were asked for us to follow-up on. This Committee
25 member has stated that our team did not understand the

1 technology and because of that we cannot develop our
2 products without that expertise. He was one person on the
3 Committee that actually had some nanotechnology experience.
4 This experience with nanotechnology was with energy
5 generation and he seemed to be unfamiliar with our specific
6 field of nanotechnology.

7 Now, let me provide a couple of examples
8 and this is an example of one of the questions that was
9 submitted to us a week or so prior to the actual meeting with
10 the vetting committee and this is one example although there
11 are multiple examples and we wouldn't have enough time to
12 cover the inaccuracies and missing information. On this one
13 particular question, the best scientists, the best engineers and
14 frankly the best business leaders and CEOs ask questions do
15 not arrive at assumptions and want to see data. This is an
16 example of where an assumption was put forward without
17 seeing the data or reading the data. It's an example of either
18 where the business plan wasn't read or either the summary
19 plan for the committee was not read. The example being
20 relative to this question. Would this product at all work in the
21 dark? Clearly, in the actual summary pages, it's one of the
22 research initiatives. It's an assumption and the rest of it's an
23 assumption that Mark will speak to very briefly. He claimed
24 both in the pre-meeting session and in the meeting that our
25 surface needed UV light to work. UV lights would be outdoor

1 lights and that is categorically false. Our surface is extremely
2 effective using normal indoor light by all the studies done by
3 independent labs that were conducted using normal indoor
4 light, about a 1000 lumens or a sixty watt bulb from about six
5 feet away. Independent studies being conducted by
6 antimicrobial test labs here in the U.S., the King Abdullah
7 Research Center in Saudi Arabia and the Korean Research
8 Institute in South Korea. Dennis has sample lab reports that
9 can be passed out. One against the virus and from last fall
10 against Staph A that demonstrate the efficacy of the product.
11 That's just from the States, doesn't include the Korea
12 Research Institute or the Saudi's.

13 The same scientists also stated that
14 doping the nanotechnology, which is one of the stated
15 research objectives would make it less effective. Again, this
16 claim is completely false and we have data to prove it. The
17 initial study performed by Antimicrobial Test Labs late last
18 year not only showed that our doping increased the efficacy it
19 increased 1,000-fold. You can imagine the concern we have
20 with this person that the rest of the committee looks to for
21 knowledge in this specific area substantially influencing the
22 scoring in the science area. From a business perspective,
23 having a supposed expert claiming that we don't understand
24 our technology and our products don't work is something we
25 cannot let go unchallenged. This seems to us to be more of a

1 situation where he didn't have the scientific pedigree. From a
2 simple standpoint of logic, some of the scores seem to be out
3 of whack. For example, adequacy of proof of concept the score
4 2.43. Our product line is independently verified in three
5 countries and it's fully developed and we've brought samples
6 and it's currently being distributed in 28 countries. We don't
7 understand why from a proof of concept standpoint we
8 wouldn't have been scored a 4.0. Further proof of concept,
9 our surfaces are on every door handle, every reception counter
10 at Virginia Tech School of Medicine. I think that speaks
11 volumes.

12 Then a score of 2.15 competing
13 technologies, have you ever seen anything like products that
14 we're creating. Traditionally, antimicrobials like wipes are
15 one-time skills and require people to perform a fleeting action
16 correctly. Our NanoSeptic products are continuously self-
17 cleaning with no human intervention. On the business side of
18 the evaluation, if you'd like me to address the business side
19 while I'm up here, the lower score you've seen is for
20 intellectual property. We are patent pending and we have filed
21 a patent application and were finally told it went in 2012 and
22 we are waiting for the patent trademark office to review it and
23 because the founders of NanoTouch are also the inventors of
24 this product, there's a clear path to commercialization. It's
25 baffling how the committee can claim we have weak IP

1 draw from for specific R&D initiatives for specific technical
2 questions. Just like the board outsources scientific expertise
3 on the vetting panel, we hire the best scientific experts in each
4 field when necessary; it's simply a smart business decision
5 and strategy.

6 In closing, I want to convey we
7 understand how difficult it must be to have the appropriate
8 level of scientific knowledge on the vetting committee when
9 your applications span multiple areas of expertise. We simply
10 want to provide information that corrects gaps in
11 understanding of our application in technology so you can
12 make an informed decision. Thank you very much for your
13 time.

14 DELEGATE BYRON: Can you tell us
15 some of the new technology you're working on now in terms of
16 the areas you're going to venture into? You're already into the
17 different data, correct?

18 MR. SISSON: Yes, we are. From a
19 technical standpoint, one of the research initiatives is to both
20 improve durability of the surface, we'd like it to last as long as
21 possible. That's going to involve research into primers and
22 other coatings. The other one, we specifically stated in the
23 application that was asked in this question and the other
24 initiative is to improve low light performance being part of the
25 doping. The reason for doping nanotechnology is that it will

1 allow it to kick out the genes in the absence of light or very
2 low light, that's one of the things we're going to work on.

3 The other thing that the advanced
4 manufacturing line we will be researching as part of this
5 initiative and that will allow us to manufacture dimensional
6 products. If you look, most of our products match skins for
7 door handles and they're all flat sheet based products. This is
8 a new prototype that's bumpers on the back, lifting it off the
9 surface, the antiseptic surface. This is being tested right now
10 and it will be further tested as a dimensional product. How
11 many times do you go to Food Lion or other grocery stores and
12 see people wipe and by the way, my partner always tell me
13 when I say next time you have a bottle of wipes look at the
14 back. For those wipes to disinfect the surface, you have to
15 keep the surface wet and saturated ten minutes and nobody is
16 doing that. The best manufacturer is about four minutes.
17 This is a one-time kill, as soon as someone else touches it.
18 From a dimensional side, we're looking at a grocery cart
19 handle that will literally pop off as well as other dimensional
20 products like this. We just launched a tissue box, reusable
21 tissue box cover. So you can imagine people grab tissues and
22 most of them aren't feeling too good, we'd like to protect that
23 surface. The first thing you do when you go to the dentist or
24 the physician's office, you walk up to the window and they
25 hand you a clipboard that's never cleaned and every other

1 person or patient that came in and that's an example of a
2 three-dimensional product. This is a two-dimensional
3 product. Finally, as a last example and just a basic
4 application when we go to fly, if I'm going in, I'm looking at my
5 watch and I decide I have to go to the men's restroom and I'm
6 going to walk all over that clean restroom floor in the airport
7 and then I go into security and the first thing I do is take off
8 my shoes and I put them in the bin and they go through.
9 Then the person after me puts their phone down, their glasses
10 down or whatever down in the very spot I put the shoes.
11 That's an application we can produce today.

12 SENATOR SMITH: First of all, something
13 we can't see or feel, these are two samples. Do you have
14 something there you can pass around. If you pass that
15 around is it something we would see that's different from any
16 other product?

17 MR. SISSON: One of the challenges of
18 nanotechnology is by its very nature it's microscopically small.
19 The thing that does the action is something that no one can
20 see and that's why it's so important for us to rely on
21 independent laboratory testing throughout the process of us
22 developing this product and refining the technology.

23 DELEGATE BYRON: Are they doing this
24 now or is there anyone else besides you doing it?

25 MR. SISSON: No.

1 SENATOR SMITH: This is a fantastic
2 idea and obviously some vetting process to understand it and
3 I'm not sure that we here have the backgrounds to fully
4 understand it. If you could present something to us that says
5 this is something more than, what you're telling us could be
6 absolutely the truth or absolutely false either way but if you
7 can give us something to determine one from the other.

8 MR. SISSON: That's why we rely on
9 independent laboratories. All of those labs, whether they be
10 commercial labs provide testing, actual controlled lab testing
11 against actual pathogens for university labs in Saudi Arabia
12 and Korea. We have gone through our own detailed vetting
13 process on the science side to make sure it works and we've
14 got independent proof to show that.

15 MR. BAILEY: You know, one of the final
16 comments and I know there's a lot of questions and part of
17 the questions have been answered and have been proven not
18 only by the independent lab tests but actual samples of the
19 product that were part of the original application in the
20 business plan. If you look at the last sentence in the vetting
21 review and there's a perfect example where they say there's no
22 pricing that's been provided and costs. The cost margin or
23 cost to manufacture are in the business plan and the pricing
24 one sentence says our products are from one to \$25. Whether
25 it's that question that's being asked but it's been answered

1 multiple times but I don't know how else to show you the
2 efficacy other than the lab reports, which clearly show the
3 effectiveness. In fact, the new generation surface that we're so
4 excited about that this R&D will go to and if Mark says is a
5 thousand times more effective. What does that mean, when
6 you read wipes kills 99.9 that's called a three log reduction,
7 every nine is a low. The gen five service on the initial in
8 triplicate, which is the dark blue has an almost six log
9 reduction. 99.998. That's why folks like the Norport
10 department who specialize in the norovirus. One cruise ship
11 came back this past week, Secretary Jones alma mater shut
12 down for a week this past fall because of the norovirus. That's
13 what we want to do and further test that.

14 SENATOR SMITH: What is your current
15 business other than this? What are you reducing or
16 researching other than this product?

17 MR. SISSON: This is it, nanotouch
18 materials antiseptic surface products, that's all we're doing.

19 SENATOR SMITH: What is the size of
20 your staff? Obviously, three of you are here.

21 MR. SISSON: Four people.

22 SENATOR SMITH: How long have you
23 been working on this?

24 MR. SISSON: Three years or three and a
25 half.

1 SENATOR SMITH: You've obviously have
2 had substantial funding to get to this point.

3 MR. SISSON: We've used all of our own
4 money and in our seed round of investment, we've raised
5 \$550,000, that's the private investment that has funded us to
6 this day.

7 SENATOR SMITH: Have you produced
8 any product other than these samples?

9 MR. SISSON: Our products have
10 produced. Those are live products. We are selling these
11 products right now. That's what is difficult to understand in
12 the proof of concept score. It's being sold and used. It's at the
13 Virginia Tech School of Medicine. Six YMCAs throughout
14 central Virginia. We donated as part of the application
15 process to 22 Bedford County schools, when you go in the
16 door, you see them all there by the doorway. They're in the
17 Craddock Terry Hotel travel map. At Hotel Roanoke, if you go
18 in, if you want to find out what channel Fox News is on and
19 you grab the channel guide, that's our product. It's another
20 example of a product or an item that is never plain, yet they
21 provide that. Every guest comes in, nearly every guest is
22 going to touch that. The Virginia Department of Health called
23 us a few weeks ago. They wanted the product specifically
24 because of these outbreaks across the state. They're deployed
25 beyond multiple countries. We're distributing in 28 countries

1 now but many places throughout the state of Virginia.
2 Commonwealth --- Surgery uses them in their facilities in
3 Richmond. By the way, Dr. Miller is one of the most respected
4 oral surgeons in Richmond. He's on several committees and
5 he has it deployed everywhere, talks to as many people about
6 it as he can. Phoenix Baptist Hospital, they have a conference
7 call tomorrow. We can speak to multiple markets.

8 SENATOR SMITH: This piece right here
9 is a good example, a restaurant menu. If I had a restaurant
10 and I wanted this produced, I suppose I would furnish the
11 copy to you and you would apply your protective coating.
12 What volume would a restaurant need to buy that and what
13 expense?

14 MR. SISSON: Our products range from a
15 dollar to \$25 today. That map right there is \$6.95. In the
16 travel queue which you see standing there, that's \$10.95
17 retail.

18 SENATOR SMITH: If I needed five
19 hundred of these or fifty.

20 MR. SISSON: The automation side of
21 manufacturing and production side, it's just not something we
22 have to order ten thousand of. Tomorrow we'll deliver to a
23 firm in Lynchburg nineteen mouse pads, twelve counter mats,
24 touch points for the doors going in. Another very important
25 component of the product and this can't be understated is the

1 ability to communicate and educate. When we're talking to
2 the Virginia Department of Health, here are some safer
3 surfaces that you can deploy to your constituency, we can
4 actually adjust the content to educate young kids on
5 nutrition. One of the mats we tested on was modified for that
6 or other educational components. We can not only
7 communicate it on the map but we can adjust it whatever way
8 the group is trying to communicate.

9 SENATOR SMITH: If I had these in my
10 restaurant, I can't keep them in a stack, they need to be
11 exposed to light.

12 MR. SISSON: In the absence of dark or
13 in the absence of light, rather, the pathogens while not being
14 killed are trapped using the bio--- with the introduction of
15 normal light, a sixty watt bulb six feet away is what you will
16 see on the lab tests. If you have light bright like this or UV
17 light just a slight turn, quicker, faster and we print menus,
18 absolutely. Does that scale from the business standpoint?
19 Not too much. Somebody wants twenty so you've got to redo
20 that, that's not a good place really. Another product, which is
21 tested would be static ---, it's clear. When the servers are
22 going up and taking your order and put it on the screen and
23 then touching everything else in a restaurant, we actually
24 have a static cling clear that goes on, what we need to do for
25 testing on that.

1 MS. CARTER: On here your patent is
2 pending December of 2011?

3 MR. SISSON: 2011 is when we filed our
4 preliminary application. We were in the midst of doing a lot of
5 product development in that phase. We filed our final patent
6 application December of 2012.

7 MS. CARTER: You're expecting to get a
8 patent this year?

9 MR. SISSON: Our expectation, we
10 reached out to our patent attorney and we've also reached out
11 to our representative and they contacted the patent office and
12 we're expecting some type of review to come back middle of
13 this year but we don't know because they're extremely
14 backlogged and that's part of the process.

15 MR. BAILEY: I want to reiterate because
16 you might have missed it in Mark's comments. Our attorney
17 is not an attorney that practices, our patent attorney is a
18 patent attorney and has an undergrad from UVA in chemistry
19 and currently is in the Roanoke Valley practice in healthcare
20 today. It would make your head hurt to read the patent.

21 MS. CARTER: In this process are you
22 going to overcome infringement?

23 MR. BAILEY: We haven't come across,
24 but the patent, no. The first review has come back; they're
25 literally backlogged two or three years.

1 DELEGATE MARSHALL: On the
2 comments on page two, it says it appears that as much as half
3 or more requests may be for company operations that are not
4 R&D funded.

5 MR. PFOHL: In the business plan and
6 budget document they referred to Commission funding for
7 customer service and for fulfillment, which is not the
8 objectives of the R&D funding. We met and offered to provide
9 information to clarify the scopes of the positions and roles and
10 responsibilities and we're waiting on that.

11 DELEGATE MARSHALL: The request is
12 for \$2 million, so are we assuming a million dollars of this is
13 for non-R&D funding?

14 MR. PFOHL: That's what we felt like
15 when we looked at this when it was initially submitted, more
16 detail on budget and positions and so forth from the
17 applicants and then we can make a better call on that.

18 MR. SISSON: I think maybe it was more
19 of a communication issue where we did not adequately
20 describe the function of the personnel that we are going to
21 add. The function of the personnel is integral to the R&D
22 process. When we talk about high paid market research
23 specialists, these would be people that have a history in a
24 specific industry like healthcare for example. We need to be
25 able to go in and interface with the infection prevention

1 manager and the facility manager and environmental services
2 manager and be able to discuss with them what the needs are
3 in the infection prevention phase so they can come back to us
4 and help guide us with our development so that we know the
5 products that are specific to solving the problem in that area.
6 If we didn't communicate that level of detail what the function
7 of the people are going to be, that's where the
8 misunderstanding occurred.

9 DELEGATE MARSHALL: Is that a sales
10 function or R&D function?

11 MR. SISSON: No, that's definitely R&D.
12 That person is not going to be selling.

13 DELEGATE MARSHALL: Sounds like to
14 me he's selling.

15 MR. SISSON: They're asking a lot of
16 questions and a lot of people lump healthcare together. I'll tell
17 you senior living and pediatric care and dentistry, those
18 industries are not alike. The questions that the risk manager
19 is going to ask in an acute care facility are quite different than
20 those that are going to be asked in a physician's office. You
21 have to have a lot of questions asked specific to that
22 healthcare industry as well as education and this is
23 completely different. We're at the largest private school in the
24 state of Virginia and the superintendent of that school is a
25 former medical salesman. He knows the lay of the land. His

1 comment to me when we launched and got the initial test
2 results back and I said Don, I'd like to come and tell you
3 about this, we're very excited about it and he said I told you
4 already I don't care. I don't care if it kills anything. What he
5 was saying was the ability to PR and market that, but my
6 point is this. Having the research people go to that market to
7 see what's important to the school superintendent is going to
8 be a completely different answer than what the risk managers
9 and others are going to ask.

10 One point I want to make briefly is one of
11 the things we were trying to understand about the process, we
12 were trying to participate in meetings and when we talked to
13 Tim, look if we were a bank, do you want ten tellers and two
14 ATMs or do you want ten ATMs and two tellers. Still haven't
15 answered that but the good news is we can go in either
16 direction with this particular product application.

17 SENATOR CARRICO: I've looked at your
18 product and saying as long as it's exposed to light, it's
19 effective. What's the lifespan of the product as far as supply
20 and demand? Does it last forever?

21 MR. SISSON: The facility touch point,
22 the skins that go on door handles and other touch points, we
23 recommend replacing every ninety days. So it's a quarterly
24 change out. The great news is that the print actually serves
25 as a wearing ---, something else we can tell customers is that

1 when you see that print or graphics starts to become faded or
2 looking worn, it's time to replace it.

3 MR. BAILEY: Not unlike a wear indicator
4 on the tire.

5 MR. SISSON: The mats get a lot less
6 friction, wear and tear on the surface for business travelers or
7 schools, they're going to last a full year of school traffic.

8 SENATOR RUFF: You showed us several
9 products, what were your sales in 2014?

10 MR. SISSON: 2014 was about \$100,000.

11 SENATOR RUFF: Any idea so far this
12 year?

13 MR. SISSON: We have a meeting next
14 week with the fourth largest employer up in Pennsylvania, the
15 second largest employer called ISS, unfortunately. Our
16 product won innovation of the year award. We didn't get the
17 award but every CEO, COO and CFO of all fifty companies are
18 now exposed to our products. I would say the first quarter or
19 the first half of this year is no indication.

20 SENATOR RUFF: The private investment
21 is how much?

22 MR. SISSON: We've had \$550,000 in the
23 seed round and what we have privately put in, which is
24 substantial. We've already got matching funds lined up as a
25 combination of private investment and in subordinated debt

1 and we've got letters of commitment.

2 SENATOR RUFF: \$850,000?

3 MR. SISSON: We've got matching funds
4 of \$2 million.

5 SENATOR RUFF: Any concern? We're
6 talking about 37 jobs, \$54,000 per job?

7 MR. BAILEY: One of the comments was
8 about the EPA registration and becoming registered to make
9 up clients. This was something that was very surprising to us
10 how that was viewed as a negative in the evaluation. We
11 brought up that subject because if we pursued EPA
12 registration, which is part of this initiative, that actually has a
13 tremendous amount of market protection built into it and it is
14 a tremendous, tremendous barrier to entry. My point in that
15 was we're taking extra precautions to protect our IP. The
16 reason I bring it up is that it also opens up the opportunity for
17 licensure. Right now, we're very protective of our technology
18 IP because we don't have the patent yet. If we were to achieve
19 EPA registration to make help point, we are much freer to get
20 that technology out there. We can license it to a variety of
21 businesses that could apply this technology to their product
22 and by doing that, it would completely change the economic
23 profile and the profile of hiring for us during the
24 commercialization phase. Those numbers are not reflected in
25 our application.

1 MR. SISSON: That's well planned out for
2 what this process. Test protocol definition and once that
3 protocol has been approved by EPA, the actual testing itself.

4 SENATOR RUFF: You have license, if you
5 get to that point to produce anywhere?

6 MR. SISSON: Yes, can be applied in
7 multiple products. We just heard last night about the twelve -
8 -- of CRE, that's going to involve catheters that are unable to
9 be coated where bacteria or some other kind of pathogen.
10 That would involve the licensing.

11 DELEGATE BYRON: Any other
12 questions? Thank you very much.

13 DELEGATE MARSHALL: Do you want a
14 motion on this?

15 DELEGATE BYRON: Yes.

16 DELEGATE MARSHALL: Madam Chair, I
17 make a motion that we fund project number 2980 for \$2
18 million contingent upon staff working out with them and it
19 says more than half of the request may not be R&D. If the
20 staff comes back and says 25% is not R&D then we reduce the
21 amount 25%. If they come back and say it's fifty percent, it
22 may satisfy staff that it's R&D with the full \$2 million. I don't
23 think we've had an application come before us that the staff
24 says half of it may not be R&D. Hearing from the applicant,
25 maybe they didn't explain this well. If it's explained well

1 enough to staff, then they get the full \$2 million. If they don't,
2 they get a portion of it, what the staff thinks would be R&D.

3 MR. OWENS: I'll second it for discussion.
4 Maybe we should get some legal opinion about this. If we
5 approve this application then we put it back in the staff's
6 hands.

7 DELEGATE MARSHALL: If you look at
8 like the Southside Committee, a group will come and ask for X
9 and we give them X or Y and sometimes we don't do it fully,
10 same thing with TROF, except it hasn't been normally done
11 here. That kind of jumps out at me.

12 MR. REYNOLDS: Does the staff have the
13 background to evaluate this?

14 DELEGATE MARSHALL: They do it now.

15 MS. MEYERS: Let me understand the
16 question, come back before the Committee to look at the
17 staff's determination then you discuss it with the staff and
18 they make a determination. This is something I've never seen
19 and a little bit rely on staff here to, they have a responsibility
20 to make the decision.

21 MR. PFOHL: It places on the staff the
22 responsibility to make a decision on whether the jobs that Mr.
23 Hackeneyer discussed going in and talking to perspective
24 customers are actually pursuing jobs. It places responsibility
25 and it's a little unusual that staff would be authorized to

1 reduce the amount of the grant based on staff's own
2 determination.

3 MS. MEYERS: Come back for a factual
4 determination and then bring whatever amount it is back to
5 the Committee on R&D?

6 DELEGATE MARSHALL: Madam Chair,
7 the staff is involved in that in TROF. TROF is anything less
8 than –

9 MR. PFOHL: Up to \$2 million TROF
10 grant if it's within the formula generated, staff is authorized to
11 grant that.

12 DELEGATE MARSHALL: Just make sure
13 you understand that. Any county or any locality comes with a
14 TROF application, this gentleman right here has the authority
15 to approve that. We have placed the authority on him to make
16 the determination to make sure that everything is done. We
17 just don't do it in this Committee.

18 SENATOR SMITH: It seems to me there
19 might be a way for it to prove itself. I don't know if we have
20 ever given in this case a \$2 million grant in stages. I think the
21 healthcare uses proposed all must be certified and approved.
22 The example I gave about the restaurant industry, I don't
23 think there's anything negative that would come back, correct
24 me if I'm wrong, they can produce any product. Senator Ruff
25 referred to how much volume of business. It seems to me

1 there's opportunities and I gave one example but I'm sure
2 there's many more better examples of how this product would
3 really work where it could cut infectious disease and it could
4 be done without needed approval no matter whether it's on a
5 keyboard or water board or whatever. This company can go
6 out and demonstrate to a non-restricted where there are
7 savings health-wise from its use. It seems to me and maybe
8 I'm complicating what your proposing but -

9 DELEGATE MARSHALL: Madam Chair, I
10 need to get a second.

11 MR. OWENS: I second it.

12 SENATOR SMITH: The idea of stages,
13 you get one offering and they prove themselves, they go to the
14 next step.

15 DELEGATE BYRON: My comment if we
16 have the potential to do that for every application that comes
17 before us and if that's the way we're going to go then so be it
18 because we can apply that to the next five applications if you
19 want to do it. I think they're only trying to point out what
20 concerned me is we're making a lot of decisions on what we do
21 on scores and I felt in this case the scores didn't accurately
22 portray what the product's value was. One of their
23 recommendations or comments, potential market for proposed
24 product is major and that's one thing I would agree with and
25 they saw that in the panel but there was definite disagreement

1 as to what happened in the meeting that created low scientific
2 scores, which would have made it much higher. But while
3 they shared with us different products, we can go in and say
4 that many aren't ready for the market but there are a lot of
5 applications that are. We're not specifically looking at every
6 product that they're going to produce. I think the potential is
7 and the thing about our IP question and the scientific side of it
8 and the rest of it did not reflect I think like the potential for
9 something like this being so in Virginia. They've invested their
10 own funds in it and some of the other scores we've seen I
11 might note are in the second round some of the people that
12 scored high have already been in front of the Commission
13 before so this score should be reflecting a little bit higher than
14 some of the others. I think we should keep that in mind. I
15 appreciate what you're saying.

16 DELEGATE MARSHALL: I'll withdraw my
17 motion.

18 SENATOR RUFF: You're withdrawing
19 your motion. I really wanted to move this in a different
20 direction. The whole purpose of Research and Development is
21 to bring value and jobs to Virginia and to the Tobacco Region.
22 They're talking about 36 jobs and talking about licensing the
23 technology so it can be used anywhere else. \$54,000 a job, I
24 don't believe is a value that I want to vote for.

25 MS. CARTER: One of the things that I

1 find interesting about this application, they do have a patent
2 pending, so I would assume once your patent is approved,
3 what does that do for this company in Virginia?

4 MR. BAILEY: It allows us to protect our
5 ideas and product lines from competitors. It certainly is a
6 barrier to market for future competitors that would be the
7 simple answer.

8 MS. CARTER: Would you license with
9 larger companies that are in this field?

10 MR. BAILEY: Yes, we would but I think
11 an assumption is being made that when we license it the
12 actual application using the word coating, for instance, is
13 going to be done elsewhere. I don't believe we, but if the
14 licensing opportunity presents itself when it presents itself
15 that's a whole new set of job production building here in the
16 footprint. I just want to clarify that. The patent office
17 protections are well-known but that's an assumption.

18 SENATOR RUFF: Madam Chairman, if
19 we move forward on this, I think that needs to be an
20 addendum to the agreement that that coating will be in the
21 footprint.

22 DELEGATE BYRON: Based on the fact
23 that they're putting a building in in the industrial park, that
24 was my assumption all along. Is there a problem putting that
25 on there?

1 MR. SISSON: We want to grow the
2 operation, so yes.

3 MR. OWENS: Are you saying that you
4 would be in agreement if we say that if we fund this, any
5 licensing would have to be done in the footprint or production
6 in the footprint?

7 SENATOR RUFF: Yes.

8 MR. OWENS: We could put that in the
9 agreement.

10 SENATOR RUFF: That's what I want.

11 MR. OWENS: I move that we approve
12 this with that agreement.

13 SENATOR RUFF: I'm not sure that I
14 move that.

15 MR. OWENS: I move that as a motion.

16 DELEGATE BYRON: Does that satisfy
17 you, Senator Ruff?

18 SENATOR RUFF: It gives me some
19 heartburn but yes.

20 MR. STEPHENSON: Madam Chairman,
21 can we clarify the stipulation once more?

22 SENATOR RUFF: That the production of
23 the product would have to be produced in the Tobacco
24 footprint.

25 MR. OWENS: Second.

1 SENATOR RUFF: Madam Chair, is this a
2 legal question? If they go out and license this product and
3 they're successful at that for some reason the patent is denied
4 and somebody else controls the product, would that be
5 detrimental to the previous licensing or would the two
6 connect?

7 MS. MEYERS: I would think that they
8 would not have much of a market if they are in fact violating a
9 current patent, but yes it would be detrimental.

10 MS. CARTER: As I understand it, they
11 can correct me if I'm wrong, if they obtain a patent, the second
12 thing would be the licensing.

13 MR. SISSON: The licensing does not
14 depend on the patent. The patent is something and we're
15 certainly very optimistic about anyone else applying for a
16 patent. Licensing however is not just about licensing in
17 nanotechnology. Licensing also has to do about licensing our
18 trademark. For example, if Proctor and Gamble wanted to
19 come up with a clipboard that is NanoSeptic, we would enter
20 into a licensing agreement.

21 DELEGATE BYRON: We have a motion
22 and a second. All those in favor say aye. (Ayes.) Any
23 opposed? (No response.) Thank you, all right. Let's move on
24 to the second one, 2981. I want to remind you all that I
25 appreciate we have all these questions but unless we have

1 another meeting we're going to have to start watching our
2 time. All right, next one is 2981. Any questions on that?

3 DELEGATE MARSHALL: I move we
4 accept 2981.

5 MR. OWENS: Second.

6 DELEGATE BYRON: We have a motion
7 to accept 2981 as presented to us. All in favor say aye.
8 (Ayes.) Opposed? (No response.) All right.

9 Application 2982. Anyone here from
10 WireTough?

11 MR. ROGERS: Good afternoon, I'm Ed
12 Rogers here on behalf of the Southwest Virginia Higher
13 Education Center Foundation, which is the applicant in this
14 case.

15 DELEGATE BYRON: I just want to know
16 why the panel was talking about the market side and the
17 return on investment.

18 MR. ROGERS: I think there's some
19 legitimate debate about how much hydrogen will be adopted
20 throughout the country and throughout the world. That's
21 probably what that refers to whether or not hydrogen will be a
22 vehicular fuel. Certainly the Department of Energy thinks it
23 will be. California is putting millions and millions of dollars
24 into hydrogen and multiple countries are. I think it's a
25 question of whether or not hydrogen would, in fact, be as large

1 a market as maybe some people think it is.

2 With respect to return on investment if
3 the question is just the jobs return on investment and okay to
4 Senator Ruff's point, that's a legitimate question. But in this
5 case the offering, WireTough is offering profit sharing back to
6 either the applicant or the Tobacco Commission at the
7 Tobacco Commission's discretion and that turns it into a
8 totally different return on investment analysis.

9 DELEGATE MARSHALL: Ed, the original
10 application was to make tanks for gas and propane?

11 MR. ROGERS: Natural gas.

12 DELEGATE MARSHALL: How is that
13 going, are they selling that product?

14 MR. ROGERS: Absolutely, they're selling
15 product and their cash flow is break even at that product and
16 they started off with zero sales. I think the original award was
17 around \$500,000 and they got their manufacturing operation
18 set up and they received certification from the federal
19 Department of Transportation and selling their product
20 nationwide and have developed a good name for themselves in
21 the industry. As a result of all that expertise they were able to
22 attract the attention of the Department of Energy for this
23 hydrogen product. There are complementary products and
24 not mutually exclusive.

25 SENATOR SMITH: Is this a procedure

1 where you wrap something around the cylinder or is it
2 embedded in the cylinder itself?

3 MR. ROGERS: It starts with a steel
4 cylinder and WireTough is wrapping it multiple times with
5 multiple strands of steel wire and that's what their intellectual
6 property is around. The thickness of the wrapping itself is
7 about that thick. The steel wire has greater strength on
8 pound for pound basis than steel plate. You end up with a
9 really, really strong tank that weighs a lot less than if the
10 entire tank was steel plate, so it is wrapped.

11 SENATOR SMITH: It could be applied to
12 anything you need to put in the tank that's commercially
13 viable, it's not limited.

14 MR. ROGERS: It's not limited to
15 hydrogen and this will probably be used in transporting high
16 pressure gas and helium and other gases over the roads. In
17 terms of vehicle fueling stations, it will likely be hydrogen or
18 CNG, compressed natural gas.

19 SENATOR SMITH: Are there any
20 separate –

21 MR. ROGERS: The pounds per square
22 inch that WireTough is able to achieve at the price they are
23 able to achieve it at. There are other products out there that,
24 not at 13,000 PSI, which is four times what the typical CNG
25 fuel tank would be and not at the price point that WireTough

1 can do and that's what attracted the Department of Energy.

2 DELEGATE MARSHALL: Madam Chair, I
3 move we accept application 2982.

4 MR. OWENS: Second.

5 DELEGATE BYRON: We have a motion
6 and a second to accept this application. All in favor say aye.
7 (Ayes.) Opposed? (No response.)

8 Let's move on to 2983.

9 DELEGATE MARSHALL: I make a
10 motion that we approve 2983.

11 MR. OWENS: I'll second it.

12 SENATOR RUFF: This one falls fairly low
13 on the acceptance.

14 MR. PFOHL: Madam Chair, for the
15 record, I think Ms. Carter is abstaining from this one.

16 MR. OWENS: My question is I've been
17 looking at these scores and there seems to be one or two of
18 low scores and it makes it kind of difficult for everyone else
19 and it may be for the best.

20 DELEGATE BYRON: That's why I
21 questioned this. If someone wants to defend like previously
22 and some are not ready for market time. I don't know if that's
23 the case without somebody answering the questions.

24 MS. COCHRAN: Good afternoon, I'm
25 Leigh Cochran. I'm the director of research and development

1 for Advanced Learning and Research. I'm here to try to
2 answer any questions you have.

3 DELEGATE MARSHALL: Tell us about
4 the commercialization.

5 MS. COCHRAN: The commercialization,
6 obviously this is a biofuel project. The commercialization for
7 the project will require a variety of things such as farmers in
8 Virginia wanting to grow and some of this just came off the
9 EPA list for biofuel production and growing giant miscanthus.
10 The commercialization can either be Algenetix's producing
11 their own pilot plant facilities in southern Virginia to showcase
12 how this works, which is the new way to actually extract the
13 oil out of the feedstock or they could license the technology to
14 other companies if they want to build a facility in southern
15 Virginia, knowing the available land and growing the giant
16 miscanthus.

17 DELEGATE MARSHALL: Did your group
18 find this company or did the company find you and they're
19 shopping for dollars and they just happened to end up with
20 us?

21 MS. COCHRAN: The company found us
22 and we worked on transformation protocols. A very popular
23 product for biomass overseas in Asia and there's a value with
24 biomass out of feedstock. They found a publication she had
25 written about two or three years ago. We've done some pilot

1 projects to prove that we could help them and there's some
2 protocols using their photoseed inside of these feedstocks. We
3 were wondering if we could help them to develop this protocol
4 and actually inoculate if you will the plant with their
5 photoseed and that would increase the content of the product.

6 DELEGATE MARSHALL: When they
7 came to you, they didn't come to you knowing about R&D at
8 Tobacco Commission, they came to you for research?

9 MS. COCHRAN: Yes.

10 DELEGATE MARSHALL: The Institute is
11 the one that suggested that?

12 MS. COCHRAN: Right.

13 DELEGATE BYRON: Thank you very
14 much. We have a motion and a second to accept this
15 application. All in favor say aye. (Ayes.) Opposed? (Nos.) We
16 need a roll call.

17 MR. PFOHL: Delegate Byron?

18 DELEGATE BYRON: No.

19 MR. PFOHL: Senator Carrico?

20 SENATOR CARRICO: No.

21 MR. PFOHL: Delegate Marshall?

22 DELEGATE MARSHALL: Aye.

23 MR. PFOHL: Ms. Moss?

24 MS. MOSS: No.

25 MR. PFOHL: Mr. Owens?

1 MR. OWENS: Aye.

2 MR. PFOHL: Mr. Reynolds?

3 MR. REYNOLDS: Aye.

4 MR. PFOHL: Senator Ruff?

5 SENATOR RUFF: No.

6 MR. PFOHL: Senator Smith?

7 SENATOR SMITH: No.

8 MR. PFOHL: The motion failed, five to
9 three.

10 DELEGATE BYRON: 2984, Institute for
11 Advanced Learning and Research Packaging Innovation and
12 Development Center.

13 MR. OWENS: I so move.

14 DELEGATE MARSHALL: Second.

15 DELEGATE BYRON: We have a motion
16 and a second to accept 2984. All in favor say aye. (Ayes.)
17 Any opposed? (No response.) That is approved. Ms. Carter is
18 abstaining.

19 Next is 2987, Fiber Optic Research
20 Development and Commercialization. They're on a second
21 round.

22 DELEGATE MARSHALL: I move to
23 accept application 2987.

24 SENATOR RUFF: For discussion, I'll
25 second it. I'd like to go a little more in depth about this.

1 MR. CHENARD: Madam Chairman and
2 members of the Committee, my name is Francois Chenard,
3 president of our company.

4 SENATOR RUFF: Bring us up to date on
5 what's happened so far.

6 MR. CHENARD: Mid long ways in with
7 the technology, the same equipment, same facility. We have
8 started the R&D and we are continuing in the market with
9 new products. Last year we had \$240,000 of commercial
10 sales. That's without the R&D contract that we have. This
11 year in the first quarter with new products, we already have
12 \$70,000 of sales of new products and over \$120,000 in orders.
13 So we deliver and our sales. We have a backlog of orders of
14 more than two-thirds of what we had the previous year so the
15 sales are going well and we have over 40 customers and not
16 government customers. We have two medical dentists
17 companies with trials with our products for their equipment.
18 We have laser suppliers to use our equipment. Also we are
19 testing it. We have real customers, some are still using and
20 trying our products. In our business plan our project we have
21 prototype products. We already have some preliminary work.
22 It's on track as to what we put in the plan.

23 SENATOR RUFF: How many people do
24 you employ right now?

25 MR. CHENARD: We are seventy people

1 right now and that's the minimum. We have the expertise and
2 the technical team and people for each position. The fiber
3 making and the assembly making of the products.

4 SENATOR RUFF: You produce
5 everything in Danville?

6 MR. CHENARD: Yes.

7 SENATOR RUFF: Thank you.

8 DELEGATE BYRON: Senator Ruff, you
9 were asking about the number of people that were employed,
10 are you expecting that to go up?

11 MR. CHENARD: Yes. With the sales and
12 rule of thumb is that every \$150,000 of sales you create one
13 job. At the end of this R&D period, we will have about \$3.86
14 million so that creates a number of jobs that we project. And
15 with the growth, we will also have other job creation as we
16 grow the sales.

17 SENATOR SMITH: Of the first grant
18 requiring thirty new hires by 2013. Is there a penalty or not if
19 you don't meet the promise of thirty?

20 MR. PFOHL: No. Our agreements I don't
21 believe would have the force or giving us a legal standpoint to
22 enforce the claw back at that point. It was very early on.

23 SENATOR SMITH: What's the track
24 record to start with?

25 DELEGATE BYRON: We have a motion, I

1 want to thank you very much. We have a motion to accept
2 2987 and it was properly seconded. All those in favor say aye.
3 (Ayes.) Opposed? (Nos.)

4 MR. PFOHL: The motion carries five to
5 three.

6 DELEGATE MARSHALL: We had talked
7 about in the Executive Session and it's now 12:30 almost,
8 Tim, do we have time that maybe we could meet? Can we
9 meet in Executive Session, can we meet before the full Board
10 meeting is my question.

11 MR. STEPHENSON: We have an hour.

12 DELEGATE BYRON: We could meet now.

13 MR. PFOHL: Other business. Early in
14 the life of the R&D program you made a series of operating
15 grants to the research and development centers that are
16 distributed across the Tobacco Region. One of those was a
17 grant to the Wise County Industrial Development Authority,
18 grant number 1840 for operating funds for the Appalachian
19 American Energy Research Center. The Wise County IDA has
20 been cautious and conservative in the use of those operating
21 grants. Even though the grant is six years old the AAERC is
22 now occupied by a recent R&D grant because the grant you
23 made in the past years at the University of Virginia College at
24 Wise on behalf of Micronics, which is now operating AAERC,
25 just moved in in the last couple of months in the facility and

1 that facility needs some outfitting and so forth to
2 accommodate Micronics. The Wise IDA is asking for a year's
3 extension and bring grant 1840, the staff is supportive of that
4 request.

5 SENATOR CARRICO: I move we grant
6 that extension.

7 MS. CARTER: I didn't hear.

8 MR. PFOHL: They're requesting a one-
9 year extension of grant 1840 for the Wise Energy Research
10 Center.

11 DELEGATE BYRON: We have a motion.

12 SENATOR RUFF: Second.

13 DELEGATE BYRON: A motion and a
14 second to extend number 1840 for one year. All in favor say
15 aye. (Ayes.) Opposed? (No response.)

16 MS. HODGES: Good afternoon, my name
17 is Kathy Hodges. I'm the executive director here at the
18 Franklin Center for Advanced Learning and Enterprise. We're
19 excited you were able to meet here today. If you find anything
20 you need while you're here, we're happy to accommodate that.
21 Our primary focus here is education, employment and
22 economic development. We have a total of twenty partners
23 here. Virginia Western Community College provides the
24 college training. We also have Franklin County Public Schools
25 Adult Education to work with the GED program. They're now

1 adding the National External Diploma Program. We also have
2 Mary Baldwin College and we're trying to get their program up
3 and running here and are in the process of recruiting students
4 for that program and we're very excited about that. We also
5 provide support for existing businesses, we work with new
6 businesses that come into the area and we can customize the
7 training they need to keep their employees abreast of whatever
8 is current in their field.

9 I want to welcome you again and if
10 there's anything you need, let us know. When you exit this
11 room, the restrooms will be to your left and your lunch will be
12 directly across the hall. Welcome, we're glad to have you here.

13 DELEGATE BYRON: Thank you very
14 much.

15 MS. CARTER: I would like to make a
16 suggestion, in looking at all the grants we have over the years
17 we approved or not, but it would be very interesting to get a
18 very brief summary of where these grants are today and what
19 kind of progress has been made, maybe two or three
20 sentences on each one. I think it would help us as we move
21 forward in this process to see what has been done.

22 DELEGATE BYRON: We have done some
23 or the staff has worked on that personal information with
24 regard to where they are now.

25 DELEGATE MARSHALL: When would

1 you like to have that done by?

2 DELEGATE BYRON: Now, do we have
3 any public comment?

4 MR. GILES: Would you like me to give an
5 update on the composition of the panel? Less than four
6 minutes.

7 DELEGATE BYRON: Yes.

8 MR. GILES: At the January 14th meeting
9 of the R&D Committee, one of the items coming out of that
10 process was the request of me that we rebalance the review
11 panel representation to have a heavier component related to
12 industry, business and investment and less of an emphasis on
13 the academic, university side. I wanted to briefly update the
14 review panel or R&D Committee as to the actions taken on
15 this. Specifically we dropped West Virginia University was
16 excused from the process as well as our R&D funded center
17 representative, which was ILAR at this particular time.
18 Through efforts from CIT and others, we went through the
19 interview process and have selected two new representatives
20 to go on the R&D team. Very briefly, those individuals are as
21 follows.

22 First is Marco Rubin. Marco is Managing
23 Director of Exoventure Associates, LLC serving an array of
24 leading innovation and institutional investment clients since
25 2003. He has invested in approximately 100 seed and early-

1 stage technology companies throughout his career. Marco has
2 held leadership roles with funds recognized by Entrepreneur
3 Magazine's Annual VC100 list since 2002 including his role as
4 Fund Advisor to the Center for Innovative Technology where
5 he deploys seed capital and assumes board seats.

6 Prior to Exo, he was founder of
7 Monumental Venture Partners, LLC making investments in
8 security, information technology, telecommunications,
9 software and medical devices sectors. MVP produced
10 acquisitions of portfolio companies to Dolby Labs and Level 3
11 Communications. Before MVP, Marco launched New
12 Ventures, MCI's venture capital unit until the company's
13 acquisition in 1998. Prior to venture capital, he served
14 Fortune 500, federal and emerging market clients in
15 Indonesia, Czech Republic and Mexico while with Booz Allen
16 and Hamilton, Inc.

17 Marco began his career as an engineer at
18 the Johnson Space Center training astronauts and flight
19 controllers. He holds an MBA from The George Washington
20 University (Beta, Gamma, Sigma honors) and a BSEE from the
21 University of New Mexico and is fluent in written and spoken
22 Spanish.

23 The second individual is David Lohr. He
24 is management consultant, adjunct professor, entrepreneur
25 and corporate CEO with hands-on experience in for profit and

1 not for profit firms. Proven expertise in marketing, global new
2 business development, product management operations,
3 business incubation and R&D in the biosciences, specialty
4 chemicals, advanced materials and manufacturing sectors.
5 Demonstrated strong technical, financial, strategic,
6 interpersonal and managerial skills in large and small
7 capitalization organizations. Experience negotiating joint
8 ventures, equity investments and technology licenses. Also
9 with Navigation Point Advisors in Richmond and then
10 Commonwealth Center for Advanced Manufacturing, President
11 and Executive Director. And then Virginia Biotechnology
12 Research Park, adjacent to the VCU MCV College of Medicine
13 campus, the park houses over 55 life science companies. Vice
14 President, Business Development and Executive Director,
15 Virginia Biosciences Development Center and the Dominion
16 Resources GreenTech Incubator. E. E. DuPont De Nemours
17 and Company from 1972 to 1993. His education is an MBA
18 with finance emphasis, summa cum laude from the William's
19 College of Business, Xavier University, 1999. BS in Chemical
20 Engineering, highest honors Magna Cum Laude, Virginia
21 Polytechnic Institute and State University, 1976.

22 Both of these individuals having gone
23 through a review process and under non-disclosure
24 agreements, they're ready to serve the process on round
25 thirteen. Are there any questions? All right. We now have

1 basically a complete house, the same number on the academic
2 side. Hopefully that meets the spirit of what you asked for.

3 DELEGATE BYRON: Thank you very
4 much, Jerry. All right? Any further comment? We're going to
5 recess for lunch and then we'll come back in here and go into
6 Executive Session.

7

8 NOTE: WHEREUPON A RECESS IS HAD; PROCEEDINGS
9 RESUME, VIS:

10

11 DELEGATE MARSHALL: I move that we
12 go into Executive Session in accordance with the provisions of
13 the Virginia Freedom of Information Act for the purpose of
14 discussing an award of a public contract.

15 DELEGATE BYRON: All those in favor
16 say aye. (Ayes.) Opposed? (No response.)

17

18 NOTE: THE COMMITTEE IS NOW IN EXECUTIVE SESSION;
19 WHEREUPON THE COMMITTEE RECONVENES AFTER A
20 FIFTEEN MINUTE EXECUTIVE SESSION, VIS:

21

22 DELEGATE BYRON: I believe we're
23 ready. We're in open session.

24 DELEGATE MARSHALL: Whereas the
25 R&D Committee of the Tobacco Commission has convened a

1 closed meeting in accordance with the Virginia Freedom of
2 Information Act; and whereas, the Act requires a certification
3 by the Committee that such a meeting was conducted in
4 conformity with Virginia law.

5 Resolved, that the Committee hereby
6 certifies that, to the best of each member's knowledge, only
7 public business lawfully exempt from the open meeting
8 requirements under the Act, and only such public business
9 matters as were identified in the motion by which the closed
10 meeting was convened, were heard, discussed and considered
11 by the Committee in that meeting.

12 DELEGATE BYRON: We need a roll call
13 vote.

14 MR. PFOHL: Delegate Byron?

15 DELEGATE BYRON: Yes.

16 MR. PFOHL: Senator Carrico?

17 SENATOR CARRICO: Yes.

18 MR. PFOHL: Ms. Carter?

19 MS. CARTER: Yes.

20 MR. PFOHL: Delegate Marshall?

21 DELEGATE MARSHALL: Yes.

22 MR. PFOHL: Ms. Moss?

23 MS. MOSS: Yes.

24 MR. PFOHL: Mr. Owens?

25 MR. OWENS: Yes.

1 MR. PFOHL: Mr. Reynolds?

2 MR. REYNOLDS: Yes.

3 MR. PFOHL: Senator Ruff?

4 SENATOR RUFF: Yes.

5 MR. PFOHL: Senator Smith?

6 SENATOR SMITH: Yes.

7 MR. PFOHL: The motion carries.

8 DELEGATE BYRON: All right.

9 MS. CARTER: I'd like to make a motion
10 that the Chair of the Research and Development Committee
11 form a subcommittee to –

12 MR. STEPHENSON: Can I help the
13 Chair?

14 DELEGATE BYRON: Yes.

15 MR. STEPHENSON: I think the
16 appropriate process would be for the Chairman of the R&D
17 Committee to suggest some names to the Commission
18 Chairman Delegate Kilgore and for him to appoint the
19 subcommittee because only the Chairman of the Commission
20 can make or appoint committees. If Kathy will work through
21 that and speak then to Terry Kilgore, I'm sure he will shoot
22 that across the table next week and it will be done.

23 DELEGATE BYRON: Then we don't need
24 a motion, all right. The Committee understands we're going to
25 form a subcommittee, I'll talk to the Chair and give him some

1 names for members of the subcommittee. All right, with that,
2 I think the Committee's work is done.

3 MR. OWENS: I move we adjourn.

4 SENATOR CARRICO: I'll second it.

5 DELEGATE BYRON: We're adjourned.

6

7 PROCEEDINGS CONCLUDED.

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1 CERTIFICATE OF THE COURT REPORTER

2
3 I, Medford W. Howard, Registered Professional
4 Reporter and Notary Public for the State of Virginia at large,
5 do hereby certify that I was the court reporter who took down
6 and transcribed the proceedings of the **Virginia Tobacco**
7 **Indemnification and Community Revitalization**
8 **Commission Research & Development Committee meeting**
9 **when held on Tuesday, May 12, 2015 at 10:30 a.m. at The**
10 **Franklin Center for Advanced Learning and Enterprise,**
11 **Rocky Mount, Virginia.**

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

15 Given under my hand this 24th day of June,
16 2015.

17
18
19 _____
20 Medford W. Howard

21 Registered Professional Reporter

22 Notary Public for the State of Virginia at Large

23
24 My Commission Expires: October 31, 2018.

25 Notary Registration Number: 224566

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