

1 **VIRGINIA TOBACCO INDEMNIFICATION AND COMMUNITY**
2 **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, May 25, 2011

11 4:00 p.m.
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13 Hilton Garden Inn

14 Lynchburg, Virginia
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1 **APPEARANCES**

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3 The Honorable Kathy J. Byron, Chairman

4 The Honorable Daniel W. Marshall, III, Vice Chairman

5 Ms. Mary Rae Carter, Deputy Secretary of Rural Economic

6 Development, Office of the Secretary of Commerce & Trade

7 Mr. Burgess Hamlet

8 Ms. Connie Greene Nyholm

9 The Honorable Edward Owens

10 Mr. Kenneth O. Reynolds

11 The Honorable Frank M. Ruff, Jr.

12 Ms. Cindy M. Thomas

13 The Honorable William C. Wampler, Jr.

14

15 **COMMISSION STAFF**

16 Mr. Neal Noyes, Executive Director

17 Mr. Ned Stephenson, Deputy Executive Director

18 Mr. Timothy Phofl, Grants Program Administration Manager

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

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

21 Ms. Stephanie S. Kim, Director of Finance

22 Ms. Stephanie S. Almond, Program Administrator

23

24 **Counsel to Commission**

25 Mr. Francis N. Ferguson, Esquire

1 May 25, 2011

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4 DELEGATE BYRON: I'm going to call the
5 meeting of the Research and Development Committee to order.
6 I want to welcome everyone to this area and I hope you'll enjoy
7 yourselves here. Neal, would you call the roll?

8 MR. NOYES: This is a continuation of our
9 previous hearing we held in Danville. Delegate Byron?

10 DELEGATE BYRON: Here.

11 MR. NOYES: Ms. Carter?

12 MS. CARTER: Here.

13 MR. NOYES: Secretary Cheng?

14 SECRETARY CHANG: (No response).

15 MR. NOYES: Delegate Marshall?

16 DELEGATE MARSHALL: Here.

17 MR. NOYES: Mr. Hamlet?

18 MR. HAMLET: Here.

19 MR. NOYES: Ms. Nyholm?

20 MS. NYHOLM: Here.

21 MR. NOYES: Mr. Owens?

22 MR. OWENS: Here.

23 MR. NOYES: Senator Puckett can't be with us
24 today. Mr. Reynolds?

25 MR. REYNOLDS: Here.

1 MR. NOYES: Senator Ruff?

2 MR. RUFF: Here.

3 MR. NOYES: Ms. Thomas?

4 MS. THOMAS: Here.

5 MR. NOYES: Senator Wampler?

6 SENATOR WAMPLER: Here.

7 MR. NOYES: You have a quorum.

8 DELEGATE BYRON: Thank you. The minutes
9 from our meeting on the 16th aren't available yet so we'll go on
10 with the presentation of any new R & D proposals, any that we
11 had from our previous meeting or our last meeting.

12 MR. NOYES: There have been a number of
13 applications submitted and there are a couple of changes
14 members of the Committee from what was sent to you. Some
15 are very recent. The first is number 2320 the IALR, Chemtex
16 International, Incorporated, private sector business. The IALR
17 is requesting \$521,298 on behalf of Chemtex International, a
18 U.S. subsidiary of the Italian Parent. The Institute for
19 Sustainable and Renewable Resources has the requisite
20 experience and personnel to effectively manage three research
21 components which are development tissue culture propagation
22 method, microbial screens to enhance biomass productivity,
23 mutation breeding work to further enhance biomass yield,
24 stress tolerance performance. By the way, before I go on, I
25 spoke to Delegate Kilgore a little while ago and he said if this

1 Committee discovers the next best thing that he is for it. This
2 project is precisely in line with the Commission's expectations
3 for renewable energy research at the Institute. The entire
4 match financing is in kind and staff is not expert enough to
5 validate the contributions of Chemtex International,
6 Incorporated plant germplasm as matched. Interim research
7 milestones for each of the three years are well defined and
8 verifiable. Commercialization for this potential biofuel
9 feedstock is solely dependant on its adoption at some future
10 point in time as a preferred resource for ethanol production.
11 The applicant makes no claim that this is being actively
12 discussed only that commercialization is possible within the
13 Commission footprint. Note that a demonstration plant is
14 under construction in Italy and should this project go forward
15 it should be with some sort of understanding that between the
16 next demonstration or commercial facility be constructed
17 within the Commission footprint and not at another U.S.
18 location. Chemtex International at this time operates an R &
19 D facility in Ohio or at least if no IP development the outcome
20 of this project be available for use elsewhere. Staff
21 recommends referral to VEDP for vetting. They'll be able to tell
22 us about those three things and what they mean.

23 The second application, Institute for Advanced
24 Learning and Research which is Project Longbow. There is a
25 nondisclosure agreement that is in effect; \$5 million is

1 requested, “to expand capacity of renewable energy, R&D
2 capabilities.” This request directly benefits the sustainable
3 energy center that would house a demonstration plant based
4 on asset hydrolysis processes and convert biomass to biofuels
5 and byproducts. The long term commercialization opportunity
6 is well defined based on hardwood, forest residue and grasses
7 and feedstock. This is an active project with VEDP and the
8 Commission at this time with very significant potential
9 commercial outcomes near term. The Longbow initiative in
10 short terms will provide 60 jobs, very substantial private
11 capital investment. Local biomass is the issue here and longer
12 term commercial observations benefit both Southern and
13 Southwestern Virginia, \$8,200,000 matches the Commission’s
14 investment largely limited to equipment and plant
15 infrastructure improvements needed to accomplish the project
16 objectives at IALR. Staff recommends an award of \$5 million
17 without VEDP vetting. I’ve put a condition here that there will
18 be no disbursement until Project Longbow is consummated
19 and I’d like to change that, members of the Committee and
20 remove that condition and go with our standard contract
21 language specifying no commercial activity outside the
22 footprint for three years post R&D. I don’t want to get in the
23 way of ongoing negotiations with Project Longbow on the
24 commercialization. Given the fact that the equipment would
25 be housed and owned by the IALR and not leaving the

1 footprint, I think the chance of our investment not being
2 realized is very slight. So that's the change, standard contract
3 language.

4 DELEGATE BYRON: This is an active project
5 with the partnership already?

6 MR. NOYES: Yes.

7 DELEGATE BYRON: Not necessarily the
8 research, working on other things?

9 MR. NOYES: Yes. There is an NDA in effect so
10 the discussion was limited.

11 The third project with the Department of
12 Business Assistance, Virginia Department of Business
13 Assistance. There's been recent discussions for a number of
14 reasons, not the least of which is policy on the role of state
15 agencies in relations to our R&D Program and there not being
16 a firm commitment on matching resources. The staff has
17 changed its recommendation to no further action. I
18 communicated with these people and understand the reasons
19 that they intend to submit in the next round by August 1st.

20 Region 2000 Research Institute, that
21 application has been withdrawn.

22 The next project is the Rector and Visitors of
23 the University of Virginia, Partnership for Design and
24 Manufacture of Affordable, Energy Efficient Housing Systems,
25 private sector participants, Cardinal Homes, Incorporated and

1 SIPS of America, Incorporated, \$2,455,000 requested. UVA is
2 requesting that amount on behalf of multiple public and
3 private sector implementation partners for design and
4 manufacture of affordable, energy efficient housing systems.
5 Specifically, this work focuses on research, development,
6 testing and demonstration of systems for disaster recovery in
7 residential housing markets. The narrative finds no fewer
8 than 8 partners in Southern and Southwestern Commission
9 jurisdictions, and there have already been clear expressions of
10 interests by FEMA and two foreign governments and those are
11 Haiti and Japan. The South Boston/Riverstone Energy
12 Centers are expected to play central roles. Matching funds
13 totaling \$3,180,701 are committed and readily available for
14 this project. The budget, as revised, appears appropriate and
15 reasonable though staff expects to explore the marketing
16 components to ensure that public funds are not being used
17 inappropriately. There is a small line item for marketing; you
18 may not wish to go forward on. Given the serious adverse
19 impacts of the national housing crisis on the regional
20 economies of Southern and Southwestern Virginia, combined
21 with the urgency of national and foreign interest in post
22 disaster housing solutions, this project proffers a perfect storm
23 opportunity. It is not unreasonable to imagine that this type
24 of housing might replace the trailer approach FEMA now uses,
25 or that manufacture on a significant commercial scale would

1 occur within the Commission footprint. Accordingly, staff
2 recommends award of \$2,445,000 without VEDP vetting.

3 MS. CARTER: The 8 partners and 7 Southern
4 and Southwestern Commission jurisdictions, would that be in
5 the application process?

6 MR. NOYES: They're already identified and
7 resources to it in both regions. That's an interesting and
8 attractive feature of this application as it's reviewed by staff.
9 Public and private sector partners engaged up front. It's a
10 situation that could produce some real results immediately or
11 pretty soon.

12 MS. CARTER: Is that closed or –

13 MR. NOYES: I don't know if it's closed and I
14 see Dr. Parrish is here.

15 DELEGATE BYRON: I have some questions
16 about this one as well. It might be good to hear from them
17 because we're recommending an immediate award without
18 vetting; we don't have jobs down here and some of the other
19 details that we should be looking at. We need to know some
20 more about the project.

21 PHILIP A. PARRISH, Ph.D.: Philip Parrish,
22 University of Virginia, President for Research at UVA. This is
23 Jimmy Farlow, President of SIPS of America. This project, we
24 really wanted to bring together a full compliment of
25 capabilities from Southside and Southwest, both industrial as

1 well as other public organizations like Southern Virginia
2 Higher Ed Center and their advanced manufacturing facility in
3 the Riverstone Center involving SIPS. The structural and
4 insulated panels and that's involving the coding and the
5 paneling, I mean the structural insulated panels that they're
6 basing a lot of this energy efficient housing on, whether it's for
7 shelters or residential homes. The Town of South Boston is a
8 participant along with Southside Outreach and they have
9 prototype buildings that they're intending to build that would
10 be for affordable housing systems. They're interested in the
11 energy efficiency and the low costs and the residents of those
12 systems down stream so they've made plans with Southside
13 Outreach matching funding for that. People, Inc. in Abingdon
14 same situation, donating land and helping with construction
15 of that system. That's a new kind of system that's based on
16 some designs that were created at the University of Virginia at
17 a project that's aimed at affordable housing and that's been
18 demonstrated in single family homes through Habitat for
19 Humanity and other groups but we've never taken it to a
20 multi-family kind of structure and how we really bring that
21 together. That's what we're trying to demonstrate on that side
22 of the project. The other side is, is it affordable and energy
23 efficient and that's for recovery shelters. That part of it is
24 aimed at not the immediate situation, just after a tornado or
25 hurricane or an earthquake but a month to six months out

1 bringing that relief in and sheltering people through those
2 disasters or recovery systems. UVA architects and professors
3 entered into a competition and it was a worldwide competition
4 and over 400 applicants, they finished number one in the
5 disaster recovery shelter design for Haiti. The unusual and
6 really unique aspect of that is that the whole system can be
7 packaged into a box and shipped and that's what most of the
8 homes are capable of doing now and nobody has that,
9 especially disaster situation. You can either ship them to a
10 site to be assembled quickly that's typically off the grid
11 because there's no electricity left. Usually there's bad
12 sanitation so you need to consider that in that design and so
13 on. So that the system itself goes in a shipping container to be
14 shipped to the site take it out and construct it and then at the
15 end of the use of that, it can be disassembled and put back in
16 the container and shipped back to the supplier or one of these
17 companies to be refurbished. The other approach to it would
18 be to preposition the containers like this which takes a lot less
19 volume than trailers and other kind of structures. So this is a
20 very unique kind of thing to help us in the market especially
21 when you're trying to get access to them.

22 With regard to jobs, we talked about 40 in the
23 proposal but given the kinds of information and requests for
24 information by FEMA and the government of Japan now and
25 in Haiti, I think that easily would be 50 jobs. We think this

1 will be very explosive because of the need in disaster
2 situations.

3 MR. NOYES: This is just a recurring problem.
4 This is a research project and then go forward on
5 commercialization be more jobs.

6 DELEGATE BYRON: How long is the research
7 planned out or what's the timeline?

8 DR. PARRISH: Right now we have a one year
9 plan and second and third year is a little less defined but very
10 tightly defined in the first year. That has to do with taking
11 those architectural plans and turning them into initial
12 prototypes. The question is does everything come together
13 and fit together so that it's quickly assembled. There's also a
14 workforce training piece of this that has to go on with the
15 workforce and that involves the basic panels that go into this
16 and get the homes packaged as we go.

17 Other aspects of the research involved the
18 codings that deal with the moisture resistance and fire
19 resistance and so on. We have to be able to build and certify
20 these panels, wind loads and snow loads. In places like Japan
21 or Haiti, the situations are all different. In Japan you have to
22 worry about snow loads and make sure that they're certified
23 that these panels can meet those requirements. In Haiti it's
24 not the same. They're worried more about hurricane and wind
25 loads. In Japan they worry about designs that connect to the

1 ground in a certain way that are earthquake resistant but you
2 have to design for terrain because it's very much different than
3 in Haiti. So there's a lot of design qualifications that have to
4 be dealt with and develop a prototype.

5 DELEGATE MARSHALL: Can you share with
6 us the difference between a mobile FEMA trailer and what the
7 SIPS role would be?

8 MR. FARLOW: Right now between a FEMA
9 trailer and a SIPS panel, the SIPS is probably 10 times greater
10 than what a FEMA trailer is. As you're aware, buildings codes
11 are changing in the country very rapidly. The 2012 code that's
12 being written now is setting standards for conventional
13 buildings and at this time you have to use 2 x 6 walls to try to
14 get enough fiberglass insulation in it and we already exceed
15 the 2012 standards. From the insulating value and the
16 strength value that's involved. SIPS panels are 10 times
17 stronger than the conventional building and with the systems
18 that we work out for Japan on that terrain, we're building in
19 shock absorbers to handle the seismic movement they're
20 getting from their aftershocks. Haiti doesn't require that but
21 Haiti requires high wind uplift and severe storms. We exceed
22 all that. As far as our number the SIPS walls and R25 and the
23 effect of it is more like an R-50. The insulation value should
24 be based on air filtration not the actual air exchange. The
25 SIPS panel does not breathe and it stops air filtration 96.8.

1 Those are numbers that come from Oakridge Lab. We have
2 3,000 square foot houses with a \$50 utility bill.

3 MS. NYHOLM: We have similar structures in
4 our utility bills that have been lowered dramatically and
5 they've been quick to arrive and very durable. I picked up in
6 your application that these can be packed and fit in
7 containers?

8 DR. PARRISH: That's so we can respond to
9 any disaster quickly and we plan to take that approach.

10 MR. OWENS: Can you explain what
11 ECOMOD?

12 DR. PARRISH: Yes, it's a name created by one
13 of our faculty in the architect school. The focus is affordable
14 homes, permanent homes and it has several elements. One is
15 panelized construction and one of the things with this project
16 is to implement SIPS into the ECOMOD projects. Projects that
17 have these panels with other material for standard
18 installation, these have been built by students at UVA in a
19 hanger there, built and taken on the site, built in Mississippi
20 for the Katrina relief. In several cases, Habitat for Humanity,
21 the Piedmont Housing Alliance. So the theory or the students
22 were building more energy efficient homes and great lighting
23 and monitoring things like air quality, temperatures and so
24 forth.

25 MR. OWENS: The energy efficiency, if your bill

1 as \$100 a month, what could this drive that down to? What
2 would be the expectation?

3 DR. PARRISH: My expectation would be in the
4 20 to 30 dollar range.

5 MS. NYHOLM: The insulation is so tight.

6 DR. PARRISH: Efficiency is very critical in
7 units like this and if there is no grid. If you're putting on,
8 depends on what you're using for your power. You've got
9 sometimes with very limited power really. You've got to
10 operate it properly.

11 MR. OWENS: Not only affordable to build but
12 to maintain?

13 DR. PARRISH: That's very important to be
14 able to live there; it's got to be affordable in several ways,
15 initial purchase and continuous operation.

16 MR. FARLOW: Also one of the features they've
17 designed and they went to the University Medical Center to do
18 it. In these areas where you're having these disasters and
19 disease is something that follows disaster. This house is
20 designed to kill any airborne germs leaving the house before it
21 gets out into the atmosphere. So with chemical toilets, a small
22 refrigerator for medicine and enough electricity for the
23 ultraviolet clean the air before it leaves. It's a multifunction
24 building.

25 DR. PARRISH: It's really important and the

1 Haitian design because there's also the issue of HIV Aids
2 which is prevalent there; trying to make sure you're isolating
3 certain persons and there's an area built in for isolation in the
4 field.

5 MS. CARTER: UVA is the applicant for this
6 project and all the research and development to be done in the
7 Tobacco Commission footprint?

8 DR. PARRISH: Some work would be done in
9 Charlottesville at the School of Architecture and doing
10 computer based design for different scenarios. Otherwise,
11 everything including our students and faculty would be
12 working with SIPS like Cardinal Homes in Southern Virginia at
13 the Higher Ed Center. Everything other than that little bit of
14 work would be at UVA. We're counting the industrial. That's
15 in the footprint.

16 SENATOR RUFF: You made a summary in the
17 beginning and said something about marketing.

18 MR. NOYES: There's a very small amount of
19 money that was in a line item that would be for marketing by
20 SIPS or Cardinal or something like that for less than \$50,000
21 and working with UVA and quite possibly take that, not
22 dispersed against that cost. The Commission typically does
23 not pay for marketing a private business.

24 DR. PARRISH: One of the aspects of that was
25 Riverstone was working to help us document everything as we

1 go because we're concerned that if we pushed quickly through
2 the certification process and we're looking to them and they
3 have the capacity to help us with the documentation and
4 provide videos and that sort of thing, this is being built and
5 designed and so on. Can be used for marketing; is that what
6 we're talking about?

7 MR. NOYES: May not be, what we understand
8 as marketing, we'll have to get into it a little bit more but we
9 normally don't do that.

10 DELEGATE BYRON: Is it not unreasonable to
11 imagine that the commercialization would occur in the
12 footprint? Is that required in the contract?

13 MR. NOYES: What is learned as a result of the
14 research not be commercialized outside the footprint for a
15 finite period of time. We have within Southwest and Southern
16 Virginia folks who the housing crisis has; we'd lay off a lot of
17 people. We have the infrastructure in terms of businesses
18 that are established businesses and some that are coming in.
19 There was an announcement last week in Charlotte County
20 with all kinds of things happening. We had that economic
21 cluster already in Southern and Southwestern Virginia and
22 the capacity is way underutilized right now. If this thing takes
23 off rapidly, we'll be well positioned certainly within that three
24 year period to get a place to begin.

25 MS. NYHOLM: Question. You talked about

1 your team within the footprint but Cardinal Homes or Clayton
2 Homes or another manufacturer in the footprint, if they
3 wanted to become part of your process, would you be open to
4 that?

5 DR. PARRISH: Actually we have had contact
6 from modular homes and we actually met with one of them
7 yesterday and the question is who are the potential suppliers
8 beyond our two companies and who could join in because to
9 cover the entire market that we can't. Obviously we won't get
10 all of the business but we need more suppliers.

11 DELEGATE BYRON: Okay, thank you, I think
12 we need to go ahead and continue and thank you for your
13 presentation and glad that you're here today.

14 MR. NOYES: Application 2323 Southwest
15 Virginia Higher Education Center Foundation \$2,163,000
16 requested from CavitroniX Corporation and KVK Precision
17 Specialties, \$2,163,000 on behalf of CavitroniX to undertake 5
18 interrelated applied research and product development
19 activities that would demonstrate energy efficiency attributes
20 and environmental efficacy of the E2C emulsion system in oil-
21 fired furnaces and boilers. CavitroniX would establish
22 headquarters operations, R&D manufacturing operations in
23 Southwestern Virginia. Approximately 48 new jobs are
24 anticipated by 2015, 29 by 2013. The company further
25 projects 8 percent market penetration within five years which

1 would mean revenue approaching \$100 million in year five.
2 Non-commission funds are available and committed, and
3 assuming that any equipment, property and related
4 improvements acquired using Commission funds accrue
5 directly to the foundation, there do not appear to be any
6 problematic budget issues. Staff recommends referral to
7 VEDP for vetting. We also recommend they contact Piedmont
8 Bioproducts in Gretna to determine if there are mutually
9 advantageous opportunities for research collaboration.

10 DELEGATE MARSHALL: Could we get
11 someone from this group to come up and discuss this?

12 MR. EDWIN ROGERS: I'm Edwin Rogers with
13 the Foundation and on behalf of CavitroniX, Delegate
14 Marshall; do you want me to describe the project? The idea
15 and there's pictures of it in the material that we submitted.
16 It's a device that will create oil and water emulsion. Oil and
17 water emulsion burn more efficiently in boilers and furnaces.
18 When that oil and water emulsion is shipped to the customer
19 it can separate in storage. This device is that it will create the
20 emulsion without chemicals. It will do it through a process
21 called Cavitation which I'm not totally familiar with.
22 Thankfully there are people that do understand it. Basically
23 you plug it into the oil, it comes into the furnace and you plug
24 it in and it creates emulsion immediately before the
25 combustion. Emulsion typically creates more surface area for

1 the oil to burn and when it burns more efficiently, it results in
2 approximately 15 percent more or less fuel being used and it
3 reduces knocks particulate emissions by a substantial
4 amount.

5 DELEGATE MARSHALL: We're not talking like
6 a home heater?

7 MR. ROGERS: I think its numbers 2, 3, 4 and
8 6. This is not designed at the current time for home use but
9 more for an industrial setting; schools, colleges, factories. Part
10 of the project is to scale it down so it could be used in the
11 home market. That would be primarily in the northeast but it
12 would be manufactured in the tobacco region. They do
13 envision introducing it into the home market.

14 DELEGATE BYRON: Thank you very much.

15 MR. NOYES: That's the recommendation for
16 vetting to the partnership. The final application is Virginia
17 Foundation for Agriculture Innovation and Rural
18 Sustainability known as FAIRS. Integrated Bioenergy and
19 Dedicated Energy Crops, Mendel Bioenergy Seeds and Antares
20 Group, Incorporated requesting \$1,340,000, that's requested
21 on behalf of two private sector partners and it's requested for
22 what's described as a field to grid demonstration project using
23 both clonal and seeded miscanthus varieties. This is
24 performance research that would generate field data and
25 testing of biomass with biopower end users. The overarching

1 objective is to prove supply chain and logistics for miscanthus
2 production. Commission funds would be used for contractual
3 purposes, property and improvements and modifications to
4 off-take partners plants that will enable biomass combustion.
5 An employment estimate of 280 agriculturally related
6 permanent direct jobs can be created for every 50,000 acres of
7 new energy crop production as specified through the scope of
8 this initiative is limited to 400 acres. Matching funds are in
9 substantial measure in-kind or are off-take credits from the
10 sale of biomass. The staff recommends no further action.

11 DELEGATE MARSHALL: Madam Chair, we
12 changed our minds half way through the process so could we
13 go back to 2320 and 2321, maybe somebody from the
14 institution could come up and talk about application 2320.

15 MR. NOYES: That's the IALR.

16 MR. FLINN: I'm Barry Flinn a director with the
17 Institute for Sustainable and Renewable Resources in
18 Danville. We're very interested in trying to develop the
19 capacity in the footprint or in the region. The problem is to be
20 able to do anything you need to have a supply of plants or
21 have a capacity but the key point is to have the capacity in the
22 field process and to grow. Approaching us, they have a large
23 number of some of their own proprietary plants and have done
24 a lot of searching around the world and the have some plants
25 that work well. They have a lot of issues with the Arundo.

1 When you have no seed, that's a problem. They're interested
2 in working with us to develop a protocol for large scale
3 production of some of their elite Arundo and that's one area
4 but we can do some of the work in the lab here in Danville.
5 They can certainly improve the biomass or yield per acre.
6 They have a whole list of proprietary technology, not only to be
7 used to produce fuel but other products. It's not only focused
8 on processes but biofuel. Their idea is to work with us again
9 to generate a lot more capacity. We have to enlarge the stress
10 tolerance. The one thing I do want to mention and that has to
11 do with the propagation methods and using natural plant
12 microbes like bacteria and colinide improve plant productivity.
13 The last area, we haven't done any mutation breeding in the
14 lab on energy crops but a variety of our research members
15 have experience in this type of breeding. The idea there is to
16 take the cell culture that we have developed from plants of
17 interest and be able to treat those with a compound like a
18 chemical or x-rays that causes changes and by doing that you
19 randomly cause changes and that will ultimately reflect or
20 alter genes. Once you do that, you can or that can involve
21 tolerances of various types.

22 MS. CARTER: The \$521,000, how would that
23 be used?

24 MR. FLINN: That's primarily for staffing and
25 carrying out the work, technicians, supplies. Those would be

1 housed at the Institute. The in-kind contributions or money
2 that the company would provide to help recruit and work with
3 local growers and take working towards tissue culture and
4 breeding and after this, take those back to the processors back
5 in Ohio and test the process for the biomass.

6 DR. LEIGHTLEY: I'm Liam Leightley.

7 DELEGATE MARSHALL: 2321, what can you
8 tell us about that?

9 DR. LEIGHTLEY: What the project's request is
10 in this particular project is to be able to provide infrastructure
11 that's currently being constructed in the Sentex Building and
12 that infrastructure will allow the IALR and Sentex to house the
13 pilot plant from interested companies. The company
14 specifically wants to be able to convert biomass into
15 principally useable sugar. The sugars are then converted a
16 range of Bioproducts ethanol, biofuels and Bioproducts. The
17 main thrust for us is to take this funding and invest it into the
18 Sentex building to be able to accommodate the company. The
19 company's technology has proven, it's far down towards the
20 commercialization track and for us it creates immediate jobs
21 in terms of employees in the Sentex facility to run the pilot
22 plant. We would then have the opportunity to partner with
23 organizations such as DCC who could offer training. So
24 there's a suite of activities which will fall into place. The major
25 part of this funding is for investment in Sentex allowing the

1 company to come in with its equipment and investment.

2 MR. NOYES: Like what we've done here in
3 Bedford County, providing funds for then the build out used
4 for research purposes.

5 MS. NYHOLM: You're talking about developing
6 processes that would maximize bio related projects and
7 products and then analyze those for further development.

8 DR. LEIGHTLEY: That is correct. Sentex would
9 benefit from working on this type of project and accessing the
10 type of equipment for future work and for other future clients.
11 It would help us to learn how to coordinate all of these
12 activities.

13 MS. CARTER: Can we assume that the
14 recommendation is because of what VEDP has done on this
15 project?

16 MR. NOYES: You can assume there's
17 something called Project Longbow that VEDP is considering
18 that is beyond this research request that we can't talk about
19 that's being vetted.

20 MR. GILES: It's being vetted in the context of
21 the total package, above and beyond this particular grant. So
22 yes, we've been there and kicked the tires.

23 DELEGATE BYRON: We have four projects
24 with recommendations and two of them which is 2320 and
25 2323 the staff recommends they be sent to VEDP for vetting.

1 Any further discussion?

2 DELEGATE MARSHALL: So moved.

3 MR. OWENS: Second.

4 DELEGATE BYRON: We have a motion for
5 2320 and 2323 to be sent to VEDP for vetting, all in favor say
6 aye. (Ayes). Opposed. (No response). We now have 2321 and
7 2338 direct award without vetting.

8 DELEGATE MARSHALL: So moved.

9 MR. OWENS: Second.

10 DELEGATE BYRON: Any further discussion?
11 That would be the \$5 million project we just discussed a
12 minute ago. 2321 and 2338, the affordable housing with UVA.

13 MR. NOYES: When you get the revised
14 application that's where the difference is, not unreasonable to
15 imagine.

16 DELEGATE MARSHALL: The revised
17 application for UVA is 2338.

18 MS. THOMAS: Why would we not have the
19 normal stipulation that should there be any commercialization
20 or commercial production in the future requirement that it be
21 in the footprint?

22 MR. NOYES: We do, that's part of the
23 standard contract, that's in the summary.

24 MS. THOMAS: You said it's not unreasonable
25 to imagine.

1 MR. NOYES: We would still have the three
2 year post research requirement as part of the standard grant
3 agreement.

4 MS. THOMAS: That would be part of it?

5 MR. NOYES: Yes.

6 DELEGATE BYRON: Any further discussion?
7 We have a motion and a second that we approve 2321 and
8 2338. That would be a total of \$7,445,000 for the two. I have
9 a motion and a second, all in favor say aye. (Ayes). Opposed.
10 (No response). Now, Neal you're going to talk to us about the
11 review of the scoring system process.

12 MR. COOK: Madam Chairman, you've listed
13 these but didn't mention Virginia FAIRS, 2322.

14 DELEGATE BYRON: Did you want to speak to
15 that, 2322?

16 MR. COOK: Yes. I'm speaking about the
17 Virginia Foundation for Agriculture Innovation and Rural
18 Sustainability. The scope of this initiative is limited to just
19 400 acres. We have tests in Virginia and their small but
20 they're doing very well. The idea of this particular research is
21 to see if we can farm 400 acres commercially and successfully
22 and number two, actually have a large amount of biomass and
23 we can take it to Piedmont Geriatrics Hospital and the
24 biomass and the electricity. We can do some long tests and
25 testing on the biomass. The plants would actually be

1 propagated at IALR and we're asking the Tobacco Commission
2 for \$1.3. This would really generate not only the research but
3 the research would generate the field data and testing of the
4 biomass with the biopower end users.

5 DELEGATE BYRON: This one was actually
6 part of, looking at possibly another fit for that. Basically a
7 pilot in some way.

8 MR. COOK: It's a pilot, yes.

9 DELEGATE BYRON: In my mind it would be
10 something that would be suitable for the Agriculture
11 Committee to look at. I think the question is whether it fits in
12 R&D and go through the vetting process with the economic
13 partnership and whether it fits in with Research and
14 Development. There is a staff recommendation of no further
15 action.

16 MR. NOYES: The opportunity exists to submit
17 an application to and work with the staff on the substance of
18 the application. There's some other things in it that would
19 help provide our funds if there's a fit and concerning private
20 sector entities but right now, we're reluctant to recommend.

21 DELEGATE BYRON: You might be better
22 served considering the scope of it so that's why I say maybe it
23 would fit better in the Agriculture Committee. You're certainly
24 welcomed to submit an application to that Committee.

25 SENATOR RUFF: I believe last week there was

1 some discussion. Simply the same concept or are we treating
2 these the same way or differently at this point?

3 MR. NOYES: I remember a discussion. I
4 believe this was tabled for some additional information.

5 MR. GILES: I think the score was low, maybe
6 4.8.

7 SENATOR RUFF: I guess my question is are
8 we comparing two projects that might be similar or evaluating
9 how one may be better than the other in this process or are we
10 putting them both in different silos?

11 MR. NOYES: At this point they're both in
12 different silos; the applications came in at different times.
13 We're a year or so into the R&D.

14 MR. OWENS: Do we have a motion?

15 DELEGATE MARSHALL: I don't think we need
16 a motion for that.

17 MR. NOYES: We're just not taking any action.
18 We're a year or so into the R&D Program, the vetting process.
19 I've had some discussions with Mr. Giles and maybe it's time,
20 if you want to bring this up, to ask the vetting or ask them to
21 evaluate the process that they helped design if there's any
22 changes that maybe they think that need to take place and
23 then the Committee could consider those. Looking at how
24 things are done, if there are ways to make improvements that's
25 what the Committee wishes to do. We can hear from the folks

1 that are intimately involved in that process. The
2 recommendations I have for the Committee is that we ask
3 Gerry to provide a formal evaluation and some
4 recommendations if they have recommendations on how we
5 might make changes, they may or may not.

6 The second thing is that I've heard from a
7 number of the members of the Committee that we may not be
8 getting to commercialization as quickly as we would like and
9 waiting for the commercial viability and commercial
10 applications equal waiting may not be the best way to go if
11 that's what we're after in the near term and there's ways to
12 deal with that. We could simply say that the easy way is to
13 change nothing in the process for this group to adopt a policy
14 of not recommending for approval any project that doesn't
15 meet certain score for commercialization. It may be 3 or 2.8 or
16 3.47, something like that. Those would be obviously stronger
17 projects for commercialization. It doesn't necessarily have to
18 be near term. I think we need to work with VEDP and the
19 people that are involved in that with an eye towards the
20 principal objectives with a stronger sense of how quickly this
21 could benefit our jurisdictions.

22 DELEGATE BYRON: I spoke to Gerry last
23 week after the meeting and one of the things I thought might
24 be beneficial to us is to consider bringing it up for a lengthy
25 discussion or a process where when they come back with the

1 scoring, because of the sensitivity and confidentiality, it might
2 be difficult to get our arm around some of these scores and
3 projects and rather than try to change that level that we go
4 through, maybe have a more open discussion. That might
5 involve some questions we might not be able to address in the
6 session. I think certainly we will welcome suggestions, I think
7 I would like to just put together a subcommittee to work with
8 Gerry and bring some recommendations back to the
9 Committee so we can have a session to discuss some of those
10 ideas. Maybe we can accomplish more that way.

11 MR. HAMLET: Maybe there's different
12 components like timing and/or magnitude or scope of
13 potential or something as simple as that or how big is it,
14 quickly could it be.

15 MR. NOYES: I think that's what we want to
16 do. I think there is really two issues. I would hope that Mr.
17 Giles and members of the subcommittee would work on. One
18 is the two points you make; how big, how fast on the
19 commercialization side and maybe exploring the system itself
20 as a way to do that or maybe not. Maybe it isn't the best way.
21 The other is the process, the larger issue of process that they
22 have to go through, we go through to see if there's some way
23 that could be speeded up. Maybe it has to be slowed down.

24 DELEGATE BYRON: When you talk about how
25 big are you talking about funding? We just addressed that

1 briefly. We also look at R&D projects with a line item that's
2 never addressed higher or lower and we just kind of take the
3 applications as they come in and I don't see that. I really don't
4 see it changing too much like we do on our other grants. We
5 want to look at all of that as well.

6 MR. HAMLET: I think especially on the
7 commercialization and revenue.

8 DELEGATE BYRON: Some of the projects the
9 funding is resolved a little differently.

10 MS. NYHOLM: I know in my background these
11 questions and how they're addressed; they really need to be
12 because in my dealings with academic people, it's obviously
13 different. I don't know committee wise how that might be
14 evaluated, R&D versus commercialization.

15 MR. MARSHALL: Following up on that, Gerry,
16 I would like to know when this next group that we're going to
17 vet, let the staff know the date of that. I'd kind of like to sit in
18 on that to try to understand a little more about what's
19 happening.

20 MR. GILES: Would you like me to make any
21 comments?

22 DELEGATE BYRON: Yes.

23 MR. GILES: I don't speak very loudly but I'll
24 try to make it available for everyone in the room. As Neal
25 pointed out, we've gone through four of these full bore vetting

1 sessions thus far. The system in terms of the guidelines and I
2 think these guidelines were given to you and you voted upon
3 the guidelines back in July 2009. They've held up pretty darn
4 well. I didn't bring any extra copies. You may recall each time
5 I report the results of the vetting process; I do a slide that
6 talks about the 10 elements on which the review team score or
7 comment upon. We don't really accept or just put a number
8 down, why is the number what it is, the individual scores. By
9 way of example, the last session, there were 72 different
10 scoring sheets, 8 applications, 9 review teams involved in that.

11 From the aspect of getting a good balance, I
12 think it works out pretty darn well. The 10 elements at the
13 present time are all scored equal, there's no special weighting
14 between the science number 3 and commercialization question
15 number 2, they're all given the same weight. You'll see from
16 the scoring as is true from the applicants, some projects are
17 scored higher in terms of score on the science part of the
18 equation. Some of them have scored higher on the
19 commercialization. We've also had examples in the population
20 that we've reviewed for the Tobacco Commission R&D
21 Committee. We've had situations where things, very close to
22 commercialization and other situations where they're talking
23 about commercialization within maybe five years. If you go
24 back to the guidelines that we recommended to you, we
25 basically said commercialization go to the market within three

1 years with a maximum outside score. The applicant teams
2 with few exceptions, have really struggled with in terms of
3 evaluation that has come back; have really struggled with the
4 value proposition from the perspective of their potential
5 customers. They're very good at saying how much money we
6 might be able to make if successful with commercialization
7 but the key factor the review teams look at is is this really a
8 salable project or is it a salable size project and if it's not, it's
9 not going to have sustainability in the commercial perspective
10 for a very long period of time. We're actually pretty stringent
11 in terms of the commercialization pitch, the value proposition
12 and trying to get the applicant teams. I think they've been
13 given ample time to defend it from the point of view of the
14 customer who is going to buy that. Whether it's biofuel or
15 whether it's housing, whether it's new design with respect to
16 automotive sector. You'll also note and this has been four
17 times now, defend the size of the request versus job and
18 investment to be created in the Tobacco region. That's kind of
19 the part about are we getting a good payback or are we seeing
20 jobs created. I'll tell you and some of them are in the room
21 here today, that those folks ask very direct questions about
22 the size of the grant versus job creation versus the power of
23 the overall commercialization value proposition.

24 For example, in the last round by individual
25 projects, the highest job creation was 40 to 50 and the lowest

1 job creation was 9 ½ positions a \$5 million ask. I think it's
2 coincidental we had a couple of situations also and this was
3 new development in round four where the commercialization
4 play actually was going to be a licensing situation. We're going
5 to use our money and the Tobacco Commission's money to
6 perfect the science and technology but rather than kind of
7 creating a new industry somewhere in the Southwest or
8 Southside, we're going to license the technology. Is that okay,
9 that's not my call to say it's okay or not. But I can tell you
10 that that licensing platform that licensing model said to our
11 review committee it may not be great or real meaningful jobs
12 in the tobacco region over time. We pointed that out if you
13 look at the score cards. We talked about that.

14 As far as commercialization, go back to that for
15 just a second, we do point out if it looks like it's going to be
16 something that they're proposing a commercialization launch
17 beyond 36 months, we also point out through the scoring and
18 through the comments our view as to the viability of that
19 proposal, is it really believable. Connie, I couldn't hear your
20 question but I thought it might be something dealing with the
21 makeup of the panel.

22 MS. NYHOLM: There were different businesses
23 oriented, some involved in the panel with the expertise of
24 applicants rather than academia.

25 MR. GILES: The composition here again, we

1 recommended three Virginia Universities and you awarded
2 permanent seats to UVA and Virginia Tech. Then we have a
3 third seat and I guess I get to kind of sponsor who that
4 university is going to be and VCU has done a great job. We
5 have three out of state universities; Georgia Tech, West
6 Virginia and the University of Maryland. The head of those
7 teams are either the head of the research at the university
8 overall or they're in the endowed chair of a particular
9 technology field. You have six university players. You also
10 have some questions and we have one of your energy centers,
11 that was requested and that's Dr. Rachel Folks who's in the
12 room today. We started with that particular representation.
13 Then you have two purely commercial players; that is SRI
14 International a world class name and CH2M Hill, world class
15 design engineering firm from a global prospect. I can assure
16 you that the SRI folks and the CH2M folks have a very, very
17 strong focus on the commercial application of the project as
18 well as the university representatives.

19 DELEGATE BYRON: This is exactly the kind of
20 discussion we want to have. Unfortunately, today we're
21 running close on time so we're going to have to save it for that
22 time. We look forward to your comments and your working
23 with us and all the wonderful work you've done already and
24 thank you very much. After all, that's gotten us this far and
25 that's very appreciated.

1 MR. GILES: We tried to put together a process
2 that was robust and was objective and you could defend. To
3 my knowledge we have yet to have anybody on the applicant
4 side complain about the process not being straightforward.

5 MR. NOYES: If there are ways your group feels
6 now after a year into this, are there any changes that you're
7 recommending and this is not at all in the way of criticism and
8 the objective of strengthening commercialization.

9 MR. GILES: Sure, happy to work with you.

10 DELEGATE BYRON: Thank you. All right
11 Ned, you've moved along at great neck speed. You've done a
12 great job doing that.

13 MR. STEPHENSON: I'll pass.

14 DELEGATE BYRON: Then at this time is there
15 any public comment? Next application deadline is Monday,
16 August 1, 2011 and our next committee meeting will be
17 Wednesday, September 21st. Do we have any public
18 comment? Hearing none, then I'll declare the meeting is
19 adjourned.

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21 PROCEEDINGS CONCLUDED

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