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THE SENATE
THE 22ND LEGISLATURE
REGULAR SESSION OF 2003

EXCERPT FROM A JOINT INFORMATIONAL BRIEFING

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1 APPEARANCES:

2 Committee on Science, Art, and Technology

3 SENATOR DAVID Y. IGE, Chair

4 SENATOR MELODIE WILLIAMS ADUJA, Vice Chair

5

6 Committee on Economic Development

7 SENATOR CAROL FUKUNAGA, Chair

8 SENATOR MELODIE WILLIAMS ADUJA, Vice Chair

9

10 Panelists

11 DR. PETER ENGLERT

12 DR. VASSILIS SYRMOS

13 MR. RICK HOLASEK

14 MR. LARRY CUTSHAW

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1 SENATOR DAVID IGE: -- proposal to establish a
2 University Affiliated Research Center and incubating an
3 Engineering and Design Center and the role that the UARC
4 may play in advancing the research agenda here at the
5 University of Hawaii.

6 With us we have a distinguished group of
7 panelists who will be presenting this afternoon.

8 And I guess most appropriately today is UH day at
9 the state capital. So it's good timing.

10 To start our hearing this afternoon we would
11 first like to start with Dr. Vassilis Syrmos. Go ahead.

12 VASSILIS SYRMOS: Thank you for your time. Thank
13 you, Senator Ige. Thank you, Senator Fukunaga.

14 At this time I would like to introduce Dr.
15 Englert who is the Chancellor at Manoa, as most of you
16 know.

17 I would also like to introduce Rick Holasek who
18 is with Novasol, a premier company in remote sensing.

19 And probably a lot of you know over here Larry
20 Cutshaw. He is with Orincon, a premier company in DOD
21 work.

22 Next to Larry is Gary Jenson (phonetic) who is
23 the ONR representative at the MIDPAC office.

24 And, of course, we also have Harold hiding there
25 somewhere there, Harold Matsumoto (phonetic), who we

1 probably all know.

2 And in the back of the room is Ron Deo (phonetic)
3 who is a partner in a couple of projects, as you will see.

4 And Jack Harley (phonetic) who is from the Noesis
5 Corporation. They are also partners in a couple of
6 projects we are doing here.

7 And of course next to them is Danny Seek
8 (phonetic) who you probably do know.

9 So we do share a very distinguished audience
10 here. And I will try to do a good job. Otherwise, Peter
11 may get to interrupt me in the middle of the presentation.

12 SENATOR DAVID IGE: Vassilis, I did want to
13 announce that we are broadcasting this informational
14 briefing live on public access television, Channel 54
15 Olelo. And it will be prebroadcast several times
16 throughout the week.

17 I did also want to thank the university for their
18 efforts. The feed is provided live statewide so public
19 access channels on the neighbor islands can also choose to
20 broadcast this proceeding live. Or they can choose to tape
21 it and rebroadcast it at a later time.

22 So I did want to acknowledge the university's
23 role in providing the infrastructure to allow us to do
24 that.

25 And as part of that for any of the panelists or

1 anybody making a presentation, we would just like to ask
2 you to come up to the testifying table and speak into the
3 microphones. That's very important for the internal and
4 the external audience that we have. So thank you very
5 much. And proceed.

6 VASSILIS SYRMOS: Thank you, David. Senator Ige
7 is a distinguished (inaudible) -- of the College of
8 Engineering and actually the Department of Electrical
9 Engineering. So he's very good with the high tech.

10 This project has been in the works for the last
11 three to six months. And it is a complement project to the
12 project that I will brief you in a little while which is a
13 University Affiliated Research Center.

14 First I would like to introduce to the idea and
15 the background of the University Affiliated Research Center
16 or UARC. Then Chancellor Englert will brief you on several
17 Manoa initiatives that he says are priorities at the Manoa
18 campus.

19 Then I will come back and close with why one
20 needs to have an Engineering and Design Center in order to
21 complement the UARC concept.

22 And I'm going to give some of the overview and of
23 course some of the economic development and the impact of
24 an Engineering and Design Center in this state.

25 So here is what a UARC is all about. Here is

1 what I do at the university. I have three bosses. I have
2 Harold there who is my boss at the UH. Then there is
3 another boss who is here who is Dr. Englert at Manoa. I am
4 with the Department of Electrical Engineering. Therefore
5 Dean Chen (phonetic) is my third boss.

6 The UARC came to us through the Office of Naval
7 Research as an opportunity. And to give you a background
8 what a UARC is, it is a designated institute of the Navy or
9 actually can be from the Department of Defense or even from
10 the Office of the Secretary of Defense. And a UARC is a
11 (inaudible) -- of the government. Also I will go a little
12 bit further into the explanation later.

13 The mission that we selected for the UARC for
14 our university's commitment to excellence is research and
15 development for national defense in the areas of applied
16 physics and engineering.

17 Both areas are very important areas for the state
18 and for the nation. And we do believe that Manoa has the
19 appropriate background and core competencies to back that
20 up.

21 The purpose is, as I said, is to provide
22 technical assistance to various DOD programs in the MIDPAC
23 region. And there is our representative of ONR for the
24 MIDPAC region.

25 Establish and maintain state-of-the-art

1 laboratories in the focus areas of core competencies, as
2 the Navy likes to call the focus areas.

3 And serve as a premier technical resource within
4 the core competency areas within the university.

5 The core competencies that currently we do
6 negotiate with the Navy are the following services.

7 Of course the ocean science and technology.
8 Manoa is a premier institute in ocean sciences and
9 technology. The (inaudible) programs and the marine
10 biology programs are being consistently run in the top
11 three to five in the nation.

12 Of course nobody else could doubt the astronomy,
13 especially the Institute of Astronomy, which has both the
14 dual use as I say of an institution because it has a big
15 commercial component up on Mauna Kea. However, there is a
16 big deal at the Air Force side component over at Haleakala.

17 To support some of this initiatives in astronomy
18 and also in remote sensing one area that the university has
19 developed is advanced electro-optics and sensing, remote
20 sensing.

21 And Rick here can testify to that, that Novasol
22 is the premiere company in optic systems and remote
23 sensing. And they have a very close relationship with the
24 university.

25 Sensors, communications, and information

1 technology. We call that a SENCIT program. And Of course
2 the high performance computing. With the high performance
3 computing of course Maui comes into play.

4 These are two major components in trust for us.
5 In the areas of sensors and communications you can look at
6 the sensor more than what we all know to be a sensor, but
7 can be a radar, an asset (phonetic), an E2C (phonetic), an
8 AWACS. So all these side very well with the infrastructure
9 at PMRF.

10 A fifth component here is material science
11 research. And when I say material science, I will put it
12 in the context into two very specific areas. And these
13 areas are hydrogen, hydrogen technology, which is materials
14 science as far as quantity (inaudible) -- university term.

15 Then the second one and very natural for our
16 state is corrosion. The University of Hawaii has a
17 corrosion center which is being funded both by ONR and both
18 by the Army.

19 Also I forgot to mention that the hydrogen is a
20 quite large program funded by ONR. And Gary knows much
21 more about this program.

22 Another emerging technology is telemedicine and
23 bioengineering. And Chancellor Englert will be able to
24 touch upon these initiatives when he briefs us about the
25 interests of the university.

1 The 7th technology which was of a high interest
2 to the Navy is the weaponized laser technology which the
3 Navy is interested to put into the PMRF base.

4 On the weaponized laser technology we have a lot
5 a lot of Assets at the university.

6 So having said all this, I'm going to conclude
7 with the UARC and say the following.

8 The UARC is an organization that is a trusted
9 agent of the government, the Department of Defense. And,
10 therefore, as a trusted agent should not get into any
11 business with commercial partners, should not subcontract
12 to any commercial partners. Because the major, major
13 mission of the UARC is to provide independent technical
14 assistance to the Navy.

15 And, therefore, we have gone and tried to
16 complement that with an Engineering Design Center.

17 Having said all this and having come out of the
18 core competencies, Dr. Englert would go ahead and brief you
19 on how we select the core competencies and how these core
20 competencies fit the Manoa initiative.

21 SENATOR DAVID IGE: Dr. Syrmos, can I just ask
22 one question for clarification? So the university has
23 already been designated by ONR and DOD --

24 VASSILIS SYRMOS: No. The university is in the
25 process of being designated by ONR as a UARC. We expect

1 that to happen sometime late spring, beginning of summer.

2 SENATOR DAVID IGE: Okay. Thank you. Go ahead,
3 Dr. Englert.

4 PETER ENGLERT: Thank you. Senator Ige, Senator
5 Fukunaga, Members of the Senate Committee, I am very
6 pleased to be able to speak to you today about research at
7 the University of Hawaii in Manoa and also the initiative
8 that I want to present to you.

9 This is in the framework of the University of
10 Hawaii at Manoa's mission has been the research university
11 of the University of Hawaii system.

12 With respect to that mission of course the
13 University of Hawaii at Manoa is not just the University of
14 Hawaii at Manoa, Oahu. It's the research university that
15 actually spreads across and that's at work in conjunction
16 with all of the islands of the State of Hawaii.

17 Having said that, I'd like to first talk about
18 the number of projects and initiatives that we have here on
19 the videograph (phonetic) but on something that might be of
20 interest to you with respect to the aspirations of the
21 University of Hawaii at Manoa and advancing its research
22 capacity and doing so its processes in which it attracts
23 and which it actually tries to obtain larger and larger
24 research projects.

25 In the past you may have noticed that many of our

1 units, the 24 units that make up the University of Hawaii
2 at Manoa were very efficient and very expedient actually in
3 attracting research and research funds and research grants.

4 All of these grants had a certain size that were
5 partially limited to the size and scope of the
6 units.

7 We are now in a position with the University of
8 Hawaii at Manoa going into a new phase of attracting and
9 actually trying to attract larger projects.

10 The way management at the University of Hawaii at
11 Manoa is happening right now, we can now pull together two,
12 three, four, five, or six units in under the scope of a
13 core competency that we have developed and look at how we
14 can maximize both on our staffing and on the resources that
15 we have to establish new and larger initiatives.

16 One part of it, of course, is to have larger and
17 better funded research projects.

18 The other part of that, of course, is also to
19 establish the management capacity and knowledge bank to go
20 to large projects to which we have to qualify and from
21 there on building the stepping stone to even larger
22 projects in the future.

23 This is something that is actually new to the
24 Manoa campus at this point in time and has been part of the
25 efforts of my new team and the Vice Chancellors for

1 Research office which Vassilis Syrmos is a part of.

2 If you look at the projects that I will present
3 to you in a moment, they are only examples of what is
4 ongoing at the campus right now.

5 But it's also an invitation to those who actually
6 want to work with the university and would like to have
7 access to work with all the capacities of the University of
8 Hawaii at Manoa to come and talk to us to initiate projects
9 that we ourselves are not thinking about and that we
10 ourselves would offer our capacities and capabilities.

11 I would like to remind you that the University of
12 Hawaii at Manoa is an enormous resource. If you really
13 look at research in the technical area, this is one thing
14 we can do.

15 But we also would like to emphasize that many
16 issues, many areas of research or many areas that would
17 address issues of interest to society in the larger context
18 actually are issues that only can be managed and be worked
19 on in the interdisciplinary and then even in a
20 multi-disciplinary environment.

21 And we do have many disciplines at Manoa that we
22 from our office and from the office of the Vice Chancellor
23 of Research can pull together and make available to solve
24 the issues and problems.

25 Not anymore is it necessary to go to the various

1 departments to go and try to bring them together.

2 We at the top, we through the office of the Vice
3 Chancellor of Research actually will be the facilitators
4 and the initiators of such projects if we are being asked
5 for -- if we think we can develop them out of our own
6 emphasis and initiative.

7 Having said that, I think I'd like to go into the
8 environment of looking and describing some of the projects
9 that are under way right now to give you a taste of what's
10 happening.

11 Most of these projects happen to be in the area
12 of science and technology which is relatively appropriate
13 to the committee. But I can also conceive of projects that
14 would be spanning arts, sciences, and the social sciences
15 that are present at our campus.

16 The Affiliated Research Center has been presented
17 by Vassilis already so I would not want to go into that.

18 But I would like to look at things that we are
19 presently working on in, optics, genomics, and proteomics,
20 and bionformatics, and also ocean science and technology to
21 give you a few ideas about the dimensions.

22 Optics. Optics is a capability that is
23 distributed across the university in many universities and
24 in many departments.

25 From the Institute of Astronomy over Physics

1 including into the environment of medicine even.

2 Our optics capability or co-competency fits in
3 the institute of astronomy. We do have, as you may know,
4 the Pan-STARRS project which is a significant new project
5 for the university.

6 We have capabilities in adaptive optics, in doing
7 remote sensing. And, of course, we all have to applaud the
8 school -- Department of Physics for having built our
9 capacity in the free electron laser environment.

10 Actually capacity both on the practical and
11 experimental side and on the theoretical side very much so.

12 So far the same -- actually as far as down to New
13 Zealand where I actually learned about the free electron
14 laser capacity of the University of Hawaii at Manoa before
15 I even thought about joining the University of Hawaii.

16 And we have specialists and capabilities in
17 optical communications.

18 One of the most important things for us, however,
19 is that all of these capabilities are only valid and
20 valuable to us if we can actually put them into context
21 with what our local industry would like to do with that.

22 Now, we are in the process of right now of
23 reassessing our capability and developing larger projects
24 in the area of optics with our partners outside of the
25 university.

1 The other area that we have where we have already
2 made a significant advancement inside the university is the
3 -- is an area that is actually underpinning and supporting
4 the university sled as well as the pledge to support
5 biomedical research and biotechnology development within
6 the state.

7 And one of the backbones of that is genomics,
8 proteomics, and bionformatics.

9 We are putting together a institute or unit that
10 will concentrate on genomics, proteomics, and
11 bionformatics.

12 Before we -- when I arrived and looked at this
13 opportunity six to seven units were individually trying to
14 establish at smaller centers, and we then decided that the
15 Vice Chancellor at the research level that it would be
16 useful to actually combine all of these efforts in order to
17 really provide the School of Medicine and the Pacific
18 Biomedical Research Center and the Cancer Research Center
19 and other biologists across the campus with the capability
20 necessary to undertake biotechnology oriented research.

21 There is a lot of reasons why biotechnology based
22 -- biotechnology and biomedical research are important in
23 order to survive.

24 We have a very high level of biodiversity. We
25 have an enormous oceanic resource that we would want to

1 tap. We are experts in tropical agriculture and medicine.
2 And we have probably one of the world's most heterogeneous
3 population pools.

4 In addition to the Cancer Research Center, PBRC
5 and (inaudible), we have very good -- we are operating the
6 MHPCC and we have, therefore, a very good infrastructure to
7 deal with bionformatics, tying all of these things together
8 on a computer base.

9 If I look at the third example of the project
10 that we are in the process of developing and doing and we
11 actually will sign off now in the next week while President
12 Evander Bell (phonetic) is visiting New Zealand a
13 Memorandum of Understanding towards the project that I'm
14 presenting to you right now.

15 While we have this -- also would want to go -- I
16 want to show you how we want to work larger projects,
17 environment in international operations.

18 This has two aspects. One, of course the UH is
19 within the Pacific environment, one that has an enormous
20 pool of technological resources.

21 Of course, the University of Hawaii as the only
22 research university in the middle of the Pacific is very
23 interested in exploring the ocean.

24 It will take more than the resources of the
25 United States government and the State of Hawaii in order

1 to really explore the southern ocean in areas that are of
2 interest and concern either to economic development or from
3 the point of view of very exciting biocomplexity,
4 biodiversity research.

5 And one of the areas that would be very
6 interesting are the perimeter (phonetic). But the
7 dimensions of this particular project are both the internal
8 within the United States and the external dimensions of
9 raising funds for a highly complex and logistically very
10 difficult project that I think the University of Hawaii is
11 very well posed to do.

12 The initiative is between the University of
13 Hawaii and the Institute of Geological and Nuclear Science
14 in New Zealand which is headed by a chief executive officer
15 who is also a professor at the University of Hawaii.

16 And the sponsors that we are looking for are NOAA
17 concerning ocean exploration and the national undersea
18 research program that we have with them. And, of course,
19 the New Zealand government resources that will be made
20 available as part of that -- of that project.

21 And partners within the New Zealand context are
22 the Victoria University of Wellington, the New Zealand
23 Department of Conservation, and the New Zealand National
24 Institute of Ocean Atmospheric Research, and of course on
25 our side NOAA.

1 I hope that these three projects give you a
2 taste and the flavor of the type of project that we will
3 try to put into play at the University of Hawaii at Manoa.

4 One step above what we have done in the past
5 being the stepping stone for larger projects in the future.
6 And I hope that this is information that you would like to
7 see and like to have. Thank you for your attention.

8 SENATOR DAVID IGE: Thank you. Any questions,
9 Members? Okay. Now proceed, doctor.

10 VASSILIS SYRMOS: Thank you Senator Ige. I will
11 proceed now explaining the complement to a UARC, to the
12 UARC idea. And that is the Engineering Design Center.

13 We're calling it engineering, an Engineering
14 Design Center. But it's more than engineering. It's also
15 applied physics. It is, as you will see, the areas we're
16 going to talk about doing for applied physics in all
17 aspects.

18 The mission of the Hawaii Engineering Design
19 Center would be apply university and industry expertise to
20 address national needs in the Pacific region and leverage
21 dual-use technologies.

22 There is a lot of DOD research coming into the
23 university. So we are able to leverage that technology
24 into dual-use application.

25 The approach is to establish a collaborative

1 partnership with the government, industry, and the
2 university research capabilities.

3 Actually we are a step ahead of that. We are
4 already have the relationship in place on several projects
5 as I will go through.

6 One of the current situation is that at this
7 point there is a large DOD funding coming to Hawaii through
8 the congressional delegation. And the idea is that this
9 funding should have a sustaining impact on the State of
10 Hawaii.

11 Secondly, the economic viability and
12 competitiveness should be realized through collaborative
13 industry academic research.

14 All these projects in order to be sustainable,
15 they've got to be competitive. This would be an extremely
16 important component. And it is an extremely important
17 component of this effort.

18 The goal is to provide a vehicle through which
19 technical experts at the participating institutions can
20 collaborate and leverage resources to effectively compete
21 for DOD contracts that meet national, regional, and local
22 needs.

23 Again, it is extremely important to be able to
24 compete for all these DOD contracts.

25 It needs to be a knowledge-based organization.

1 There should be collaboration, as I said, between local
2 industry, defense contractors, and academic institutions.

3 I want actually to stay on this a little bit. On
4 all the projects we have, and we're going to try to put and
5 we have put under one umbrella, this collaboration does
6 exist with local industry.

7 We have defense contractors both from the state
8 and out-of-state. And there is partnership between
9 academic institutions not only Manoa but also academic
10 institutions in the mainland and (inaudible) --

11 The organizational approach that we're going to
12 take on this should be we need to emphasize on the national
13 defense needs. Whether we like it or not, this has become
14 a very important aspect in our lives. We need to look at
15 local defense operations.

16 We need also to look at the civilian and
17 commercial operations. And then we need also to look in
18 hybrid programs and especially energy and ocean science,
19 environmental, disaster relief. There are a lot of high
20 tech programs that they take place in disaster relief.

21 The military has an unbelievable infrastructure
22 that can cope with this kind of situation. And when I was
23 exposed to this, it is breathtaking.

24 So how we fit in the engineering and Engineering
25 Design Center is that we'll have input from all our DOD

1 projects. We're going to have input from our business and
2 collaborate with our business partners. And, of course,
3 since I am a faculty I can't forget the academia. Because
4 it is, indeed it is what feeds all of the above.

5 Our students are the people that they are going
6 to work on all of this.

7 I have on this project -- and there is David.
8 David Lum (phonetic) is an undergraduate. I paid David
9 9.95 to work on an ONR project and do circuit layout for
10 me. (inaudible)

11 We have a circuit board here. (inaudible)

12 That is called the master control unit. It will
13 go on the radar test bed out at PMRF. That controls the
14 transmit/receive functions of the radar. It is a part of
15 the radar.

16 And this piece of software -- this piece of
17 hardware costs labor and software \$1,800 to ONR.

18 And this is a collaboration with Northrup Gruman
19 (phonetic) and TRW, the Navy, EWA, all these things.

20 And I had the opportunity with this center to
21 take a student that graduated with 9.95, stay here and pay
22 him as an engineer. Starting today he's not making 9.95.
23 He's making \$50,000 a year. That is what economic
24 development is.

25 Another student I tell you Nathan Taguchi

1 (phonetic). He worked -- he is a masters student. His
2 masters thesis with MIT Lincoln Labs (phonetic) on a
3 project on a linear array out at PMRF, Makaha Ridge
4 (phonetic).

5 Nathan came to me. He said, oh, I want to stay
6 here. I just had an offer from Raytheon. They're giving
7 me \$70,000. But I want to stay here.

8 And we have an ONR project, not their project,
9 out at PMRF. And I said, you know, Nathan, this is the
10 first time that I'm going to give you a raise here at TRW
11 and give you \$75,000. And I'm going to keep you here.

12 And this is the competition. If I can keep these
13 kids here, that's what we are all about. That is what all
14 these projects are.

15 I think it's the first time an engineer, and as a
16 professor, that I can call a lot of people like TRW,
17 probably a lot of people -- (inaudible) the first time I
18 can tell them oh, I beat their offers, are much better.

19 Having said that, here is the benefit of an
20 organization like that. It has to be a competitive
21 organization with broader and deeper knowledge. It's got
22 to be competitive in cost proposal.

23 Because if I'm competitive costing this proposal,
24 I can pass all this to the kids.

25 There should be a mechanism for resource

1 expansion. And that mechanism is the university.

2 And the university with the industry. Because we
3 have a different resource expansion. The Orincon, SCI
4 (phonetic), the Novasol, the Environet (phonetic). But
5 there isn't any competition here. We are all here to do
6 the same thing, educate students and actually make a
7 product that is useful.

8 We want to of course expand new technology and
9 knowledge. And this cannot be done only by the university.
10 But because it's technology it's got to be done by the
11 university, by the company, and through graduates, graduate
12 research. These kids are coming trained to me. I don't
13 have to do too much, hopefully not.

14 And here, here we found the students, they
15 (inaudible) -- academia, that's what Manoa does. Training
16 these kids, training these students.

17 And they go work whether they are in the DOD
18 project. And after the DOD project -- a lot of local
19 businesses are very successful in DOD projects. They are
20 very large, medium for mainland size, but for our state
21 very large defense contractors. So it is the feeding
22 engine of this economy, the university.

23 What we would like to see on this, we would like
24 to see some seed funding for FY04. And this is to
25 establish a functioning center, develop operational

1 infrastructure, and develop a five-year operational funding
2 plan for sustainability.

3 Also the seed funding is going to be used also
4 for business development and contractor development,
5 proposal development.

6 And again here is what we're looking at. As
7 Chancellor Englert said, we have the optics. The optics
8 office is a very important area for the university, for the
9 local industry, for the DOD.

10 We have also advanced science and technology
11 applications. We have another huge asset right now in the
12 state. And that huge asset is at PMRF. It's a base. It
13 is a designated MBA testing site.

14 So this is an important aspect of this
15 organization. And then of course we have at the MHPCC the
16 simulation and virtual test bed. These are important
17 assets both in capital, human capital, and also in physical
18 capital.

19 And the last one is the business development. We
20 do want to work with DBET. We do want to do technology
21 transfer. And we want to work with the federal government.
22 We do contracting and outsourcing. And of course local 808
23 companies, which we do. What we will do, we do that right
24 now with our current projects.

25 As I said, there are plenty of opportunities. I

1 said a lot about that. I said about MHPCC. I said about
2 the engineering environment. So this is a repeat of all
3 the good things this center can bring under one umbrella.
4 What I want to do is I tell you how this umbrella is going
5 to be built.

6 Here is the project we currently have. We have
7 an Integrated Health Management Systems project which is
8 funded by NAVAIR. Boeing is the big partner on this one
9 with the University of Hawaii, the two big partners.
10 Aloha, Hawaiian, and Continental are our commercial
11 partners.

12 Aloha and Hawaiian have actually agreed to let us
13 use their data for building an IDA TAM (phonetic) system.
14 Referencia with our local 808 company is going to do all
15 the data base integration and the model (phonetic)
16 integration for these projects.

17 So as you can see it's a partnership between the
18 federal government, outside mainland contractors, the
19 university, local, air carriers, Continental, and small
20 businesses.

21 One big thing here is that the C-17 fleet is
22 going to be arriving in the Pacific sometime in the summer
23 of 2003. The C-17 is an all-Boeing airplane.

24 And we have gotten actually the okay to go ahead
25 and test the IDA TAM system, the Integrated Health

1 Management Systems on the C-17 here at Hickam.

2 So we want to get into an agreement with Hickam
3 and use their C-17. Boeing will provide the quick access
4 recorder. And we will test the whole process.

5 And another very important project in this state
6 is the radar system, PMRF. ONR has been a big, big
7 supporter of these efforts. This project has been funded
8 by ONR, by NAVAIR, a joint collaboration by RCUH, the
9 classified research, the University of Hawaii, and of
10 course PMRF. That is the UESA radar testbed.

11 David was doing work on ONR for that UESA radar
12 testbed.

13 Then a third big project we have is the Metal
14 Fiber Brush Program. This is an ONR NAVSEA funded project
15 in collaboration with the Pearl Harbor Naval Shipyard, with
16 Noesis who is a mainland defense contractor, and Environet.
17 And I think -- (inaudible) the president of Environet.

18 (inaudible) president of a small 808 Hawaiian
19 company. The University of Hawaii, both at the Hawaiian
20 Community College and the College of Engineering.

21 And one aspect of this program is the
22 establishment of technology transfer office in Pearl
23 Harbor. So the shipyard put out the requirement and comes
24 out to the local companies for technology solutions.

25 A big project that we're in negotiation with ONR

1 is the UARC which we expect to be designated as a UARC
2 sometime in the summer of 2003.

3 And as Chancellor Englert says, the optics center
4 is under development. There is a big group working this
5 project at Manoa.

6 And here is some projections. What we have at
7 hand, here are the projects we do have at hand.

8 This is our NAVAIR project, the UESA project.
9 This is a contract out of NAVAIR. This is a UH grant out
10 of ONR. This is a NAVAIR contract out of the Navy with the
11 Boeing company. This is our NAVSEA program with the metal
12 fiber brushes.

13 And here is what we are spending in -- FY03 is
14 going to look for us. And we think that it's -- actually
15 we get that in the pipeline.

16 This is out of NAVAIR. We're expecting to be
17 dealing for a contract of \$50 million. And most of it with
18 our industrial partners.

19 The same thing with the NAVAIR Boeing. We have
20 in the pipeline \$8 million for FY 04. And of course with
21 NAVSEA and Pearl UESA we have the metal fiber brushes.
22 This is a \$9 million project.

23 It is a very important project. What actually
24 distinguishes this from these two is this is going into an
25 acquisition phase. That means the Navy is going into an

1 acquisition for the metal fiber brush.

2 That means that the Pearl Harbor naval shipyard
3 is going to actually do the rest of this of seventy nuclear
4 submarines on their fiber brushes. So these are actually
5 jobs at the shipyard.

6 That is what this project -- makes this project
7 very different than the other two. This one is at the
8 stages of R&D. Flight testing is going to be done here.

9 The FY04, FY05. We are looking at subsystem
10 components. Because the overall programs (inaudible) could
11 be \$150 million. But I don't think we have the core
12 competency to pay off -- we're going to go and do
13 everything.

14 So we're going to partner and beat our \$35, \$40
15 million dollar for past systems and partner with a mainland
16 company to get the rest 100 for flight workman's test
17 (phonetic).

18 The idea at TAM we want to put a different flair
19 to that. Out of these products is going to be mostly a
20 commercial spinoff.

21 So we have these three projects. We put them
22 under one umbrella and try to create different
23 opportunities and find different benefits for this
24 organization in this century.

25 So I would like to thank you for giving me the

1 time to talk to you. And I know sometimes I get too
2 excited. But I hope you don't -- we don't mind. Thank
3 you.

4 SENATOR DAVID IGE: Questions, Members?

5 SENATOR CAROL FUKUNAGA: I guess as a starting
6 point I have two questions. In the past one of the things
7 that has been very difficult for the university and
8 commercial sector to together on has been the degree of
9 partnering and being able to undertake projects of this
10 magnitude within the existing state's bureaucracy and
11 typical ways in which we do things.

12 Would you envision beyond us -- meaning the need
13 for additional kinds of I guess different structures that
14 would facilitate this type of rapid deployment and
15 expansion of the type of technology spinoff that you could
16 do?

17 PETER ENGLERT: Maybe I should give you an
18 answer in principle first. And then you can end on that.

19 This may have been the case in the past. I'm not
20 quite so sure actually having only been here for half a
21 year what the actual opticals are.

22 But from the philosophical point of view, I think
23 that we have opening -- we're opening up the university to
24 direct industry faculty contacts in order to do these
25 things. The barriers that are there I think are only

1 conceptual, are in perception.

2 Really what has happened and when things start to
3 work, when our faculty are interested to do the work have
4 no obstacles in working with partners that are interested
5 in their expertise.

6 We have of course to look at what the other
7 obligations of faculty, such as teaching and so on. But by
8 in large we have an open door to such projects.

9 VASSILIS SYRMOS: I can only talk about my
10 experience. And I should give Harold all the credit on
11 that.

12 It has been great working for RCUH. Indeed it
13 has been much more flexible on purchasing, especially for
14 federal contracts.

15 It has given us the ability, the university, the
16 ability of servicing through RCUH to run our projects much
17 more efficiently. And for the time being it has been a
18 wonderful organization for myself and working -- having
19 worked with Harold. As long as we don't change things,
20 Harold, we're going to work very well.

21 SENATOR CAROL FUKUNAGA: Under the current
22 structure you envision the UARC and the Engineering Design
23 Center as being able to fully exploit the level of growth
24 and expansion using RCUH as your funding and kind of
25 management mechanism?

1 VASSILIS SYRMOS: Right. That's exactly correct.
2 We would like it to be Manoa but incubate under RCUH
3 because of the flexibility that it can give.

4 SENATOR CAROL FUKUNAGA: Thank you.

5 SENATOR DAVID IGE: I have one question. I know
6 in the past doing classified research was an issue. How
7 much of this stuff is classified versus how much of it --
8 did I ask the wrong question?

9 VASSILIS SYRMOS: No, no. It's a pretty
10 interesting question. Let me go back.

11 Out of this one, there is a ten percent
12 classified work.

13 On this one, ninety percent of the work is
14 classified.

15 On this one, there is no classified work
16 involved.

17 This one does get some classified work. This is
18 not classified with respect to technology. But if you have
19 to go into nuclear submarines, you have to be cleared,
20 security cleared. Because there are parts of the
21 submarine, and Gary would know that as a submariner, that
22 if you are not cleared you can't go in.

23 So this is a different kind of classified
24 research. Not the research that's classified. It's the
25 environment you've got to work in that's classified.

1 SENATOR DAVID IGE: Is there a need for a
2 classified or secured facility in part of this?

3 VASSILIS SYRMOS: That's a good question, David.
4 Because we were talking about that with Harold for quite a
5 long time. Yes, we think that our situation is to invest
6 in a classified secured facility, yes.

7 SENATOR DAVID IGE: Any further questions from
8 the Members?

9 SENATOR CAROL FUKUNAGA: Very exciting.

10 SENATOR DAVID IGE: I guess the flip of that, is
11 the UARC designation kind of in process? And is there
12 something that we need to do to try to help facilitate
13 that? Or are things well in hand and you know --

14 VASSILIS SYRMOS: I think things are well in hand
15 between Chancellor Englert and Harold. I think they have
16 the process under control. And of course ONR. And both
17 Gary and also Glen is here from ONR representative from
18 Hawaii.

19 SENATOR DAVID IGE: So everything is under
20 control?

21 VASSILIS SYRMOS: Hopefully, as far as we know.

22 SENATOR DAVID IGE: Okay. Any further questions?
23 Thank you.

24 VASSILIS SYRMOS: Thank you.

25 SENATOR DAVID IGE: Was Rick also going to be

1 presenting anything?

2 VASSILIS SYRMOS: I wanted Rick and Larry here to
3 help with all the work we do at the university. Rick, do
4 you want to talk a little?

5 SENATOR DAVID IGE: If you could give us your
6 name and position.

7 RICK HOLASEK: My name is Rick Holasek, vice
8 president at Novasol. And, yeah, I just wanted to come
9 here with a smile on my face just saying that I really
10 support what the guys at the University of Hawaii are
11 doing.

12 I'm a university PhD graduate from the University
13 of Hawaii myself. And we really look to the University of
14 Hawaii for qualified trained students, graduates,
15 especially with higher level degrees in building the
16 technology base in our company in the State of Hawaii.

17 So the low hanging fruit, the people who are
18 available out of the University of Hawaii we hire rather
19 quickly.

20 In fact, we cannot hire people as fast as we need
21 them. We are desperate to hire people, technology trained
22 people. And we hire just about everything the university
23 can turn out.

24 And I would really like to see the university
25 turn out more people that are qualified. And this type of

1 program really enables that capability.

2 And we literally are hiring as fast as we
3 possibly can. And we are going back to the mainland to
4 hire a lot of people because we have to.

5 And we often find that the people that are the
6 best qualified are the ones that have a connection back to
7 Hawaii, former UH graduates, people that served in military
8 here, people who grew up here and want to come here. So we
9 are hiring these people back from Raytheon, back from
10 Boeing, et cetera, et cetera.

11 So we are big supporters of what the university
12 is trying to do here and what RCUH is doing. And we are a
13 real tight team partners with the University of Hawaii. So
14 I'm just here in support of their activities with both
15 teaming and also as a resource for human capital.

16 SENATOR DAVID IGE: Can I ask you this question,
17 Rick. If you can define what are the specific areas that
18 you would need to get graduates out of and what is
19 happening in those areas?

20 RICK HOLASEK: There are several areas. In fact
21 check out our website at www.nova-sol.com and you can see
22 quantitatively what we're talking about.

23 But we are looking for graduates in
24 electro-optics and a lot of different areas. Optical
25 engineering, electrical engineering, mechanical

1 engineering. All of them relate to electro-optics and
2 communications.

3 Software engineering as it relates to high speed
4 processing. Often it relates to electro-optical systems.
5 And we are also looking for some management personnel and
6 so on.

7 But a lot of highly trained people mostly in
8 engineering and also in science, physics. And we have a
9 half a dozen PhDs.

10 Instead of the geophysics kind of background, we
11 have more than enough, another half dozen PhDs in mostly
12 physics and optics background.

13 So covering pretty much the gamut of what the
14 university can churn out in science and in engineering in
15 every department.

16 SENATOR DAVID IGE: Okay.

17 SENATOR CAROL FUKUNAGA: I have a follow-up
18 question to that. You know in a lot of ways this type of
19 program sounds very similar to what the biotech industry is
20 doing in closely working between various businesses and the
21 University of Hawaii Med school and some of the other
22 disciplines.

23 Do you envision I guess the likelihood of fairly
24 rapidly growing the number of companies and placements that
25 the university is able to make into the companies with this

1 format or with this structure?

2 And do you need any additional, I guess, state
3 assistance, you know, say along the lines of Act 221 or any
4 other kinds of tax structuring which would then help to
5 kind of make that process a lot more flexible?

6 RICK HOLASEK: Absolutely. I would say yes to
7 both those questions or statements.

8 We recently got qualified at Novasol under Act
9 221 as a high tech company right at the end of last year.
10 So we're certainly hoping to take full advantage of all the
11 things associated with that act. And it's an excellent
12 program, excellent act. I can't support it enough.

13 I'm also the Vice Chair for the HTTA or the
14 Hawaii Technology Trade Association. That organization
15 strongly supports Act 221 and is all over the place in the
16 legitimate here in the last few days doing so. So we are
17 very strong supporters of it.

18 Individually and collectively at Novasol we are
19 big believers in the abundance mentality that the rising
20 tide will raise all ships. And that the more contractors
21 and people who work in this environment that we have, the
22 better off we are.

23 If there was fifty high technology companies in
24 the business we're in instead of a half a dozen in Hawaii,
25 it wouldn't be so difficult to find people who are trained.

1 One of the difficult things about bringing people
2 to Hawaii, even those who want to come here to be here,
3 they worry that if they lose their job or something goes
4 wrong for any reason they can't just sort of walk across
5 the street and get a job at Company X versus Company Y. If
6 things don't work, out (inaudible) they can't go to Coswell
7 Cox (phonetic).

8 And there's not a lot of opportunity in Hawaii
9 at the moment like that. However, it's growing, and it's
10 incubating. And now is the time to really get in there and
11 support it all the way around.

12 The university is supporting technology
13 development in Hawaii. The companies are going to do it
14 with the people here like myself and many others.
15 Entrepreneurially companies are going to get in there and
16 do the best they can always.

17 But the university is getting in there and trying
18 to really pitch in and make something happen. And the
19 state legislatively I think needs to continue the good work
20 they are doing such as Act 221. So I can't support those
21 kind of things enough.

22 SENATOR CAROL FUKUNAGA: So with respect to the
23 number of graduates that you currently have coming out of
24 the UH, say, for example, if the university was to expand
25 the number of graduates that they had in engineering, just

1 to take one area, could you know, the businesses that are
2 currently growing and developing here absorb ten percent
3 more or twenty percent more per year?

4 Or if there were additional, I guess, initiatives
5 which connected students with the engineering program, you
6 know, at an earlier level?

7 I see some of the people here from the college of
8 engineering who have been trying to work with the high
9 schools and middle schools in actually recruiting students
10 at a much earlier time so that you could produce a much
11 broader pool of candidates?

12 Would that be something that would be helpful or
13 not quite yet?

14 RICK HOLASEK: I think that would be helpful. In
15 fact, I can't say what percentage more with all the
16 companies in Hawaii are collecting any statistics on it.
17 But I know what's happening in Novasol. We could use 200
18 percent more graduates.

19 We just allotted positions for -- we have 23 open
20 positions for contracts in hand right now. And we are
21 struggling to fill those positions. We're filling them as
22 fast as we can. And I know that before we fill positions
23 by this summer that we'll have several more positions open
24 based on contracts that I anticipate coming in.

25 So those are just sort of the stuff for contracts

1 in hand. So the university really can't turn out too many
2 I think trained technology graduates.

3 Not just for the people in Hawaii. But that is a
4 real ticket for people to go anyplace on the mainland and
5 also gain all sorts of really engaging employment all over
6 the place and a very high salary level. So I think it's an
7 excellent place to put energy.

8 And hopefully the state will grow that kind of
9 business and will become less reliant on more traditional
10 things that have occurred in Hawaii and really be able to
11 benefit from these high technology very highly paid jobs,
12 tax base producing kind of opportunities.

13 SENATOR CAROL FUKUNAGA: Thank you.

14 SENATOR DAVID IGE: Mr. Cutshaw, do you want to
15 comment?

16 LARRY CUTSHAW: You just covered an awful lot of
17 things. But we can add to it. My name is Larry Cutshaw.
18 I'm the Director of Business Development with Orincon
19 Defense. We are located in Kailua.

20 We have the good fortune to have grown at about
21 26 percent for the last five years. We are currently at 30
22 employees. Of those 30 employees, 15 of them are
23 University of Hawaii graduates from the School or the
24 College of Engineering, they are from physics, they are
25 from (inaudible).

1 They have a variety of backgrounds, including
2 computer science. We are primarily an information
3 technology software company.

4 We do a lot of single image processing and a lot
5 of network communications. We complement the kind of
6 things that other companies like Novasol and SCI do. We
7 take their sensors and we make them better by adding
8 software to them.

9 So our vision has always been to grow the local
10 economy, grow it through creating jobs and creating
11 opportunities for the engineering students and
12 mathematicians and computer scientists.

13 Our vision has always been collectively if we as
14 a company work with all the other companies and the
15 university and the government research laboratories, we can
16 create much larger programs that we can all benefit from.

17 Rick's phrase was very appropriately stated;
18 that a rising tide will raise all of the ships. All of
19 those companies working together collaboratively along with
20 the University of Hawaii and along with their research
21 laboratories and the Office of Naval Research will allow us
22 to pool our talent base, and we can go after \$100, \$250
23 million type programs, as opposed to the traditional type
24 of stuff that Orincon has been doing.

25 In the past we were stuck with 100K, maybe if we

1 got lucky 700K types of programs that lasted six months,
2 nine months. So you've always got engineers in a state of
3 I'm running out of work, I need new work, what's going to
4 happen?

5 Well, as you begin to grow and collaborate and
6 get bigger programs, one of the immediate benefits is
7 longevity. Now you can work on a program that is going to
8 last for three years that (inaudible) transitions into the
9 Navy because there's four or five years worth of
10 engineering marine work to be done, those kinds of things.

11 Now you are looking at a program that you have a
12 choice as an individual to work on a program for 8 years.
13 Well, that gives you the stability to start thinking about,
14 well, now how do I start planning my life? How do I stay
15 close to my family? How do I grow? How do I buy a home?
16 How do I do the types of things that everybody
17 traditionally wants to do?

18 And that gives them a chance to stay home. I am
19 tickled pink to be in a place to have an opportunity to do
20 business development, to reach out to the university, and
21 to give kids an opportunity to stay here.

22 SENATOR CAROL FUKUNAGA: Thank you.

23 LARRY CUTSHAW: Any additional questions that
24 you'd like to ask? You've covered an awful lot in the
25 opening ones.

1 SENATOR CAROL FUKUNAGA: I guess one thing that
2 (inaudible) -- somewhat problematic in the past has been in
3 the work force development area, high tech development
4 corporation, (inaudible). A number of the state
5 associations have tried to develop recruitment efforts,
6 some of which have also included -- what do they call them,
7 you know, they go out and recruit all across the west
8 coast --

9 LARRY CUTSHAW: The high tech jobs there,
10 Kamaaina Come Home.

11 SENATOR CAROL FUKUNAGA: -- Kamaaina Come Home
12 type programs and so forth.

13 And as we have tried to identify you know with
14 both businesses as well as education providers and I guess
15 training providers, there comes -- it seems that one of the
16 real sensitive questions is what is the appropriate role
17 for which party, and how do you make sure that all of these
18 types of efforts complement each other rather than
19 duplicating them, overlapping so we are not really reaching
20 the widest possible audience of potential candidates that
21 we can bring to Hawaii in a time frame that works not only
22 for the businesses but also for all of the training and
23 higher education institutions.

24 Do you have any thoughts on, you know, either
25 some of the things that have worked well that you have seen

1 in the last several years? Or recommendations on what we
2 might be able to do that would be more effective?

3 RICK HOLASEK: I think one of the really good
4 things that exists from the high technology development
5 corporation is they have a website techjobshawaii.com. And
6 I would like to see them put a lot more energy into that
7 website to make it even a lot better than it currently is.

8 However, in its current form and with their tech
9 jobs out there locally, we've rehired I think about eight
10 or ten people in the last couple of years from that as a
11 resource. So we look at that as a resource that's
12 basically free.

13 And you can really reach out and touch a lot of
14 people through the computer. You really can. It's
15 amazing.

16 We just updated our website and put it online
17 yesterday, and I got three resumes sent in already saying,
18 "hey, cool website. Here's my resume. Got any jobs?"

19 So it's a powerful resource. And being out here
20 in Hawaii, you know, it's no longer like you're an ocean
21 away. It really does help connect you. And what a great
22 place to live. The lifestyle here, there's just nothing
23 better.

24 So this is something that I would really like to
25 emphasize. Of all the money spent in that organization,

1 you know, the portion of it spent on that I think is very
2 small but yet the results are very big. So maybe that
3 needs to be looked at. Hey, look at where the big results
4 are coming.

5 SENATOR CAROL FUKUNAGA: Thank you.

6 (End of Joint Informational Briefing Excerpt)

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3 I, WILLIAM T. BARTON, RPR, Certified Shorthand
4 Reporter, State of Hawaii, do hereby attest that the
5 excerpt of a videotaped proceeding herein was by me taken
6 down in machine shorthand and thereafter reduced to print
7 via computer-aided transcription under my supervision; that
8 the foregoing represents a complete and accurate transcript
9 of the excerpted proceedings to the best of my ability.

10

11 Dated this 17th day of October 2005 at Honolulu,
12 Hawaii.

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WILLIAM T. BARTON

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