

Community Advisory Council
March 10, 2011
Action Items/Notes

Final

These notes are in the following order:

1. Attendance
2. Correspondence and Handouts
3. Administrative Items
4. Nanotechnology for the Energy Challenge – Emilio Mendez, Director, Center for Functional Nanomaterials
5. Community Comment
6. Agenda Setting
7. Overview of BNL's Solar Research Plans – Robert Lofaro, Group Leader, Sustainable Energy Technologies Department

1. Attendance

Members/Alternates Present:
See Attached Sheets.

Others Present: S. Bogart, H. Carrano, J. Carter, J. D'Ascoli, N. Detweiler, I. Doroski, L. Garber, K. Geiger, M. Holland, S. Johnson, R. Lee, B. Lofaro, L. Lyons, E. Mendez, R. McKay, B. Ravel, D. Shea, M. Turk, R. Turk,

2. Correspondence and Handouts

Items numbered one through three were mailed to Members with a cover letter dated March 3, 2011. Items numbered four through six were available as handouts at the meeting.

1. Draft agenda for March 10, 2011
2. Draft notes for February 10, 2011
3. Copy of an ARRA Newsflash on the BGRR
4. Copy of presentation on Nanotechnology and the Energy Challenge, Emilio Mendez
5. Copy of presentation on Overview of BNL's Solar Energy Research Plans, Robert Lofaro
6. Copy of CAC Agenda Setting Exercise Results from 2/10/11 meeting

3. Administrative Items

The meeting began at 6:35 p.m. Reed Hodgins, facilitator, reviewed the ground rules and the agenda. Those in attendance introduced themselves. Two members of the audience expressed interest in joining the CAC.

Membership update:

Nora Detweiler, liaison to the CAC, reported that two letters had been sent out to organizations that have not been attending meetings. An email was received back from Suffolk County Fire, Rescue, and Emergency Services stating that they are no longer able to continue to serve on the CAC due to staffing issues. We will continue to look for another group. If anyone has any

suggestions for other possible members, please let me know and we will be happy to reach out to them.

Member Garber said he would like the CAC to consider Jeanne D'Ascoli as a possible new CAC member.

Member Jordan-Sweet introduced her new alternate, Bruce Ravel.

Peconic /Riverhead membership update:

Detweiler updated the CAC on the discussions on the Town of Riverhead and the statements made at a Town Board meeting on the Peconic River. She reported that Michael Arens, Sherry Johnson, and Robert Lee met with the Riverhead Supervisor, Sean Walter, to discuss the status of the Peconic River and to let him know that the comments made at the Town Board meeting by a community member were incorrect. Also, they asked him to consider appointing a new CAC member from the Town of Riverhead. Detweiler said that is under consideration and we have someone here from the Town who is interested. We'll keep you posted on that. She said Member Guthy attended one of the Riverhead Town Board meetings and was able to make a statement correcting the misinformation.

Member Guthy said she told those present at the meeting that to her knowledge, no contamination had reached the area of concern in Riverhead, so there should not be a problem with the planned community garden. She also invited anyone interested to attend a CAC meeting. If they have any concerns, they can come and ask. She told them when the meetings were held. She also asked the Town Board to nominate someone to represent Riverhead town.

Member Corrarino asked if the Riverhead Town Supervisor could be the member and send someone else to attend the meetings in his place.

Hodgin said that's not possible because the member needs to be present at the meetings to keep up with the issues.

Member Mannhaupt asked what was going to happen to the Office of Environmental Management after the BGRR is completed. She said that the list of RODs on the legacy waste have different Five-Year Review dates. We're at the end of the legacy waste and she'd like to know where the RODs are and where the Five-Year Review is and, with the end of the last cleanup, what is going to happen to the Office of Environmental Management. Where is it going, where are the people going, who's absorbing it, what's the future for us?

Detweiler said we will be giving a presentation on the Five-Year Review in May that covers all the RODs.

Hodgin clarified that all the RODs have been coordinated so that the Five-Year Review period is the same for all the RODs and they're all done together.

Robert Lee, Interim Manager, GPD, said that was correct, but the BGRR will not be completed for this year's Five-Year Review so that will be picked up in the next one.

Hodgin asked for clarification on Member Mannhaupt's questions on the Office of Environmental Management; he asked if she meant the Laboratory's group, the local DOE group, or DOE HQ's?

Mannhaupt said the Laboratory. As she understands it the OEM was strictly to take care of, classify, find and characterize legacy waste and then handle it; now what happens?

Detweiler explained that no members of senior management were present at this evening's CAC meeting because they are all at a BSA Board meeting in Washington DC.

Update on stack demolition:

John Sattler gave an update on the status of the stack demolition. He reminded the CAC that at the January briefing he had told them the plans were put on hold and they are re-evaluating the path forward. They are still in the re-evaluation process and a decision should be made by the end of March. A group of people including Brookhaven Science Associates (BSA), their subcontractor, their experts, the DOE site-office, and experts from other sites who have experience with the demolition of stacks are to come in the week of March 21. BSA and their subcontractor will describe the alternatives to DOE that they studied and the criteria for making their recommendation for how to bring down the stack. A month from now we will have more information on the exact process that we're going to use. He said they have spent some time on how the process was going to move forward. BSA has a subcontractor who has identified the alternatives and provided background information. DOE has gone out to look at other DOE sites for their demolition experience. He said they have learned that there is a lot of experience, but that this is a unique situation.

On the issue of EM, he said, he can't speak for what will happen with the Laboratory group, but in general, as the cleanup at the BGRR is finished and the stack comes down, we will be winding down the work. DOE has a goal to finish our work by the end of this fiscal year. We expect to reach that goal for everything with the possible exception of some of the final waste packaging and shipping related to the stack demolition. In general terms, there is a transition process that EM has been working on with the Office of Science. We've come to agreement on a lot the terms of that transition but it is still unclear how and when the official transition will take place.

Member Kaplan asked what makes this stack so unique and is one of the alternatives to leave it in place and plug it?

Sattler said the location of the stack and the fact that it is taller than others reduces the demolition options available. It is also made of poured concrete, while others are made of brick or block. We have to be sensitive of other Lab equipment in the area. Leaving it alone is not an alternative at this point; a CERCLA Record of Decision was made to demolish the stack.

Member Corrarino asked if the work is not completed this fiscal year, can the ARRA money be rolled over into next year.

Sattler said, as of right now, it looks like we will still have sufficient funds to bring it down. We can carry that into the next fiscal year to bring it down. The answer of the funding will be better defined when we get some other details later in the month.

Approval of Minutes:

Hodgin asked for corrections, additions, or deletions to the February 10, 2011 draft notes. The notes were approved as written with none opposed and two abstentions.

Member Henagan announced that Ridge Civic Association is having a fundraiser on March 19, 2011. The money raised will be used for scholarships for two high school students. He said there is information available on the table for anyone interested.

4. Nanotechnology for the Energy Challenge – Emilio Mendez, Director, Center for Functional Nanomaterials

Emilio Mendez explained to the CAC the work being done at the Center for Functional Nanomaterials to meet the energy challenge.

Member Peskin asked if the CFN has a User group.

Mendez said yes. He discussed some highlights of the energy challenge being faced, the difference between nanotechnologies and other older technologies, and what is being done at the CFN to address the energy challenge.

He spoke about the elements of the energy challenge and the correlation between CO₂ and the temperature.

Mendez said the U.S. uses one quarter of the entire consumption of energy in the world. Of all the energy spent, 85 percent is from fossil fuels, 7% from renewables, and 8 percent from nuclear energy. The U.S. imports 60 percent of the oil that it consumes. At the nanoscale level, materials' properties change in many ways (color, conductivity, mechanical resistance, etc.). The relative number of atoms on surfaces increases dramatically at the nanoscale, which improves effectiveness.

Mendez said the Laboratory is looking at ways to improve the efficiency of lighting and transportation. He explained power density and energy storage and spoke about rechargeable batteries and the use of fuel cells. He said a catalyst is needed, so at the CFN, they are working on developing a catalyst. Platinum is currently being used, however, it is expensive, and so palladium is being used as a substitute. Scientists are creating organic solar cells out of plastic to reduce the cost of solar panels; however they are less efficient, so we are working on making them more efficient. Mendez said that a world that works on renewable energy will essentially be an electric world. He said nanotechnology can do its part, but the rest depends on all of us.

Member Kaplan asked who is paying for this research.

Mendez said this is funded by the DOE and the taxpayer.

Member Kaplan asked if the User groups use taxpayer funding also.

Mendez said no, they bring their own funding.

Member Peskin asked about safety issues.

Mendez said safety is a major consideration.

5. Community Comment

There was no community comment.

6. Agenda Setting

Nora Detweiler said the results of last month's agenda setting exercise have been prioritized and we are currently working on getting those presentations together. There is a new person in charge of Homeland Security, so we will invite her to present in May. We are working with BP Solar to schedule a tour of the Long Island Solar Farm (LISF) site. Next month, Dr. Aronson will give you an update on the budget, there will be a follow-up presentation on the stack demolition, the draft EA (Environmental Assessment), and a presentation on the new site sirens.

7. Overview of BNL's Solar Research Plans – Robert Lofaro, Group Leader, Sustainable Energy Technologies Department

Bob Lofaro said that renewable energy research is part of BNL's mission. Our world class

facilities can advance solar energy in the Northeast. He said this research will focus on key issues facing deployment and grid integration of utility scale, distributed photovoltaic (PV) systems. He said the LISF will consist of a north and a south array, which will be connected to the grid at the LIPA substation.

There are several key issues that will be addressed. Solar energy varies, due to cloud cover, etc. causing instabilities in the grid, which result in power dips and problems for the grid operator. We are trying to understand those variations and find ways to better mitigate it through better control schemes or through technologies like storage. The grid is also very old and not designed for two-way power flow and distributed generation can adversely impact grid control. We will be developing an integrated performance model to forecast generation and study grid impacts due to high penetration variable solar power and how control schemes can be used to mitigate these impacts. Utility scale solar PV plants may have impacts on the local environment and ecology. The Laboratory will collect data useful for evaluating the impacts of large-scale solar plants on the regional and global climate, including greenhouse gas emissions. The LISF will help characterize solar PV system performance in the Northeast. It is important to develop models for real-time forecasting of available solar irradiation and the impact on power production. BNL is working with LISF/BP Solar to incorporate instrumentation into the array, so that data can be time synchronized and obtained at high sample rates for research purposes.

Lofaro said the Lab is planning to develop a Northeast Solar Energy Research Center (NSERC), which would supplement research using the LISF array and enable research in various other areas of interest to the solar industry. This would also deliver energy directly into the BNL electrical system and help with our sustainability goals.

Member Kaplan asked where the funding comes from for the instrumentation and data analysis.

Lofaro said DOE's Energy Efficiency and Renewable Energy Office (EERE) has provided funding for this year.

Member Talbot said this project has a 40-year life. Do you anticipate technological breakthroughs in the solar panels themselves and if there are, will that be incorporated into this array?

Lofaro said some of the technologies that Emilio Mendez spoke about such as using organic materials will be a breakthrough. However, we will have nothing to do with any modifications of the large array, which is strictly a LISF project. We will be able to do that with the dedicated research portion of the array.

Member Jordan-Sweet asked for clarification of the easement agreement with BP Solar. She asked if it consisted of money and if so, who does it go to.

Lofaro said it could be equipment, solar panels, or some kind of contribution to support our research. It goes to DOE.

Member Corrarino said she is surprised to hear that all those details have not been worked out yet.

Member Heil asked if the issue with surface soils is a generic or regional problem.

Lofaro said it is regional. One question is how often these panels need to be cleaned. We need to find the best balance.

Member Garber asked if the sky cameras will be put around the perimeter.

Lofaro said yes.

Member Malloy asked about the current recycling program

Lofaro said the National PV Center is doing studies. When the panels reach the end of their life after 40 – 50 years, we are looking at what can be done with them. Some of them have cadmium in them. We are looking for ways to reuse them rather than discard them.

Member Carlin asked how the site will be managed.

Lofaro said BP will be in charge of that aspect of it.

The CAC thanked Lofaro for his presentation.

Member Jordan-Sweet asked if Mike or anyone had sent a letter to invite the woman from Riverhead to attend a meeting.

Detweiler said Helga Guthy had attended a Town Board meeting and invited anyone interested to come to a meeting. Sherry (Johnson), Michael Arens and Bob Lee met with the Supervisor on the Peconic issues. Regarding the letter, we spoke to Michael and were going to write a letter on behalf of the CAC, but we could not find an address listed for her.

The meeting adjourned at 8:56 p.m.

Agenda Topics
February 10, 2011 Poll

Homeland Security – 9
Nanotechnology Developments & Standards – 7 (3/10/2011 - E. Mendez)
Science & Politics – 7
Overview of BNL Land Use Plan – 6
Sustainability – 6
Photovoltaics – 6 (3/10/2011 - E. Mendez and R. Lofaro)
PET/MRI Research – 6
LISF Tour Prior to Completion – 6
Business/Lab Integration of New Technologies – 6
Nano Patterning – 5
Natural Resources Management Plan – 5
Nuclear Non Proliferation – 4
Nuclear Safety – 4
Catalysis & Super Conducting Magnets – 3
Cosmology – 3
Accelerate Long Island as info. becomes available - 3
Safety Progress – 2
CRADAS – 2
Radio Isotopes – 2
Nuclear Stewardship - 1
Technology Transfer – 0

P = Present	2011	Affiliation		First Name	Last Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
		ABCO (Garber added on 4/10/02)	Member	Don	Garber			P									
		ABCO (Madigan added 10/10)	Alternate	Michael	Madigan	P	P										
		American Physical Society	Member	Margaret	Malloy		P	P									
		Brookhaven Retired Employees Association (Peskin replaced Campbell 09/09)	Member	Arnie	Peskin		P	P									
		Brookhaven Retired Employees Association (Franz 12/09)	Alternate	Eena-Mai	Franz	P	P										
		CHEC (Community Health & Environment Coalition (added 10/04)	Member	Sarah	Anker												
		(added 12/08) (R. Andrejkovics removed 9/09)	Alternate														
		Citizens Campaign for the Environment	Member	Adrienne	Esposito	P											
		Citizens Campaign for the Environment (K. Jacobs off 1/08)	Alternate														
		Colonial Woods Whispering Pines (added 06/09)	Member	Christine	Birben	P	P	P									
		Colonial Woods Whispering Pines (added 09/09)(Rehbein added 11/10)	Alternate	Eric	Rehbein	P	P										
		E. Yaphank Civic Association	Member	Michael	Giacomaro		P	P									
		E. Yaphank Civic Association (J. Minasi new alternate as of 3/99) (M. Triber 11/05) (Munson 6/06) (Feinman 2/09)	Alternate	Bob	Feinman	P		P									
		Educator (changed 7/2006)(Bush member 5/10)	Member	Greg	Bush		P	P									
		Educator (B. Martin - 9/01)	Alternate	Bruce	Martin												
		Educator ((Bush 5/09)	Alternate	Adam	Martin												
		Fire Rescue and Emergency Services (J. Williams removed 3/11) (F R & E services resigned 2/2011)	Member														
		Fire Rescue and Emergency Services (D. Lynch removed 3/11)	Alternate														
		Fire Rescue and Emergency Services (J. McLoughlin removed 3/11)	Alternate														
		Friends of Brookhaven (E.Kaplan changed to become member 7/1/01)	Member	Ed	Kaplan		P	P									
		Friends of Brookhaven (Schwartz added 11/18/02)	Alternate	Steve	Schwartz												
		Health Care	Member	Jane	Corrarino	P		P									
		Health Care	Alternate														
		Huntington Breast Cancer Coalition	Member	Mary Joan	Shea	P	P	P									
		Huntington Breast Cancer Coalition	Alternate	Scott	Carlin			P									

P = Present	2011	Affiliation	First Name	Last Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
		Intl. Brotherhood of Electrical Workers/Local 2230 (S.Krsnak replaced M. Walker 1/11/07)	Member	Scott	Krsnak			P								
		IBEW/Local 2230 (off mailing list 8/2009)	Alternate	Philip	Pizzo											
		L.I. Pine Barrens Society	Member	Richard	Amper											
		L.I. Pine Barrens Society (Motschenbacher 6/09)	Alternate	Beth	Motschenbacher	P	P	P								
		L.I. Progressive Coalition	Member	David	Sprintzen	P	P									
		L.I. Progressive Coalition	Alternate	None	None											
		Lake Panamoka Civic Association (Biss as of 4/02)	Member	Rita	Biss	P	P	P								
		Lake Panamoka Civic Association (Gibbons off 1/10)(Grandel added 10/10)	Alternate	Bonita	Grandel	P										
		Long Island Association (Groneman replace 10/05)	Member													
		Long Island Association (LIA resigned Evanzia removed 2/11)	Alternate													
		Longwood Alliance	Member	Tom	Talbot		P	P								
		Longwood Alliance	Alternate	Kevin	Crowley											
		Longwood Central School Dist. (switched 11/02)(Castro replaced Henigin 6/09)	Member	Maria	Castro	P	P	P								
		Longwood Central School Dist.	Alternate	Allan	Gerstenlauer											
		NEAR	Member	Jean	Mannhaupt			P								
		NEAR (prospect taken off ¾) (Blumer added 10/04)	Alternate	Karen	Blumer		P									
		NSLS User	Member	Jean	Jordan-Sweet		P	P								
		NSLS User (P. Stephens removed after contact regarding new address failed mail returned 5/2010) (Ravel added 2/11)	Alternate	Bruce	Ravel			P								
		American Physical Society	Member	Margaret	Malloy		P	P								
		Ridge Civic Association	Member	Pat	Henagan		P	P								
		Science & Technology (added 1/13/05)	Member	Iqbal	Chaudhry		P	P								
		Town of Brookhaven (Graves made member 6/06)	Member	Anthony	Graves	P										
		Town of Brookhaven (Ormond 9/10)	Alternate	Luke	Ormand											
		Town of Brookhaven, Senior Citizens	Member	James	Heil	P	P	P								
		Town of Brookhaven, Senior Citizens (open slot as of 4/99)	Alternate													
		Town of Riverhead (Conklin until 12/09)	Member													
		Town of Riverhead	Alternate													
		Wading River Civic Association	Member	Helga	Guthy		P	P								
		Wading River Civic Association	Alternate	Sid	Bail											