

**Community Advisory Council**  
**April 14, 2016**  
**Action Items/Notes**

*Final*

These notes are in the following order:

1. Attendance
2. Correspondence and Handouts
3. Administrative Items
  - NSLS Hazard Removal Project
4. Sources of Radiation and Radioactivity
5. Agenda Setting
6. Community Comment
7. BNL Medical Isotope Research and Production Program

**1. Attendance**

Members/Alternates Present: See Attached Sheets.

Others Present: S. Bogart, J. Carter, C. Cutler, P. Genzer, D. Gibbs, L. Hill, M. Maraviglia, M. McCann, R. McKay, J. Remien, B. Ryan, D. Ryan, B. Sprague, N. Sundin, K. Yankus

**2. Correspondence and Handouts**

Items numbered one and two were mailed to Members with a cover letter dated April 7, 2016. Items numbered three and four were available as handouts at the meeting.

1. Draft agenda for April 14, 2016
2. Draft notes from the March 10 meeting
3. Copies of Sources of Radiation and Radioactivity presentation
4. Copies of BNL Medical Isotope Research and Production Program presentation.

**3. Administrative Items**

The meeting was called to order at 6:32 PM. Reed Hodgkin, facilitator, welcomed everyone to the meeting. He reviewed the ground rules and draft agenda and those present introduced themselves.

Hodgkin told the CAC that Member Garber passed away and they all observed a moment of silence in remembrance of him.

He then introduced, Janis Rottkamp, new alternate Member representing the Town of Riverhead.

Hodgkin said there are some guests visiting the group this evening from an independent auditing group. They are working on the Lab's ISO 14001 re-certification.

Nora Sundin, Liaison to the CAC, said the CAC's recommendation regarding the Peconic River Optimization Plan has been documented and sent to the Lab Director and the regulators.

Doon Gibbs, Laboratory Director, said the National Synchrotron Light Source II was awarded the Secretary of Energy's "Award of Excellence" for the best project of the year across the entire DOE complex and Frank Crescenzo, was selected as Project Manager of the year.

He then showed the CAC a picture of a satirical cartoon that was published in Newsday noting the Laboratory as the place to be for "understanding complex analysis". He said it was a great recognition of the complex work done at the Lab.

- NSLS Hazard Removal Project - Les Hill, Project Manager

Les Hill said the mission of this project was to safely and efficiently remove hazards and hazardous conditions resulting from National Synchrotron Light Source operations to prepare it for the post-operations phase of the facility life cycle. He identified the hazards involved and spoke about the scope of the project. He said the building is well positioned for future use and is free of radioactive material. The Lab was able to re-use many of the assets. Thousands of components with a replacement value of \$70 million were transferred to NSLS-II for re-use, and equipment with a replacement value of \$2 Million was transferred to Argonne National Laboratory. 40,000 pounds of lead shielding were transferred to Yale for use on future experiments at a DOE site. The Lab was also able to recycle 2.2 million pounds of metals resulting in being able to put \$800,000 back into the project. The project was completed on time and on budget and with a perfect safety record.

Approval of Minutes

Member Giacomaro said that he neglected to sign in during the March meeting, so he was not marked present.

The March notes were approved as amended with one abstention.

**4. Sources of Radiation and Radioactivity – Dennis Ryan – Facility Support Manager, Radiological Control Division**

Dennis Ryan gave the CAC some information on radiation fundamentals. He spoke about non-ionizing and ionizing radiation and the process of ionization. He explained the differences between the four basic types of ionizing radiation, which include: alpha particles, beta particles, gamma and x-rays, and neutron particles. He spoke about units of radioactivity and radiation and explained half-life. He also talked about radiation generating devices, occupational and non-occupational radiation doses and instrumentation. He said the instrumentation used to detect and quantify radiation and radioactivity is directly related to the type of radiation emitted and noted that the average dose to an individual is 620 mrem/yr; half of which is attributed to natural sources and about half is comprised of medical procedures. He explained that radioactivity is the process by which unstable atoms lose energy by emitting radiation also known as Radioactive Decay.

Member Keenan asked what damage can be caused by the bombardment of ionizing radiation.

Ryan said ionization inside the body creates free radicals.

Member Giacomaro asked about individuals that have a lot of medical procedures.

Hodgin asked what would be a safe amount from medical procedures. What would a doctor consider to be a safe maximum?

Ryan said it depends on if there is whole body exposure, or if it is just confined to a specific area. In an acute dose, 800 rem would cause death in 50% of the people within 30 days (note: the number posted on web sites ranges from 350 - 500 rem). There are a lot of variables to consider; health, age, etc.

## **5. Agenda Setting**

Nora Sundin said next month, Pat Looney will give a presentation on Advances in Sustainable Energy. There will also be an environmental update on Bldg. 811.

Member Shea asked for a presentation on Fukushima.

Sundin said the scientists at the Lab have not been doing research on Fukushima and are not comfortable talking about it since they are not knowledgeable in that area.

## **6. Community Comment**

Hodgin asked for comments from the community. There were none.

## **7. BNL Medical Isotope Research and Production – Cathy Cutler**

Cathy Cutler spoke about the Medical Isotope Research and Production program at the Lab. She said BNL is the birthplace of nuclear medicine. The mission of BNL's Isotope program is to produce and/or distribute radioactive isotopes that are in short supply, maintain the infrastructure required to produce and supply isotope products and related services, and conduct R&D on new and improved isotope production and processing techniques. The Lab's BLIP (Brookhaven Linear Isotope Producer) was the first to use a high energy proton accelerator to produce isotopes. She spoke about the planned enhancements to the BLIP beam and said a BLIP beam raster system will enable an increase in beam current and greatly lower the possibility of target failures. Increased Isotope production with the raster system began January 4, 2016 and yields have been higher than expected. Both BNL and Los Alamos have accelerators that can be used to produce this material. Oak Ridge National Lab has processing facilities and experience with processing medical grade radionuclides. Right now the materials need to be sent out to Oak Ridge and then processed and sent out to hospitals for use. Ideally the Lab would like to be able to process the materials onsite so it can ship directly to medical facilities for their use. She explained the difference between a traditional x-ray and a nuclear scan and spoke about targeted alpha therapy. Cutler explained the FDA guidelines called cGMP (current Good Manufacturing Practice), which ensure safety, consistent quality of drug/drug component characteristics, and freedom from contamination. The Lab is working towards full cGMP compliance, developing long term plans that integrate thorium processing in with a fully cGMP compliant Sr-82 production. Cutler also spoke about the importance of the waste treatment facility to dispose of the waste properly.

The meeting adjourned at 9:00 PM.

Next meeting: May 12, 2016.

## CAC Agenda Setting – November 12, 2015

### TOPICS

Advances in Renewable Energy Technologies – 10

Update on Fukushima – 9

NASA Research – 8

Holographic Principles of Quantum Mechanics – 7

Gamma Forest & Tour – 7

~~Medical Research at BNL – 7 (April 2016)~~

~~DOE Funding & Research Priorities & Impact on BNL – 7~~

Update & Advances on Battery Storage – 6

Discussion of Neutrino Projects at BNL – 6

Global Warming & Sea Level Rise – 6

Nanotechnology Research at BNL – 5

Capturing the COSMOS LSST – 4

Groundwater Monitoring Around New Facilities – 4

Advances in Solar Energy – residential & commercial – 4

Climate Science & White House Report (Steve Schwartz) – 4

Economic Impact of Lab – 3

Peak Oil (peak of World's ability to produce oil) - 3

Non-proliferation – 2

Progress on Strategic Plan Update (Discovery Park) – 1

Long-Term Vision for BNL – 1

More Lab History – 1

Status, Progress, Production Report on LI Solar Array – 1

NSLS-II Research – 1

				Jan	Feb Info session only	Mar	Apr	May	June	July No mtg	Aug No mtg	Sep	Oct	Nov	Dec
P = Present	2015	Affiliation		First Name	Last Name										
		<b>ABCO – Civic</b> (Garber - 04/02) (Bevington – 6/14) (Keenan-10/14)	Member	Ray	Keenan	P		P	P						
		(Madigan -10/10)	Alternate	Michael	Madigan	P									
		<b>American Physical Society – Business &amp; Labor</b>	Member	Reinhart	Schuhmann	P		P							
		(Schuhmann 1/14, member 9/15)	Alternate	Donavan	Hall				P						
		<b>Brookhaven Coalition of Chambers of Commerce – Bus &amp; Labor</b> (added 6/15)	Member	Ron	Trotta			P							
		<b>Brookhaven Retired Employees Association-</b> BNL (Peskin - 09/09)	Member	Arnie	Peskin	P		P							
		(Franz - 12/09)	Alternate	Eena-Mai	Franz	P			P						
		(Shapiro-1/13)	Alternate	Steve	Shapiro										
		<b>Citizens Campaign for the Environment – Advocacy &amp; Environment</b>	Member	Adrienne	Esposito	P									
			Alternate												
		<b>Colonial Woods Whispering Pines – Civic</b> (Birben - 06/09) (O'Neal 01/15, removed 10/15)	Member												
		(Rehbein -11/10)	Alternate	Eric	Rehbein										
		<b>Coram Civic Association</b> (Ziems - 06/12)	Member	Paul	Ziems	P		P	P						
		(Meade – 06/12, Jim M 10/12, Turk 1/16)	Alternate	Rosa	Turk	P		P	P						
		<b>East Yaphank Civic Association</b>	Member	Michael	Giacomaro	P			P						
		(Feinman - 02/09 – 11/15)(Mack 11/15)	Alternate	Catherine	Mack			P	P						
		<b>Emeritus</b> (changed 3/8/12)	Member	Jean	Mannhaupt										
		<b>Foundation for Economic Education – Ed, Sci, &amp; Tech</b> (5/14)(Martin – 10/14)	Member	Bruce	Martin			P	P						
		(Edwards – 10/14)	Alternate	Estelle	Edwards										
		(Pratka – 10/14)	Alternate	Craig	Pratka			P	P						
		<b>Friends of Brookhaven-</b> BNL (Kaplan 07/01–11/15)(Bowerman 11/15)	Member	Biays	Bowerman	P		P	P						
		(Schwartz - 11/02) (Ocko added 11/15)	Alternate	Steve	Schwartz			P							
			Alternate2	Ben	Ocko										
		<b>Huntington Breast Cancer Coalition – Health-Based Rep</b>	Member	Mary Joan	Shea	P			P						
			Alternate	Scott	Carlin										
		<b>Individual</b>	Member	Jane	Corrarino	P									
		<b>Individual</b>	Member	Blumer	Karen										
		<b>Individual</b>	Alternate	Michael	Madigan	P		P	P						
		<b>L.I. Pine Barrens Society – Advoc &amp; Env</b>	Member	Richard	Amper										
		(Murdocco - 04/11, deleted 6/12) (Muller added – 8/12)(Katie Rose Leonard added – 6/13)(Muether added – 5/15)	Alternate	Katie	Muether			P	P						

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		<b>L.I. Progressive Coalition – Advoc &amp; Env</b>	Member	David	Sprintzen	P		P							
			Alternate												
		<b>Lake Panamoka Civic Association (Biss - 04/02)</b>	Member	Rita	Biss	P		P	P						
		(Grandal - 10/10)	Alternate	Bonita	Grandal	P		P	P						
		<b>Longwood Central School Dist. – Ed, Sci, &amp; Tech (Castro -06/09)(Adams 9/15)</b>	Member	Tracy	Adams										
		(Gerstenlauer removed & Sterne added 5/14 removed 9/15)	Alternate												
		<b>Mastic Park Civic Association (Sicignano – 6/12)</b>	Member	John	Sicignano			P							
			Alternate	Clara	McManus										
			Alternate	Joe	May										
		<b>Middle Island Civic Association</b>	Member												
		(Nowak 01/15 – 5/15)(Malloy 9/15)	Alternate	Margaret	Malloy			P							
		<b>NSLS-II User Committee – BNL</b>	Member	Jean	Jordan-Sweet	P			P						
		(Ravel -02/11-9/15)(Bohon added 11/15)	Alternate	Jen	Bohon			P							
		<b>Ridge Civic Association (Henagan removed 9/15)(Chattaway added 10/15)</b>	Member	Wesley	Chattaway	P		P	P						
		<b>Suffolk County Legislature 1<sup>st</sup> Dist. - Government (added 6/15)</b>	Member	Al	Krupski			P							
			Alternate	John	Stype				P						
		<b>Teachers Federal Credit Union – Bus &amp; Labor (Murdocco 3/15)</b>	Member	Richard	Murdocco										
			Alternate	Suzanne	Gillan										
		<del><b>Town of Brookhaven (Graves – 06/06)</b></del> (removed 1/2015)	Member												
			Alternate												
		<b>Town of Brookhaven, Senior Citizens Office - Government</b>	Member	James	Heil	P			P						
			Alternate												
		<b>Town of Riverhead - Government (Doroski - 04/11)</b>	Member	Isidore	Doroski	P		P							
		(Hulme - 04/11 - 4/14)(Janis Rottkamp 04/16)	Alternate	Janis	Rottkamp				P						
		<b>Wading River Civic Association</b>	Member	Helga	Guthy	P		P							
			Alternate	Sid	Bail										