

**Community Advisory Council  
November 10, 2016  
Action Items/Notes**

*Final*

These notes are in the following order:

1. Attendance
2. Correspondence and Handouts
3. Administrative Items
4. Annual Groundwater Update
5. Agenda Setting
6. Large Synoptic Survey Telescope
7. Membership renewal
8. Community Comment

**1. Attendance**

Members/Alternates Present: See Attached Sheets.

Others Present: J. Anderson, S. Bogart, C. Bruno, B. Dorsch, J. Epstein, P. Genzer, D. Gibbs, R. Gordon, R. Howe, G. Mattson, R. McKay, D. Paquette, A. Rapiejko, J. Remien, A. Slosar, N. Sundin, R. Tribble

**2. Correspondence and Handouts**

Items numbered one through three were e-mailed to Members on November 3, 2016. Items numbered four through six were available as handouts at the meeting.

1. Draft agenda for November 10, 2016
2. Draft notes from the October 13 meeting
3. Response to Action Item: large copy of map
4. Copy of Presentation: Annual Groundwater Update
5. Copy of Presentation: Large Synoptic Survey Telescope
6. PubSci flyer

**3. Administrative Items**

The meeting was called to order at 6:30 PM. Reed Hodgkin, facilitator, welcomed everyone to the meeting. He reviewed the ground rules and draft agenda and those present introduced themselves.

Doon Gibbs, Laboratory Director, said that many have asked what the new Administration taking office in January means to the Lab and DOE, and the honest answer is that we don't know yet. The National Lab Directors meet regularly and are preparing to meet with the transition team in November or December. We have prepared materials and we will answer any of their questions. BNL is strongly supported by the New York State Delegation. He said discussion on climate change has evolved. We have been through this before, so we will have to wait and see.

Nora Sundin, liaison to the CAC, invited the CAC to attend the PubSci event on November 15<sup>th</sup> at Brewology in Port Jefferson. She also said the Lab made a video for Veterans Day which will be shown during this evening's break.

#### Approval of Minutes

The October notes were approved as written with none opposed and four abstentions.

Member Ziems said receiving the notes through email has made it much easier for him.

#### **4. Annual Groundwater Update, Bill Dorsch – Groundwater Protection Division**

Bill Dorsch said there are 11 groundwater treatment systems currently operating, 4 systems have been shut down, and 3 systems have been decommissioned. He said from 1996 – 2015, 24.5 billion gallons of contaminated groundwater has been treated and recharged to the aquifer, 7382 lbs of VOCs have been removed, and 31 mCi Sr-90 has been removed. He said systems are routinely evaluated for optimization.

Member Blumer asked how fast the water comes out of the extraction wells and where does it go.

Dorsch said it depends on the well, but can be anywhere from 10 gallons per minute to 200 gallons per minute. It is treated and then released into the recharge basins on-site or injection wells off-site.

Member Schwartz asked for information on the different layers of soil.

Dorsch said on-site, the upper glacial aquifer goes down to a depth of about 120' below ground surface. In some cases there is layer of clay below it (which can range from a couple feet to 10 or 15 feet deep), and then below that is the Magothy aquifer, which goes down several hundred feet.

Member Keenan asked about the plume map. He asked where the split is between the Forge and Carman's Rivers.

Dorsch said the split is offsite, south of the Lab's boundary. I can get you more information.

**\*ACTION ITEM:** Bring back more detailed information about the map and location of the two rivers.

Member Esposito asked if end point extraction wells are deeper than the others.

Dorsch said yes.

Member Blumer asked where they recharge to.

Dorsch said they recharge to recharge basins onsite or injection wells offsite. I can spend some time separately with you if you would like more information.

Member Esposito asked how often testing is done, once a system is turned off.

Dorsch said testing is typically done quarterly on the monitoring and extraction wells. If we see higher concentrations rebound back above the capture goal, we will turn the extraction well(s) back on.

Member Sicignano asked if monitoring continues for a longer period of time in case the water table rises.

Dorsch said yes. Before we shut those down, we will make sure that there has been a period to allow the water table to come back up.

Dorsch then spoke about the Bldg. 452 Freon-11 plume that was discovered in 2011, and said the maximum concentration detected was 38,000 ug/L. An air stripper treatment system was installed and in operation by early 2012. By late 2015, all Freon-11 concentrations were <50 ug/L capture goal. Approximately 100 pounds of Freon-11 was removed from the aquifer. Following regulatory approval, the system was shut down in March 2016. Groundwater monitoring continues during the shutdown period.

Member Sicignano asked how large the Freon-11 plume was.

Dorsch said it was about 150' wide and 700' long.

Doug Paquette said we don't know when or how the release happened. Freon-11 was stored in that building, so it's possible a drum ruptured. There was an investigation, but not much was found out.

Dorsch said we removed about 100 lbs. from the aquifer, we think the spill was probably 120-150 lbs.

Paquette said that Freon storage has now been moved to a better containment area.

Dorsch said tritium continues to be detected above the 20,000 pCi/L Drinking Water Standard (DWS) in source area wells near the g-2. We plan to continue to monitor and maintain the cap. Tritium concentrations in the downgradient plume segment have decreased to less than the DWS.

Member Esposito asked how long the Lab will continue to monitor the capped area.

Dorsch said until it remains well below drinking water standards for a period of time.

Paquette said we will monitor as long as activated soils are there. We will maintain and monitor the cap for many years.

Dorsch said the Lab is planning to install one monitoring well and 10 temporary wells to enhance the monitoring network at the FHWMF for Sr-90

Member Krupski asked about the depth of the plume.

Dorsch said it is 10-12 feet below ground surface in the source area.

Member Esposito asked what the half-life is for Sr-90.

Dorsch said 28-29 years.

Dorsch said the Lab is continuing to monitor wells in the North Street East area for EDB.

Member Esposito asked what the source was and what the detection limit is

Dorsch said the source of the OU VI EDB plume we are pumping and treating is the old Biology fields and the detection limit is .07. EDB is a VOC and was used as a stabilizer for TCA. We don't have a definitive source for the EDB in the off-site North Street East plume. There have been sporadic low-level EDB detections in on-site OU 1 wells up gradient but nothing significant historically.

Jason Remien said when the Lab first started investigating onsite as part of the historical review we found out EDB was stored in that area.

Dorsch said the 1996 Safe Drinking Water Act (SDWA) requires the EPA to issue a list of unregulated contaminants every 5 years to be monitored by public water systems. This monitoring provides a basis for future regulatory actions to protect health. He said 1,4-dioxane (a Volatile Organic Compound) was listed as an unregulated contaminant in 2012. No federal maximum contaminant level or specific NY State standard has been established for 1,4-dioxane in drinking water. Since there is no specific standard for this contaminant, it is considered an unspecified organic contaminant, for which the standard is 50 ug/L. In August 2016, NYSDEC/NYSDOH formally suggested that BNL analyze for 1,4-dioxane within site plume core wells that have or had 1,1,1-trichloroethane (TCA). BNL is developing a plan in response to the NYSDEC/NYSDOH request to sample wells for 1,4-dioxane.

## **5. Agenda Setting**

Nora Sundin said in December, we will have the annual Holiday reception followed by a short meeting, which will include the information Member Esposito requested last month on fish data, presentation by Tim Green, as well as Member Shea's request for more information on Cesium in deer. We will have an agenda setting exercise in January.

## **6. Large Synoptic Survey Telescope, Anze Slosar, Physics Department**

Anze Slosar spoke about building the largest digital camera, the Large Synoptic Survey Telescope (LSST). He explained that it will take pictures of the night sky and the plan is to discover dark energy. This telescope will be able to detect many galaxies over a wide area. It will measure their positions, brightness, colors, and shapes as accurately as possible. He said this is a collaboration between NSF and DOE. BNL will be responsible for the detectors and analysis. The LSST is planned to be the premier astronomical project of the 21<sup>st</sup> century and will be positioned on a mountain top in Chile.

Member Esposito asked if this project is funded by other nations, or just the USA.

Slosar said there is other funding, but most of it comes from the USA.

Member Sprintzen asked what they are looking for.

Slosar said they will measure distance and can make a map of the galaxies.

Member Giacomaro asked if they will be able to see black holes with the LSST.

Slosar said no.

Member Doroski asked if you will be able to see further out into sky.

Slosar said yes.

Hodgin asked what the elevation is on the mountain top location.

Slosar said 4000 meters.

Member Esposito asked if there is a fear it could be damaged in the event of an earthquake in the area.

Slosar said once it is set, it should be safe. The concern is in transporting it to the site.

## **7. Membership renewal**

Hodgin said all CAC requests for membership renewal have been approved. He asked for questions/comments from CAC members. There were none. He then asked Sundin if there are any organizations in danger due to lack of attendance.

Sundin said Longwood School District, but they have indicated they would like to remain members and will have an alternate Member in attendance next month.

Hodgin said as others reach the end of their five year membership period, they will be notified.

Member Doroski said he gave a presentation on the CAC to the Town of Riverhead recently after meeting privately with Remien, Dorsch, and Sundin.

Member Esposito said that is the purpose of the CAC.

Member Martin asked Member Doroski if he would share that presentation with others if needed.

Sundin acknowledged Member Sprintzen for his presentation to a class.

Hodgin said the CAC has two purposes; to inform the community and to advise the Lab.

### **8. Community Comment**

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

The meeting adjourned at 8:52 PM.

Next meeting: December 8, 2016

## CAC Agenda Setting – November 12, 2015

### TOPICS

Advances in Renewable Energy Technologies – 10

~~Update on Fukushima—9 (9/9/16)~~

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 (October 2016)~~

~~Capturing the COSMOS-LSST—4 (November 2016)~~

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	P			P	P	P
		(Madigan -10/10)	Alternate	Michael	Madigan	P				P					P
		<b>American Physical Society – Business &amp; Labor</b>	Member	Reinhart	Schuhmann	P		P		P	P		P	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		P	P				P
		<b>Brookhaven Retired Employees Association- BNL</b> (Peskin - 09/09)	Member	Arnie	Peskin	P		P		P	P		P	P	P
		(Franz - 12/09)	Alternate	Eena-Mai	Franz	P			P		P				P
		(Shapiro-1/13)	Alternate	Steve	Shapiro										
		<b>Citizens Campaign for the Environment – Advocacy &amp; Environment</b>	Member	Adrienne	Esposito	P				P	P		P	P	P
		(Somma 11/16)	Alternate	Harry	Somma										P
		<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	P	P		P	P	P
		(Meade – 06/12, Jim M 10/12, Turk 1/16)	Alternate	Rosa	Turk	P		P	P	P	P		P		P
		<b>East Yaphank Civic Association</b>	Member	Michael	Giacomaro	P			P	P	P				P
		(Feinman - 02/09 – 11/15)(Mack 11/15)	Alternate	Catherine	Mack			P	P	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	P			P		
		(Pratka – 10/14)	Alternate	Craig	Pratka			P	P	P	P			P	P
		<b>Friends of Brookhaven- BNL</b> (Kaplan 07/01–11/15)(Bowerman 11/15)	Member	Biays	Bowerman	P		P	P	P	P		P	P	
		(Schwartz - 11/02) (Ocko added 11/15)	Alternate	Steve	Schwartz			P							P
			Alternate2	Ben	Ocko										
		<b>Huntington Breast Cancer Coalition – Health-Based Rep</b>	Member	Mary Joan	Shea	P			P	P					P
			Alternate	Scott	Carlin										
		<b>Individual</b>	Member	Jane	Corrarino	P							P		P
		<b>Individual</b>	Member	Blumer	Karen					P				P	P
		<b>Individual</b>	Alternate	Michael	Madigan	P		P	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	P			P	P	P
		<b>L.I. Progressive Coalition – Advoc &amp; Env</b>	Member	David	Sprintzen	P		P		P	P		P	P	P

				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											
		Alternate													
		Member	Rita	Biss	P		P	P	P	P		P	P		
		Alternate	Bonita	Grandal	P		P	P	P			P	P		
		Member	Tracy	Adams											
		Alternate													
		Member	John	Sicignano			P		P						P
		Alternate	Clara	McManus											
		Alternate	Joe	May											
		Member													
		Alternate	Margaret	Malloy			P			P			P	P	
		Member	Jean	Jordan-Sweet	P			P	P			P	P		
		Alternate	Jen	Bohon			P								
		Member	Wesley	Chattaway	P		P	P		P		P	P	P	
		Member	Al	Krupski			P		P			P		P	
		Alternate	John	Stype				P					P		
		Member	Richard	Murdocco											
		Alternate	Christine	Stafford								P			P
		Member													
		Alternate													
		Member	James	Heil	P			P		P					P
		Alternate													
		Member	Isidore	Doroski	P		P		P	P		P			P
		Alternate	Janis	Rottkamp				P	P	P			P		
		Member	Linda	Rundlett	P		P		P	P		P			P
		Alternate	Terri	Kneitel									P	P	