

**Community Advisory Council
June 8, 2017
Action Items/Notes**

Final

These notes are in the following order:

1. Attendance
2. Correspondence and Handouts
3. Administrative Items
4. Western South Boundary VOC Contamination Updates
5. Cryo-EM
6. Community Comment

1. Attendance

Members/Alternates Present: See Attached Sheets.

Others Present: J. Anderson, S. Bogart, J. Carter, F. Crescenzo, J. Epstein, P. Genzer, D. Gibbs, R. Howe, A. Perez, R. McKay, S. McSweeney, V. Racaniello, A. Rapiejko, J. Remien, A. Steinhauff, N. Sundin, R. Tribble

2. Correspondence and Handouts

Items numbered one and two were e-mailed to Members on May 4, 2017. Items number three and four were available as handouts at the meeting.

1. Draft agenda for June 8, 2017
2. Draft notes from the May 11 meeting
3. Copy of Presentation: Western South Boundary VOC Characterization Update
4. Copy of Presentation: Cryo-EM

3. Administrative Items

The meeting was called to order at 6:31pm. 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, told the CAC that Peter Paul has recently passed away. He was a world renowned nuclear scientist and the first Deputy Director for Science and Technology under BSA at the Lab.

Potential Impacts to the Long Term Stewardship (LTS) Program from the proposed Presidential FY18 budget

Frank Crescenzo, Manager, Brookhaven Site office, Department of Energy, said DOE will continue to honor their commitments to complete the cleanup at BNL no matter what the budget is. If necessary, the money will come from indirect funding sources. The DOE's Office of Environmental Management transferred responsibility for cleanup in 2012 or 2013 to the Office of Science. As a result, the LTS program has since been direct funded by Office of Science's Office of Basic Energy Sciences. This agreement was scheduled to end in FY19, but the President's current budget has proposed zero dollars for LTS for FY18. Congress still has to weigh in, but there are significant cuts to the DOE, the Office of Science and Brookhaven

National Lab. DOE is legally bound to meet the cleanup requirements, so even if it is not funded, we will meet those commitments.

Member Esposito said the CAC wants the money to come from the Federal budget and not from the science or employees at BNL.

Crescenzo said the plan has always been that after 2018, the Lab would have to absorb the costs. This potential change would accelerate that to start next year. One of our commitments is to take down the stack in 2020. The good news is that is still the plan. There is a request in the 2018 budget for \$2M to do that.

Member Kneitel asked if the money for the stack's removal is included in the President's proposed budget.

Crescenzo said yes.

Member Esposito asked if the Lab will put together an analysis of which programs will be lost if the President's budget stands.

Crescenzo said we are not on that level of detail yet. Dr. Gibbs has been in discussions with the decision makers concerning that issue.

Member Esposito asked if the Lab could come back to the CAC with that information. That would help us in our communications.

Member Sprintzen asked about the rest of the proposed budget and its effect on the Laboratory.

Crescenzo said everything at the Lab will cost a little more to make up the difference.

Member Esposito said the CAC cares if there will be less science or staff because the funding has to come from those areas.

Crescenzo said if the Lab has to absorb the cost, there will be a lot less.

Member Esposito said she would like a definition of a lot less.

Hodgin said the Lab will have to come back with more information.

Member Schuhmann asked if Crescenzo could comment on the sunset clause and the fact that the LTS was ending anyway.

Crescenzo said it was always just understood that there would be an end date. It could not be funded forever.

Member Esposito said many CAC members felt they would work towards increasing the funding after the sunset clause. That was our goal.

Member Sicignano asked how much more work needs to be done.

Crescenzo said many more years. At some point, this is part of operations at the Lab.

Member Esposito said if the House and Senate cannot agree on a budget, will there be a continuing resolution. There is money in the current budget so if there's a CR, there would still be money for cleanup.

Crescenzo said when there is a CR, as the months go by; they allocate 1/12 of the President, House, or Senate's budget whichever is less.

Crescenzo said this was a surprise to us too.

Gibbs said if there is a one year CR on the FY17, the department's policy is to go with the lowest of the three budgets: Presidents, House or Senate. The full budget was released in May and all the details are on the web if you are interested. If the FY18 budget were to be enacted, there would be a \$110m reduction for BNL or 23%, about 600 jobs lost, and the nanocenter would be closed. There would be impacts to running RHIC, NSLSII, LTS, and infrastructure. The House is marking up the bill by July and then the Senate will give their input by August. They will then conference and send their budget to the President to sign or negotiate by October 1st at the earliest. Remember, the FY17 budget was not signed until April. There is a lot of uncertainty. We are planning to not take irreversible steps. I cannot and will not invite you to lobby, but everyone is free to speak to your representatives on your own. It is too soon to panic.

Member Filler said this goes on every year.

Gibbs said yes, this process goes on every year. This year is different because the cuts are larger and there are more impacts to the Lab. The budget this year was 1% higher than last. We have strong support from the NY delegation.

Member Esposito said the CAC should have its own discussion.

Member Shea asked how the funding cuts at BNL compare to the other Laboratories.

Gibbs said the twelve science and energy labs are experiencing similar cuts with some variations. The three NNSA weapons labs and the one environmental energy lab had increases in funding.

Member Keenan said the CAC members should get together separately and approach our Legislators.

Member Esposito said last time we did that as the CAC. We went to Washington DC as CAC members. We formed a subcommittee and wrote a letter to elected officials, perhaps we can do that again.

Hodgin asked how you would like to go about doing that. Lobbying directly nowadays as a Lab sponsored body is not good for the Lab.

Member Esposito said we can meet during the summer break. I can draft a letter.

Member Doroski said this country has been experiencing financial issues and I am surprised things have not gotten worse sooner. This is the start of bad times to come worldwide.

Member Esposito said if the Lab received a reduction in budget appropriate with other agencies, this would be different. Since science was targeted, we need to speak up.

Hodgin said perhaps we can put on a future agenda an historical briefing to the CAC for new members and a refresher for the older members to learn about the LTS program.

Approval of Minutes

The May notes were approved as written with none opposed and five abstentions.

Agenda Setting

Nora Sundin said the next meeting will be on September 14. We are planning a presentation on the Site Environmental Report and an update on the Western South Boundary.

4. Western South Boundary VOC Characterization Update, Jason Remien – Environmental Protection Division

Jason Remien said a total of 16 temporary vertical profile wells have been installed along with four permanent monitoring wells since November 2016. We believe we have characterized the northern and southern extent of the higher VOCs onsite. He said the primary VOCs are TCA, DCE, and Freon-12. Peak concentrations were 79 µg/L TCA, 96 µg/L DCE, and 69 µg/L Fr-12. The elevated levels were found in the deep upper glacial aquifer at slightly different depths. The contamination is slightly deeper than the current extractions wells at the Western South Boundary, so the next step is to determine whether higher levels of VOCs have migrated off-site. Only low levels of VOCs up to 16ppb have been seen so far. We plan to install temporary vertical profile wells along Precision Dr. south of the LIE and based on the results we will determine whether additional characterization is needed. Groundwater modeling will be performed to evaluate the plume fate and transport, data will be collected during July and August, and we will brief the CAC in early fall.

Member Krupski asked how large the screen is on the temporary vertical profile wells.

Remien said it is a five foot screen.

Member Martin asked what the origin of the plume was.

Remien said DCE is a breakdown of TCA. This is very old and deep and is from activities from years ago, possibly back to WWII.

Member Esposito asked why the Freon is below the clay layer and the VOCs are above it.

Remien said the density is probably different.

Member Esposito asked what would trigger the Lab to say there's a problem warranting further action.

Remien said testing results over 5 mg/L, which is our cleanup goal.

Member Heil asked when the plume will arrive at the proposed area.

Remien said we don't know if it will arrive off-site yet. We need more data.

Member Filler asked how that site was selected for testing.

Remien said it was based on the groundwater flow and modeling.

Member Bowerman asked if the current extraction well is capable of keeping the contamination from going off-site.

Remien said we don't think so; this is deep and a little further to the east.

Member Giacomaro asked how many wells the Lab is planning to put in this area.

Remien said five temporary wells off-site to characterize this and then a plan will be developed to determine what to do about it.

Member Shea asked how long it will take to determine if the plume is off-site. What if there is nothing?

Remien said we will look at the data, do some modeling, and talk to the regulators to decide if more vertical profile wells are needed. We will have more information in the fall.

Member Krupski asked how low of a level you can detect with testing.

John Burke, Environmental Protection division, said we can test to 0.5 ppb.

Member Madigan asked how far the plume will travel by the fall.

Remien said groundwater flows at one foot per day and this is slower than that.

Member Giacomaro asked what if the contamination is further north.

Remien said the data we find off-site will help us make the next decision.

Hodgin said we will have Remien come back again in September with an update.

5. Cryo-EM, Sean McSweeney – Photon Sciences Division

Sean McSweeney said electron microscopes are making big changes for us and the NSLSII is leading the pack. Until recently the only way to see structures at the atomic resolution was with x-ray crystallography. However recent advances in cryo-EM have changed this perspective dramatically. This is a huge revolution in structural biology. New York State has recently given \$15M to Brookhaven for a cryo-electron microscope.

Member Sprintzen asked what the relationship is between the light source and the electron microscope.

McSweeney said this is science overlapping with data analysis.

Member Jordan-Sweet said with cryo-EM, the samples must be cold. Do you foresee a time in the future being able to do this without freezing the samples? Also, biology does not fit into the DOE mission; do you experience push-back?

McSweeney said there is hope that would be possible in five to ten years. I think this does fit into our mission.

Gibbs said biology has been part of the DOE mission on the basis of bio-energy.

Member Sicignano asked if you can see cancer cells with this microscope.

McSweeney said we've been looking to partner with medical schools.

6. Community Comment

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

The meeting adjourned at 9:00PM.

Next meeting: September 14, 2017

CAC Agenda Setting – December 8, 2016

TOPICS

NASA Research	13
Update on Advances in Battery Storage	11
Advances in Renewable Energy Technologies	10
Global Warming & Sea Level Rise	9
History of Environmental Movement on LI	8
Steve Schwartz-Energy/Climate Presentation	7
Holographic Principles of Quantum Physics	7
BNL/Camp Upton History (Anniversary)	6
NYS Electric Power Grid	6
Alistair Rogers - Terrestrial Ecosystems	6
The LSST & Mapping the Galaxy	6
Gamma Forest Tour	5
Medical Research at BNL	4
Environmental Research at BNL	3
Sea Level Rise & Earthquakes	3
Short term plan for BNL	2
Status & Progress of Solar Farm	2
Lab Research on Solar Energy	2
Discovery Park Update	2
Chem-Trails	2
Laboratory Ten-Year Plan	1

P = Present	2015	Affiliation		First Name	Last Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
		ABCO – Civic (Garber - 04/02) (Bevington – 6/14) (Keenan-10/14)	Member	Ray	Keenan	P	P	P	P	P	P						
		(Madigan -10/10)	Alternate	Michael	Madigan	P		P									
		American Physical Society – Business & Labor	Member	Reinhart	Schuhmann	P	P	P	P	P	P						
		(Schuhmann 1/14, member 9/15)	Alternate	Donavan	Hall												
		Brookhaven Coalition of Chambers of Commerce – Bus & Labor (added 6/15)	Member	Ron	Trotta			P	P	P	P						
		Brookhaven Retired Employees Association- BNL (Peskin - 09/09)(Franz 1/17)	Member	Eena-Mai	Franz	P		P	P	P	P						
		(Franz - 12/09)(Israel 1/17)	Alternate	Mark	Israel	P	P			P	P						
		(Shapiro-1/13)	Alternate	Steve	Shapiro												
		Citizens Campaign for the Environment – Advocacy & Environment	Member	Adrienne	Esposito	P				P	P						
		(Somma 11/16)	Alternate	Harry	Somma	P	P	P	P	P	P						
		Colonial Woods Whispering Pines – Civic (Birben - 06/09) (O'Neal 01/15, removed 10/15)	Member														
		(Rehbein -11/10)	Alternate	Eric	Rehbein												
		Coram Civic Association (Ziems - 06/12)	Member	Paul	Ziems	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						
		East Yaphank Civic Association	Member	Michael	Giacomaro			P	P	P	P						
		(Feinman - 02/09 – 11/15)(Mack 11/15)	Alternate	Catherine	Mack			P	P	P	P						
		Emeritus (changed 3/8/12)	Member	Jean	Mannhaupt												
		Foundation for Economic Education – Ed, Sci, & Tech (5/14)(Martin – 10/14)	Member	Bruce	Martin			P	P	P	P						
		(Pratka – 10/14)	Alternate	Craig	Pratka	P	P	P	P	P							
		Friends of Brookhaven- BNL (Kaplan 07/01–11/15)(Bowerman 11/15)	Member	Biays	Bowerman		P	P	P	P	P						
		(Schwartz - 11/02) (Ocko added 11/15)	Alternate	Steve	Schwartz			P		P							
			Alternate2	Ben	Ocko												
		Huntington Breast Cancer Coalition – Health-Based Rep	Member	Mary Joan	Shea			P		P	P						
			Alternate	Scott	Carlin												
		Individual	Member	Jane	Corrarino				P								
		Individual	Member	Karen	Blumer			P									
		Individual	Alternate	Michael	Madigan			P									
		L.I. Pine Barrens Society – Advoc & Env	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						
		L.I. Progressive Coalition – Advoc & Env	Member	David	Sprintzen	P	P	P	P		P						
			Alternate														

P = Present	2015	Affiliation		First Name	Last Name	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
		Lake Panamoka Civic Association (Biss - 04/02)	Member	Rita	Biss	P		P									
		(Grandal - 10/10)	Alternate	Bonita	Grandal	P		P		P							
		Longwood Central School Dist. – Ed, Sci, & Tech (Castro -06/09)(Adams 9/15)	Member	Tracy	Adams												
		(Gerstenlauer removed & Sterne added 5/14 removed 9/15)(Infranco1/17)	Alternate	Paul	Infranco												
		Mastic Park Civic Association (Sicignano – 6/12)	Member	John	Sicignano	P			P	P	P						
			Alternate	Clara	McManus												
			Alternate	Joe	May												
		Middle Island Civic Association (Filler 2/17)	Member	Martin	Filler		P	P	P	P	P						
		(Nowak 01/15 – 5/15)(Malloy 9/15)	Alternate	Margaret	Malloy						P						
		NSLS-II User Committee – BNL	Member	Jean	Jordan-Sweet		P		P	P	P						
		(Ravel -02/11-9/15)(Bohon added 11/15)	Alternate	Jen	Bohon	P											
		Ridge Civic Association (Henagan removed 9/15)(Chattaway added 10/15)	Member	Wesley	Chattaway	P	P	P		P	P						
		Suffolk County Legislature 1st Dist. - Government (added 6/15)	Member	Al	Krupski				P	P	P						
			Alternate	John	Stype	P											
		Teachers Federal Credit Union – Bus & Labor (Murdocco 3/15)	Member	Richard	Murdocco												
			Alternate	Christine	Stafford	P		P			P						
		Town of Brookhaven (Graves – 06/06)-(removed 1/2015)	Member														
			Alternate														
		Town of Brookhaven, Senior Citizens Office - Government	Member	James	Heil		P	P		P	P						
			Alternate														
		Town of Riverhead - Government (Doroski - 04/11)	Member	Isidore	Doroski	P	P		P		P						
		(Hulme - 04/11 - 4/14)(Janis Rottkamp 04/16)	Alternate	Janis	Rottkamp			P									
		Wading River Civic Association (Rundlett 09/16)(Kneitel 02/17)	Member	Terri	Kneitel	P	P	P	P	P	P						
		(Bail and Guthy removed 11/2016)	Alternate	Linda	Rundlett												