

**Community Advisory Council
September 8, 2022
Action Items/Notes**

Final

Note: This meeting was held virtually. A video recording of the Zoom meeting is available.

These notes are in the following order:

1. Attendance
2. Correspondence and Handouts
3. Administrative Items
4. Environmental Updates and Removal of the Brookhaven Medical Research Reactor Stack
5. US DOE's Roadmap for PFAS
6. PFAS Update
7. Bill Studier, the T7 System and COVID Vaccines
8. Agenda Setting
9. Community Comment

1. Attendance

Members/Alternates Present: See Attached Sheets.

Others Present: J. Anderson, A. Engel, S. Gonzalez, R. Gordon, T. Green, R. Hodgins, B. McCaffrey, R. McKay, A. Morocho, J. Milligan, G. Olson, D. Paquette, A. Perez, D. Pocze, C. Polanish, A. Rapiejko, J. Remien, J. Shanklin, R. Sweet, K. Treinen, R. Tribble, J. Wanless

2. Correspondence and Handouts

Items numbered one and two were e-mailed to Members on September 1, 2022. Items numbered three through six were e-mailed to Members on September 8, 2022.

1. Draft agenda for September 2022 meeting
2. Draft notes from the May 2022 meeting
3. Copy of presentation: Demolition of the BMRR stack
4. Copy of presentation: US DOE's Roadmap for PFAS
5. Copy of presentation: PFAS update
6. Copy of presentation: Bill Studier, the T7 System and COVID Vaccines

3. Administrative Items

The meeting was called to order at 6:31 p.m. Reed Hodgins, facilitator, welcomed everyone to the Zoom virtual meeting. He reviewed the ground rules and draft agenda.

Bob Tribble, Deputy Director for Science and Technology, welcomed everyone to the meeting and said the Lab is hopeful that soon we will be able to host an in-person CAC meeting. He said about half of the total staff is reporting to site daily. He said there is a group at the Lab working closely with NY State on a possible hydrogen effort where hydrogen would be used as a fuel in place of natural gas. There will be calls out of DOE for major hubs across the country to get involved in this. He then said both the House and Senate have passed budget marks, but we

don't expect anything to happen until after the election. We are anticipating a Continuing Resolution through November, but doubt there will be a government shutdown. The outlook is very positive, and the Lab is continuing to grow.

Hodgin said the Lab is still working on the CAC five-year membership renewals and will have information out to CAC members soon. We are also looking for new members so if there are any suggestions, please send them in.

Approval of notes:

The May 2022 Action Items and Notes were approved as written with none opposed and three abstentions.

4. Environmental Updates and Removal of Brookhaven Medical Research Reactor Stack- Jason Remien, Manager, Environmental Protection Division

Jason Remien spoke about the background and scope of the demolition of the BMRR Stack. He showed a time-lapse video of the stack coming down and said the waste will be removed from the site by rail and then a close-out report will be prepared.

Member Jordan-Sweet asked if any contamination was measured on the bricks and how was the area cleaned up where the bricks were.

Remien said there was some radiation at the bottom, but it was very low level. This is going out as low-level rad waste, but it will be non-placarded because the concentrations are so low. As part of the work planning, they placed a thick mil plastic around the whole area to protect the soil beneath. Radiological surveys performed of the area after construction did not identify any contamination; however, as a best management practice the top six inches of soil was removed and will be disposed of along with the rest of the stack waste. There is no contamination in this area at this point.

Member McCormick asked why this waste is sent to Texas and what is the total cost of this remediation project to date.

Remien said there are other locations, but this one is approved by DOE and we are able to transfer it via rail to this location which is less expensive than using trucks. The total estimated cost was \$3.5M, which includes demo and waste transportation. It is likely we will come in under that dollar amount. If there are leftover funds, we will use them for the next project.

Member Blumer said it is amazing the speed at which it was taken down. What is the tonnage that is waiting at the rail to go out.

Brian McCaffrey said roughly 490,000 pounds.

5. US DOE's Roadmap for PFAS - Bob Gordon, Site Manager, Brookhaven Site Office, US Department of Energy

Bob Gordon, spoke about the PFAS Strategic Roadmap and DOE's commitment to action for 2022 – 2025.

Member Esposito asked if the Department of Defense was involved in this strategy.

Gordon said not in DOE's strategy, but they are part of the interagency task force. They will be releasing their own roadmap soon.

Member Israel asked if other contaminants were included in this.

Gordon said, this is strictly focused on PFAS, but it may get expanded.

Member Jordan-Sweet asked if this is just for cleaning up contamination at government facilities or if it will be shared with private industry. She said the DOE has the upper hand in developing these roadmaps and could be a big help to the DOD. She asked if every entity is developing their own roadmap in a siloed fashion or will other industries be brought in afterwards and included in the cleanups and assessments.

Gordon said there are no silos. That's why the interagency task force was formed. There is cross talk between the agencies so we can capitalize on what each department does. DOE is not the only agency tasked with coming up with a roadmap.

Member Blumer said thank you for focusing on the concept of collaboration. It's good to hear that BNL is a model for others, especially because of CAC.

Member Freeman asked about waste disposal. He asked if anyone is looking at the levels in groundwater and fish.

Gordon said this is why the interagency is put together. Everyone is interested and at the table.

Remien said there are a lot of folks looking into the issue of waste, including EPA. The Lab has been doing some initial sampling and is putting together plans for more sampling to determine what impacts there are. There is a lot more work to do.

Member Esposito asked if the new EPA public health guidance standards were taken into consideration during this process.

Gordon said this is ongoing. We are informed by each agency and are including all that information. The roadmap doesn't go down to that level, but the actions will.

6. PFAS Update – Doug Paquette and Vinnie Racaniello, Groundwater Protection Group

Doug Paquette gave the CAC an update on the installation of groundwater treatment systems for the current Firehouse/Building 170 and former Firehouse PFAS plumes.

Member Esposito asked what level the PFAS will be treated to before entering the recharge basin.

Paquette said the Lab is using granular activated carbon filters and the goal is to get to non-detectable levels. There will be a permit for the discharge, so those permit requirements will need to be met.

Member Jordan-Sweet said that looks like a lot of piping. She asked if there is a way to check for leaks.

Racaniello said the piping is all pressure tested. The Lab has been using this type of material for 20 years and has had much success. There are high- and low-pressure switches on the system. If there was a significant failure, it would stop the pumps.

Member Schuhmann asked how much is known about the sources. What is the vertical profile in the soil and how much is continuing to leech in.

Paquette said that is one of the aspects the Lab will be looking at during the planned Remedial Investigation/Feasibility Study (RI/FS). Part of the investigation will be to look at the horizontal and vertical distribution of PFAS in soil at the foam release areas. The initial foam releases occurred in the 1970s, and the impacts from even one-time releases of foam are still being seen. With the additional monitoring wells that were just installed, we will be able to watch for changes in PFAS concentrations over time.

7. Bill Studier, the T7 System and COVID Vaccines – John Shanklin, Distinguished Biochemist and Chair of Biology

John Shanklin spoke about BNL retiree, Bill Studier's role in the development of the T7 protein expression system, how it revolutionized biomedical research worldwide, and how it is now used to manufacture COVID vaccines.

Member Jordan-Sweet asked how the mRNA vaccine gets into the cells after it is injected into a person.

Shanklin said all cells have processes that take up things from their environment. It is part of the normal process. The mRNA is encased in lipids that fuse with the cell's membranes and the mRNA is released into the cell.

Member McCormick asked if we are any closer to discovering the origins of this COVID virus.

Shanklin said whenever you engineer organisms, there are tell-tale signatures that are left after the DNA is modified. It is unlikely this was created in a Lab; It likely came from nature. But whether it came from nature through a Lab or by direct interaction with a bat in nature is the question and we don't know the answer to. There are many variations of COVID viruses in nature.

McCormick said to date there is not one case of animal to human transmission.

Shanklin said that's not true, that almost all human diseases originate in animals and in covid there are so many mutations that eventually it can hop to humans.

Member Freeman asked if you can see where the COVID virus was originally, can you see where they degraded or mutated from the original cell?

Shanklin said from the early stages, the virus can be sequenced. Samples are being collected from all over the world and they all go back to the same origin.

Member Trotta asked about cytokines.

Shanklin said that is out of his area of expertise, that cytokines are part of a complex human immune response, and when they overreact to a pathogen they can cause physiological damage.

Member Ziems asked if companies are using this same technology when new strains come out.

Shanklin said new vaccinations are almost ready for deployment that are specific to the new COVID variants.

Hodgin asked where this will go next. What problems can be solved by this T7?

Shanklin said this technology enables the development of these vaccines. Biomedical advances have been enabled by this system. This was a blockbuster patent for BNL.

8. Agenda Setting

Amy Engel, Stakeholder Relations office, said in October there will be an update on the Site Environmental Report, and we hope to have a hybrid meeting so we can meet in person with a light reception. We will also have that meeting available virtually for those that prefer Zoom. In November, there will be a groundwater status report and an update on sustainability, which will be in three parts: procurement, fleet, and buildings. She said the Lab has received some requests for science presentations, and we are working on them.

9. Community Comment

There was no community comment.

Member Casanova attempted to ask a question but due to technical difficulties, he was unable to.

It was recommended that he email his questions/comments for follow up.

The meeting adjourned at 8:55PM

Next meeting: October 13, 2022

X = Present	2022	Affiliation		First Name	Last Name	Jan No mtg	Feb No mtg	Mar	Apr	May	June No mtg	July No mtg	Aug No mtg	Sep	Oct	Nov	Dec
		ABCO – Civic	Member	Ray	Keenan			X	X	X				X			
			Alternate	Michael	Madigan			X	X								
		American Physical Society – Business & Labor	Member	Reinhardt	Schuhmann			X	X					X			
			Alternate														
		Brookhaven Coalition of Chambers of Commerce – Business & Labor	Member	Ron	Trotta									X			
			Alternate	Carmine	Inserra												
		Brookhaven Retired Employees Association- BNL Affiliation	Member	Mark	Israel			X	X	X				X			
			Alternate	Eena-Mai	Franz												
			Alternate2	Steve	Shapiro												
		Citizens Campaign for the Environment – Advocacy & Environment	Member	Adrienne	Esposito			X	X	X				X			
			Alternate														
		Colonial Woods Whispering Pines – Civic	Member	Jane	Koropsak			X	X								
			Alternate														
		Coram Civic Association - Civic	Member	Paul	Ziems			X	X	X				X			
			Alternate	Rosa	Turk			X	X	X							
		East Yaphank Civic Association - Civic	Member	Robert	Feinman			X	X	X				X			
			Alternate	Catherine	Mack												
		Emeritus	Member	David	Sprintzen			X	X	X				X			
		FOREST - Advocacy & Environment	Member	John	Pavacic				X	X							
			Alternate														
		Foundation for Economic Education – Education, Science & Technology	Member	Bruce	Martin				X	X				X			
			Alternate	Craig	Pratka			X									
		Friends of Brookhaven- BNL Affiliation	Member	Biays	Bowerman				X	X				X			
			Alternate	Steve	Schwartz			X		X							
			Alternate2	Ben	Ocko												
		Gordon Heights Civic Assoc. - Civic	Member	James	Freeman									X			
			Alternate														
		Individual	Member	Jane	Corrarino			X		X							
		Individual	Member	Karen	Blumer			X	X	X				X			
		Individual	Alternate	Michael	Madigan									X			
		L.I. Pine Barrens Society – Advocacy & Environment	Member	Richard	Amper												

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			First Name	Last Name											
			Alternate	Andrew	Wong		X	X				X			
		Longwood Central School Dist. – Education, Science & Technology	Member	Tracy	Adams		X								
			Alternate	Paul	Infranco										
		Middle Island Civic Association - Civic	Member	Martin	Filler		X	X	X			X			
			Alternate	Margaret	Malloy										
		NSLS-II User Committee – BNL Affiliation	Member	Jean	Jordan-Sweet		X	X				X			
			Alternate												
		Ridge Civic Association - Civic	Member	Ken	Casanova				X			X			
		Suffolk County Legislature 1st Dist. - Government	Member	Al	Krupski		X		X						
			Alternate	John	Stype										
		Teachers Federal Credit Union – Business & Labor	Member	Sandra	Santos-Keel		X								
			Alternate	Sandra	Young										
		Town of Brookhaven, Senior Citizens Office - Government	Member	James	Heil										
			Alternate												
		Town of Riverhead - Government	Member	Dan	McCormick		X	X	X			X			
			Alternate												
		Wading River Civic Association - Civic	Member	Henry	Perez										
			Alternate	Linda	Rundlett				X						