

MINUTES OF MEETING

COMMUNITY ADVISORY BOARD HAVEN WELL CONTAMINATION

Municipal Complex, City of Portsmouth
Conference Room A

8:00 a.m.

May 6, 2015

ATTENDEES:

Mayor Robert J. Lister

Community Advisory Board

Rich DiPentima, Chairman

Councilor Stefany Shaheen

Deputy Portsmouth Fire Chief James Heinz

Kim McNamara, Portsmouth Health Officer

John Stowell, Newington Health Officer

Andrea Amico, Resident

Shelly Vetter, Owner of Discovery Child Enrichment Center

City Staff

David Allen, Deputy City Manager

Peter Rice, Director, Department of Public Works

Brian Goetz, Deputy Director, Department of Public Works

1. CALL TO ORDER

Deputy City Manager Allen called the meeting to order at 8:05 a.m., advising that Mayor Lister would be joining them shortly. Mr. Allen noted that the State had recommended that a Community Advisory Board be formed regarding the Perfluorochemicals (PFC's) contamination at the Haven Well on the Pease Tradeport. All the members had a vested interest, and expertise, in this area and their time and commitment was greatly appreciated. Mr. Allen stated that this was an organizational meeting and Mayor Lister had designated Rich DiPentima, with a strong background in the health and human services field, as Chairman. He suggested that the members introduce themselves and then Mr. DiPentima would take over as Chair.

2. INTRODUCTION OF COMMITTEE MEMBERS

The Board Members stated their names and briefly described their backgrounds and interest in dealing with the issues with which the Board was charged.

3. PRESENTATION

Chairman DiPentima noted that Mayor Lister, in a letter to the Board Members, had set out five specific charges on which he would like the Board to focus. As Chairman, he pledged to work toward realizing the goals set out by the Mayor.

Chairman DePentima stated that representatives from the Department of Public Works were in attendance to provide some history and bring them up to speed on how they had arrived at the current situation. Mr. Peter Rice, the Director of the Department of Public Works, and Mr. Brian Goetz, the Deputy Director, introduced themselves and outlined their experience. Mr. Goetz, accompanied by his daughter, had prepared a Power Point presentation, the major points of which were included in a handout that was distributed to the attendees.

Mr. Goetz provided a history and evolution of the Portsmouth water system, which was one of the earliest dating back to the 1700's, noting that some of the systems they would be discussing went back that far. After the Portsmouth Aqueduct Company was formed in 1797, the Fountain Head Spring near the current Haven Well was developed and piped to the City, followed in the mid 1800's by development of the Sherburne and Concord Springs and the City taking over the system in 1891. At that time, the water system mainly served what is now the downtown area and the breweries. Mr. Goetz stated that, in the 1950's, Pease Air Base was developed and took over Haven Well, constructing tanks and pipes for a separate water system. The Hobbs Hill Tank, which was being replaced this year by a spinney tank similar to that in Madbury was part of that Pease construction. In the 1950's, to replace the water from the Haven system, the Air Force built the Bellamy Reservoir, and developed the Madbury Wells and the Madbury Water Treatment Facility.

On the displayed map, Mr. Goetz indicated the various components of the Portsmouth Regional Water System: the Bellamy Reservoir, the Madbury facility, and the Newington booster, which is slated to be upgraded with the tank painted. He indicated that the water system served Newington, all of Portsmouth and Newcastle, and some of Rye wholesaling water to the Rye Water District. He indicated the area where they served a good portion of Greenland up to the river and Pease in the middle. Mr. Goetz displayed a map of the system which serves around 8,000 accounts, many of them commercial. The Bellamy Reservoir in Madbury, built by the Air Force Corps of Engineers, was shown along with photographs of the new Madbury Water Treatment Facility, on which he pointed out the spinney tank which was similar to the one planned for Hobbs Hill, the booster station and the inside of the Haven Well facility.

Councilor Shaheen asked about the balance between the wells and storage tanks and how they knew when they had to draw on a tank. Mr. Goetz stated that they can control the sources manually but also have computer controls and monitoring so that when one source reaches a certain level, other sources come on. He indicated that the system includes 190 miles of pipe, some of which dates back to the 1700's. There is a museum at Public Works with wooden pipe in one of the displays and, at Strawberry Banke, there are actual big pieces of wooden pipe from the original system. The Portsmouth Regional Water System, Mr.

Goetz stated, includes close to 1,000 fire hydrants, with additional private hydrants, approximately 3,000 valves and over 8,200 metered customers.

Mr. Goetz led the attendees on a virtual tour of the Portsmouth Regional Water System, displaying individual components and providing details and background specific to each location:

Bellamy Reservoir. The photograph was part of a source protection brochure developed for the Madbury Select Board and distributed as part of their October tax bills. The City of Portsmouth owns or controls the entire shoreline of the reservoir with an off-limits area near the intake, which Mr. Goetz indicated on the display.

Madbury Water Treatment Facility. Mr. Goetz reminded the group that this was the newer facility, originally built in 1957 and replaced in 2011. This was a state of the art system which was the first water system in the State to receive a LEED Silver Certification. The technology employed at the facility is dissolved air flotation which basically generates small bubbles that help treat the water. He pointed out on the screen the control room where the operators can see everything that's happening, assess how the system is doing and make any necessary adjustments.

Madbury Wells #2, #3 and #4. Mr. Goetz stated that there are three wells that look the same, all built in 1957. While the pump stations are the same, the wells have different depths, ranging from 60' down to 95' down. There is basically a pipe down in the ground, a screened in area for the operator and a pump above that pumps into the system, at a rate of 250 gpm (gallons per minute) for Well #2, 300 gpm for Well #3 and Well #4, the largest and deepest pumping 485 gpm.

Newington Booster. Mr. Goetz described a hydrant on Route 4 near Emory Farm in Durham which was connected to a line going through Wagon Hill Farm to the beach. There were two pipes that went under the bay there toward Newington identified by a "don't anchor" sign. When there is water in a tank, it rises and falls based on demand and supply. The booster pumps come on at different times in order to get necessary pressure into the City. In the case of a fire, they can also be used to crank up the volume pumped to meet that demand.

Portsmouth Well #1. This well, originally the Concord Spring built in 1859, has been on line over 150 years. It is located on Griffin Road near I95 and is still in use with a 350 gpm pump.

Collins Well. Originally Sherburne Springs, the well has been in operation over 125 years equipped with a 250 gpm pump. Some of the City's operations for the water system used to be adjacent to this well and some of the old guard still talk about the Sherburne pumphouse. In response to a question from Chairman DiPentima, he stated that the well was accessed through a gate off Harvard Avenue.

Greenland Well. – Mr. Goetz stated that this well was installed in 1949 and had a capacity of 450 gpm. While the Haven Well needed to be replaced to obtain a different source, this well was scheduled to be replaced due to physical wear and tear. In the fall, this structure will be demolished and a new building with new equipment will be built.

Mr. Goetz continued his virtual tour but showing the components and information relative to the Pease International Trade Port Water System.

The Pease system. This system was built in the 1950's as part of Pease Air Base. It was turned over to the Pease Development Authority in the 90's and the Portsmouth Water Division has operated it for them since 1992. There are three groundwater sources: the Haven Well (originally built in 1870 as part of the Portsmouth water system), Smith Well and Harrison Well. The system includes two storage tanks, the Air National Guard tank and the Hobbs Hill tank that's going to be replaced. Mr. Goetz displayed a map of the area and indicated the area in pink that was the Pease Zone.

Town of Newington. In 2013, the City had a request from the town of Newington that was building a new addition to their library and needed more pressure. The city staff worked with them on various options as there were different pressures in the area. The booster pump in the Portsmouth water system didn't boost in this area so it was determined that the best option was to include Newington in the Pease Zone, which has a higher pressure than Portsmouth. Portsmouth has around 60 pounds of pressure and Pease around 75-80 pounds, a factor of the differences in hydraulic gradient. Mr. Goetz stated that the Town of Newington requested and paid for new pipe which was put in the fall of 2013 but not activated due to the coming winter. A change in pressure can result in leaks which they wanted to mitigate. They conducted outreach with the citizens of Newington and activated the system in April of 2014, two weeks short of the Haven Well findings. Newington is receiving higher pressures but remains part of that system.

Pease Map. Chairman DiPentima asked Mr. Goetz what the small "w's" were on the previous screen. Mr. Goetz stated they identify the locations of the wells, some of which he pointed out. He also identified the locations of the booster pump and the National Guard tank.

Redhook. As a note of interest, he stated that Redhook was not on the Pease Water System. When they located here, there was a little difference in the natural characteristics of the two waters. The water from the Bellamy Reservoir comes from surface water and is a little softer while the Pease water is ground water. He believed Mr. Allen was involved in those discussions.

Mr. Dave Allen stated that Redhook was actually the one customer located at Pease that comes off the Portsmouth system. Their recipe and brewing process in Washington was all based on surface water. Well water can have minerals and a different chemistry so they wanted Portsmouth water as it more closely resembled the water they were using in Washington, allowing them to use their same brewing recipes without adaption.

Smith Well. This well was installed in 1957 as part of the base generating 250 gpm.

Harrison Well. Also constructed in 1957 generating 225 gpm, the well had an aging situation similar to that of the Greenland well and was turned off for a time. As a result of Lonza needing more supply at the Trade Port, the well was replaced and reactivated in 2011. The reactivation of the well was decided in 2007 but they had to go through almost the whole permit process to get on line which took three to five years, involving the efforts of both Dave Allen and Peter Rice. The NHDES Drinking Water Bureau was very involved and there were pump tests, reports and tests of water quality and the well actually had to be reapproved by the State to be part of the water system. Now active and on-line, the replacement well has proven to be a success and a great source.

Chairman DiPentima asked how far apart the Smith and Harrison Wells were and Mr. Goetz stated he didn't know the exact distance, but indicated their relative locations on the map. Chairman DiPentima asked about the flow of the aquifer. Mr. Goetz stated that the aquifer at Pease is referred to as the southern aquifer and a great deal of work was being done on the science side with the response team, the Air Force and their and our consultants. The flow is to the south to some degree but there are different pockets. The Haven Well is one pocket. They were working on what is called a hydrogeologic model that can chart the flows and, through the monitoring being done, they'll get a better idea of the travel times. He indicated to Chairman DePentima that he would add the distances to this graphic when he next makes a presentation.

Sentry Wells. Chairman DiPentima stated that they also would want to think about the location of the sentry wells. Mr. Goetz stated he did not have the map with him but a number of the sentry wells or monitoring wells had been installed. They were talking to the Air Force and the consultant about putting in a few more in the location he indicated on the map. If contamination was flowing there, they would see it.

Site 8. At the request of Mr. Rice, Mr. Goetz pointed out the fire training area on the screen. Referring to the photographs in the newspaper for Site 8, he indicated that location which was about a mile away from the Haven Well so there were a number of super fund sites, both remediated and currently being remediated. They had been monitored extensively for years and the Haven Well had its own monitoring program. Every month the Air Force and their consultant did a full suite of monitoring because it did have TCE (trichloroethylene) and those detections had to be tracked. There was a treatment system by the Haven Well and if the PCE? level in drinking water ever exceeded a standard, it would be activated.

Pease Booster. Mr. Goetz indicated the two booster pumps on the screen, identically sized to those at Haven Well. They were sized as back-ups and while each had a pump volume of 450 gpm, they couldn't both be turned on to generate 900 gpm.

Haven Well. Mr. Goetz indicated the photograph of the well from a few years back which he had also provided to the newspaper for any future stories. It was basically located out by the runway and had been renovated a number of times including equipment replacement.

Councilor Shaheen asked what would trigger a replacement of a well other than age and a situation such as that at Haven Well. Also, in the case of the Harrison Well where a greater demand might have helped trigger the replacement, who absorbed that cost?

Mr. Goetz stated that the water system system paid for most upgrades – Peter Rice and Dave Allen probably knew more particulars – but Lonza actually paid for that. He explained a little about capacity fees for a potential big customer. In the case of Lonza, they needed increased supply to serve their business and worked with the City to see what sources could be brought on line, which was how the Harrison Well was reactivated. In response to follow-up questions from Councilor Shaheen, he indicated that the location was reactivated with all the equipment replaced. Mr. Allen added that when they had taken over the system in 1992, it had been mothballed. They were able to call it the reestablishment of the Harrison Well, but it was essentially a completely new well.

Councilor Shaheen stated that she was looking at the replacement of Haven, the blend of tank vs. well and the expense associated with trying to get a new well on line. She asked how they would go about identifying a new well if they needed to do so.

Mr. Goetz stated that they were in the process of working with Emory Garrett a groundwater consultant who had previously worked with the City. Part of what the City did proactively was conduct studies and produce master plans, one of which in the late 90's said it was good for a system to have back-up sources and a long-term vision of where additional water would come from if needed. The City commissioned a study and Emory Garrett looked at the entire service territory, and identified areas that would be the next place to go to look for water. When the Haven Well contamination occurred, they talked to the Air Force and said that while they were assessing Haven Well, they had to seek the next source to replace that volume. Stating that they were working on three potential sites, he described the process of surveys, tests and reports involved in an assessment and noted that they would be coming to the Council in the fall with an update. If a site held promise for water, they would do a test well to verify its presence. If positive, there was then a full permitting process with the State which took about a year, with finally the building of the infrastructure. He stated that he knew the newspaper had asked how long it would take and he said it would be two to five years.

In response to a further question from Councilor Shaheen, Mr. Goetz confirmed that in the interim, the wells that are in place and safe can supply the needed water demand, but it could be a stretch.

He described the 8 million gallons per day volume needed at peak times, such as the Fourth of July, and some of the issues that can present a particular challenge at those times, such as equipment failure, or a change in quality at the reservoir which calls for a cutback in flow. In the winter, they were below 4 million gallons a day and the system is working as it should. It was just at the peak times when there might be a limited capacity and people were irrigating that they might have to do outreach to ask people to cut back a little.

Chairman DiPentima noted that the new development in town, while not part of their charge related indirectly in terms of the question of capacity. Looking forward a few years before new wells could be put on, he asked what the impact of the new development, such as the buildings going up on Vaughan Street and the proposed Harbor Corp project, would have on the existing supply. Mr. Goetz stated that the great thing about the water system on both the supply side and use side was that they had real time monitoring where they can assess daily how they were doing. He described their outreach to large users such as local golf courses to see how their demand could be mitigated. With specific reference to new downtown development, he stated they were not actually huge users. They don't actually have a large occupancy, they don't irrigate and they have new efficient plumbing systems. While the system can jump 50% on a hot summer day, it is not due to the downtown demand.

Chairman DiPentima stated that he was not an engineer but, considering the issues of replacement time and the potential migration of the pollution from the Haven Well aquifer toward the Smith and Harrison Wells, he wondered if installing some kind of a carbon activated filtration system would be able to treat the Haven Well, remove the pollution and also prevent the north to south migration, eventually hooking in the Smith and Harrison Wells into that activated carbon system. He asked if that would be a feasible consideration in the future before even having to explore the need for finding wells off-site.

Mr. Goetz stated that he had mentioned to the Air Force in their meetings that they needed to investigate the possibilities of treatment. He suggested that they might want to invite the NHDES to one of their meetings to give additional views of that approach but certainly, with any contaminant initially, they look at existing treatment and it did work. Carbon filtration or dual carbon was being explored in New Jersey and they were asking the Air Force to look at that for the wells that are still on line should contaminants rise or regulations change and ultimately for Haven Well. The Haven Well was off as a source for our water system but the contamination issue involved a whole other arm on the regulatory side. He was part of the meetings every two weeks with the Air Force, the scientists and the regulators and the issue of cleaning up the well will be something they will need to address.

Councilor Shaheen asked if there was a scenario where there would be no wells at Pease and the entire Trade Port would be serviced through the Portsmouth System with added wells. Mr. Goetz stated that he would be addressing the operational side of the system but it was a really good question because with the current system set-up, they did need the wells at Pease.

Operations. Mr. Goetz stated that all public water systems were regulated by the Safe Drinking Water Act, the EPA and the NHDES Drinking Water and Groundwater Bureau. They have a required sampling schedule, testing and reporting requirements. Working for the Water Division are 6 State Certified water treatment operators, a chemist and a water resources engineer with a lab at Madbury so treatment can be assessed and necessary changes made. They are on 24/7 to be there for any emergency.

Computer Control - Master Control Screen. Speaking to one of Councilor Shaheen's questions, Mr. Goetz displayed a photograph of the Master Control Screen showing all the

components of the water system and noted the tanks and the various wells, indicating which were off and which were on. It showed operators the water coming into the treatment facility, how the treatment was doing and flow rates. He reviewed the various features, noting that the Haven Well was shown there although it was physically disconnected. They still show it in the system because they get water level data which tells what the aquifer is doing. The system told quite a bit about supply and demand. The water tanks fill and then go down. When they reach a certain point, there's a trigger that indicates more water is needed in the system and brings the wells on which generate more than is needed so that the tanks come back up and cycle. The way they ran the system in town, they cycle once. They fill and then come down, triggering the need for other sources to come on.

Mr. Allen asked that he explain how it was that elevation that created the pressure in the system.

Mr. Goetz noted that the pressure in the tanks in the City topped out at 172 pounds of pressure while the Pease tanks indicated 228 pounds. Having the water up higher created a higher pressure at Pease which was why, when they needed to get water from the Portsmouth System into Pease, they had to boost it. They couldn't simply open the valves because the water would flow the other way due to the greater pressure.

To the question of turning wells off, Mr. Goetz stated that perhaps they could turn them off altogether in the winter when there was enough supply using the booster, but in summer, when there's irrigation going on and higher demands, the supply wasn't adequate. Currently, as could be seen on the screen, when they have to get more water into the Pease System, two wells and the booster come on at the same time, a blended source. While the Haven Well was at times a stand-alone, there were times when all three wells came on at the same time and were manifolded through the system as a blended source so, while the Haven Well exceeded the allowed concentration, it was blended approximately 50/50 with other sources that had acceptable levels.

Computer Control - Madbury Water Treatment Facility

Mr. Goetz pointed out the information which the operators can use. This went back to his reference about making "bubbles" as a treatment method. They were made in three basins for initial treatment, then processed through six filters and into a clear vial. The system was alarmed and could page operators visiting sites who could check their laptops and see within a minute what the system was doing in real time. In response to a question from Deputy Fire Chief James Heinz, Mr. Goetz stated that, if they were to get a call from the Fire Department that there was a fire and additional capacity was needed, the operator would go on line, see what the system was doing and turn on the pumps at the Newington Booster from there.

Water Quality Reporting. Mr. Goetz stated they were getting ready to issue their 2014 report to customers and he showed an extensive list of everything they had to sample on weekly, monthly, quarterly bases. If there was anything that exceeded the standard it was included in the report.

Haven Well Chronology

Mr. Goetz stated that they were contacted originally in mid-April of 2014 by the Air Force saying that their consultant and DES was pushing them to sample for this contaminant. Because it was on what's called unregulated contaminant monitoring, DES said "you need to monitor for this material and we need to see." It was found at Site 8 and DES said they needed to sample the City wells and, unfortunately, it was also found there. They were notified on May 12, 2014 with a recommendation from the State to shut the well off if they could. The City did and it's been down and fully disconnected since except for a half hour run the following week to take sample. Since that time, the water had been supplemented through a blend which he depicted in a graphic on display showing the Hobbs Hill and Air National Guard Tanks and how the water was coming in now. There were the two wells (Smith and Harrison) and the Portsmouth to Pease Booster and the water was blended before it went into the system.

PFC Contamination Response. Mr. Goetz stated that the time being dedicated to this issue by a number of entities is considerable. The Portsmouth Water Division is involved, including Peter Rice and involving Dave Allen. There are Air Force Engineering Consultants (AMEC and CBI), the DES Wastewater and Drinking Water and Groundwater Bureaus, the EPA, the Pease Development Authority, the Air National Guard and the NH Department of Health and Human Services. As stated, they meet every two weeks in a phone conference or in person to discuss issues, including on-going sampling, weekly at Smith, bi-weekly at the Harrison and monthly at the sentry wells. There can be 20-25 people on the line for every telephone conference.

Air Force Response. Mr. Goetz stated that they had an agreement with the Air Force that was paying for this hydrogeologic assessment being done. The Water Division was going to give them information on what the test well drilling will cost and they were assisting in paying for our consultant, Wesson and Sampson. He stated that they had officially asked the Air Force to step up their search for potential treatment options for which funds would also be requested. He referred to his previous description of the issues getting water into Pease. They were going to request that, as they did the Newington Booster Station upgrade, there be an ability to pump all of Pease if necessary from the Newington Booster Station.

Outreach. Lastly, Mr. Goetz stated, they do provide outreach. If you go to the City's website, there are links to information that's posted. There were two public meetings last year and a recent one in March. They post monthly updates of what was going on with the system and the data that has been gathered. When they take a sample, it does take some time as there are only 2 labs certified in the U.S. for testing for this. It takes two weeks for the lab to vet it then it has to go to QC so we get data about a month later. There is initial data right away enough so that it would be recognized if things were trending up. Right now, the trends have been "no detectable" and hopefully it will stay like that. He stated that the best thing they can do is monitor, although that is just a snapshot of one point in time.

GENERAL DISCUSSION

In response to questions from Chairman DiPentima and Councilor Shaheen, Mr. Goetz stated that, while he didn't have all the data with him, the last levels found in both the Smith and Harrison Wells were at times "non-detect." In March was .0043 and the limit is .0280 which was not considered undetectable. The number represented .028 parts per trillion with the advisory. Mr. Rice said the limit was .2 and Ms. Shaheen stated it was 10 times lower than the advisory, which Mr. Rice confirmed.

Mr. Goetz stated that the PFOA which had a limit of .4 was .0074. If they looked at the data on-line, they would see a "j" after it, which meant it was an estimate so in some sampling quarters a lot of drinking water systems may show up with a non-detect. They were sampling at a higher resolution essentially capturing more nuances like higher camera pixels.

Chairman DiPentima asked how the sentry wells were doing and if they were becoming "non-detect." Mr. Goetz stated that it varied. A lot were "non-detect." Chairman DiPentima asked about the Air Force also looking at trying to prevent that plume from Haven Well and the aquifer moving south toward the other wells. It seemed as if the concern was that the Haven Well was not being pumped and the water migrated? He wondered if there was a way for the water to be pumped, treated and then reintroduced into the environment which would hopefully stabilize the movement of that aquifer. Mr. Goetz responded that was the other side of what the team was doing.

Mr. Rice stated that this was highly technical material that was being talked about and drew a diagram on the board, indicating the surface level, which was where there were cars, people and structures and then you had water moving underground. He stated that when you say ground water movement, you think of it as downhill. He indicated the locations of the Smith and Haven Wells stating that there was a water level underground so with the natural gradient for the water to go downhill, it slowly went down to the well he indicated. What Rich was saying was that if you pumped at the point he indicated on the display, you can depress the water level and kind of shift the direction in which the water was going. Instead of it continuing to go past, you actually capture it before it goes past and you can pull it back into the well. He stated that, right now, there was not a lot of PFOS in the area he indicated based on information from monitoring wells. The idea was to encourage the Air Force to take some preventive action. Pump it and treat it and try to grab that potential plume and keep it from continuing on down. In the meantime, they had monitoring wells all ahead of the Smith Well. He stated that the speed at which water moves underground is very slow so it was not like you take a sample and within 24 hours it was going to be a huge spike. It took days or weeks for the water to move. Chairman DiPentima commented that the material had been there in the aquifer for decades and hadn't moved, probably as a function of the subterranean geology in that area. Mr. Rice concurred.

Mayor Robert Lister stated that he appreciated the presentation and thanked Mr. Goetz and Mr. Rice. He felt it was important for everyone to understand what the water system had been since 1797 and they were right – you go down to Strawberry Banke and you see some of the old wooden pipes and some of those still existed around town. His question was, and he knew the Air Force was involved in this as well, where they were heading with the

Committee? What would be its purpose? What would be the relationship between this Committee and the Air Force and their consultants, with specific reference to any face-to-face opportunities to have discussions.

Mr. Goetz responded that it was certainly up to the Committee but their questions led him to think that they might want to schedule someone from DES, perhaps Scott Hilton, to give a little history, and their consultant as well. Steve Termaath from the Air Force came to the meeting on blood testing. He believed they would all be willing but it was up to the Committee and what information you needed. He noted there was a lot of information with a lot of science and sampling. Their focus had been on the day-to-day, protection of existing sources, working on water systems and trying to be proactive on future demands. At a certain point, for instance with forensics, others would be in charge and able to provide more information.

Ms. Kim McNamara stated that part of the issue here was that the deadline for this sort of testing for these contaminants wasn't until December of this year so Portsmouth was ahead of the curve on that. That might be one of the problems they were facing because there might be many cities that would have to deal with this issue next but the testing was done so early here. Mr. Goetz commented that there were now 36 sites and Mr. Rice stated that the contaminant was in the environment as well, in floss, packaging, chairs, clothing. Many items had these compounds so it was very prevalent.

Ms. McNamara stated that it was also very difficult to tease out your exposure from those everyday things because sometimes the compound was tied in with other chemicals that really bound it well and then there were other compounds such as those appearing in microwave popcorn that release it more readily. It was a very complicated issue when it came to exposure from those types of sources. Chairman DiPentima stated that they would address that later from an epidemiological standpoint.

Councilor Shaheen stated that she understood that they had requested the Air Force to investigate potential treatment options. As a Committee, should they concurrently look at treatment options so they were not relying solely on the Air Force to come up with recommendations? It would help the municipality in forming a point of view based on options. She worried about leaving it entirely to the Air Force in terms of their sense of urgency and timing vs. the sense of urgency we share. She wondered if it made sense to have separate opinions and other experts coming in where they might ask the Air Force to contribute but the Committee would determine the experts.

Mr. Goetz stated that they currently had Wesson and Sampson as consultants. While they had not been given that specific charge, they could. There had been testing done at Great Bay. He cited an instance of homeowners in Newington who had their own well and weren't on the water system. There was some detection there and an offer was made to hook them up to our water system but they wanted treatment instead. They had installed a dual carbon system so that result would be monitored. They could scale up an operation like that and ask the consultants to look at it. He agreed when Mr. Allen asked if what he was

saying was that he was already moving forward on pursuing treatment options outside of the Air Force.

Councilor Shaheen stated that she understood the charge of their group and she felt that one of the most important things they could do is assess the long-term implications of the contamination to the Pease Water Supply and also the Portsmouth Water Supply. She thought they could either advocate for the Air Force to address the problem by, as Rich said, pumping so that we don't risk the future contamination of the two wells and then also identify treatment options. That seemed a critical next step. She felt that, if they could collectively play a role in advocating for that or asking the Air Force what they might reimburse for those consultants, it would be important to do so. While they didn't know the results of future water tests, there were things that we could do today to understand the treatment options and avoid future contamination from the Haven into the other two wells.

Deputy Fire Chief James Heinz stated that he was a little concerned about volume. He understood how all the pumps work together, but with the Haven Well shut down, could Mr. Goetz give him a best guess percentage of what that represented as lost capacity? Was Haven Well 10% of the daily water supply or did it move around?

Mr. Goetz stated on a peak day it was around 7% to 10%. The other consideration was that they could meet demand now but it would be difficult if they lost a source because a pump broke down. Councilor Shaheen asked if they could put another tank at Pease and fill it. Mr. Rice stated that it was not the storage capacity that was the issue. They didn't want too much storage capacity in the system because it led to longer aged water which created its own issues. It was really the pumping capacity into the system that was critical.

Mr. Goetz noted that they would be replacing the 400K gallon Hobbs tank with a new 600K gallon one so there would be combined storage of a million gallons at Pease. That would operationally offer some buffer and a longer flow for a fire if necessary. At Pease, the Spinney Tank was a million and a half and the Newington the same. The Lafayette Tank held seven and a half million gallons.

Chairman DiPentima commended the Water Division on a great presentation, which gave the Committee a good foundation. He listed some people they might want to bring in such as the folks from the DES to talk about how standards are established at the EPA and how maximum contaminant levels (mcl's) were established. They might have somebody talk about the health risk assessment issues that went into establishing those standards and talk about the sensitivity needed, and technology used, to test for these kinds of chemicals so they could understand what they were dealing with in terms of parts per trillion, parts per billion and that sort of thing. He suggested somebody like Sarah Pillsbury and Mr. Goetz agreed. Chairman DiPentima asked if he would be a contact for them if they wanted to bring in the Air Force people. As a retired Air Force guy with many years at Pease, he was sensitive to the need for a relationship.

Chairman DiPentima concluded by thanking everyone for coming to the meeting. He noted the time and posed the issue of how often they might want to meet, when and where as 8:00 a.m. was probably not the best time if the public wanted to sit in. His availability was open.

There was a brief discussion with Ms. Andrea Amico stating that evenings might be better for the community and daycare parents and Chairman DiPentima noting that they also had to consider logistics in terms of clerical support from the City. Councilor Shaheen suggested rotating between mornings and evenings so all would be able to come to some meetings, with items expected to generate more public interest in the evening.

Ms. McNamara stated that one of her concerns was that they already had several batches of blood tests at the CDC or going to them and it was really important to understand the sensitivity of that testing. They needed to know how the results were going to be reported so there was no misinformation given and she thought they should meet at least weekly until the blood test results were back if not more often. She wasn't sure what sort of information they were going to receive and had raised those questions to Julie Nassif at the public health lab. She had received a callback late the previous evening but no information. She reiterated her concern about the blood test results and how vital it was that the information be relayed accurately.

Ms. McNamara stated that, as she understood it, the process was to batch the samples and send them down to the CDC. If the batch was not ready until after Wednesday it wouldn't be sent to eliminate the possibility of something happening to the blood samples if there were to be a delay in delivery. It took the CDC a couple of weeks to do the analysis but then they had to report back to the State as the samples were identified by a number which the CDC had which had to be matched up with the names. The whole process could take 3-4 weeks. They were already into the process but she needed to find out how far. When Chairman DiPentima asked the best person to talk about the testing and sensitivity, Ms. McNamara believed it would be Julie Nassif at the lab. When he asked if she would know about the sensitivity and specificity of the testing, Ms. McNamara stated that she had asked the question as Ms. Nassif was in direct contact with the CDC, but that could be clarified.

Councilor Shaheen suggested inviting her to the next meeting and Mayor Lister concurred that she should be invited as soon as possible as it was important not to have misinformation. He asked what the timeline was for finishing the Committee's work. Chairman DiPentima stated that they didn't know where things might lead as various individuals took part. For the blood testing, it might depend on how many people decide they want to be tested which could change as time went on stretching out the timeline. Ms. McNamara added that part of that decision for people would depend on what the initial blood tests showed.

Chairman DiPentima noted that they would need to evaluate the blood test results in terms of what they meant from a public health perspective, both short and long term and what they might want to consider recommending to the community, to the Mayor, to the Air Force etc. about necessary follow-up issues. This was potentially an opportunity to gain more

scientific knowledge and add to the scientific knowledge base about these chemicals and human exposure with further experts to look at the health effects.

Ms. McNamara reiterated that the deadline for testing for water systems over 10,000 people or a similar parameter was not until December. If this process was done absolutely as correctly as it could be done in a non-research setting, the information could be vital for the next folks that were coming down. Chairman DiPentima stated that they would want to be at the head of the line with the Agency for Toxic Substances and Disease Registry (ATSDR) or ask them to commit to some kind of long-term follow-up study of what happened to folks that were exposed and had detectable levels in their blood streams.

Councilor Shaheen stated that it sounded like the next meeting might be determined by Julie's schedule. If they agreed, perhaps her availability could be checked and the next meeting scheduled. They could ask her to come prepared to give them a sense of what would be communicated back to folks that had been screened. Ms. McNamara noted that the public health lab was also struggling with that question so it would be a nice clarification. Councilor Shaheen stated that at the very least they should be setting up a process to ensure that they understood exactly how it would be communicated back so they could be informed and field questions if necessary.

Mr. Allen stated that he would like to address two things. One would be that Brian be a regular attendee "ex-officio" on this Committee as a representative from City staff. His other thought was that, if Julie was scheduled first, Brian could be concurrently working on setting up the second meeting, possibly an evening meeting, with the Air Force. Kim could report back on Julie's schedule and availability. In response to a question from Chairman DiPentima, he stated that the use of the rooms went through the City Clerk. There were a lot of meetings in May so it may or may not be in Conference Room A or the Council Chambers. Staff would work on the location and advise.

Councilor Shaheen offered the help of the Congressional Delegation Office in encouraging a response from the Air Force if necessary.

In response to questions from Chairma DiPentima and Ms. Amico, Mr. Goetz confirmed that the only non-Pease-water-system customer at the Trade Port was Redhook and everybody else had used the Haven Well, including Paddy's. The Harrison and Haven wells only supplied Pease, not the City. Ms. Amico asked if there were PFC's in City water and he stated that it hovered between a detection to a non-detect at the Portsmouth and Collins Wells. She asked if the PFC's were coming from the contamination or could it be just because it was prevalent in the environment. Mr. Goetz stated that was a good question and they had found that, now that people were sampling for it, it was found in private wells and geographically other locations like Cape Cod, New Jersey, Minnesota.

Mr. Allen stated that there were differences in the geological area between the Pease and Portsmouth Systems. There might be something there but not like where the Harrison and Smith are directly down gradient. He thought there was actually a barrier so there was not a

direct connection as Harrison and Smith had to the Haven. As Brian had stated, there were pockets and he felt those were in different pockets.

Mr. Goetz stated that bedrock wells have a higher pH than sand and gravel wells. That told him that water was flowing up through the rock so a recharge can come from miles away. He noted that one of the consultants had recommended going out in Great Gay and doing some test wells because there could be a good water source under the bay. While they were not doing that, other systems had looked for water that way.

Councilor Shaheen asked whether as a precautionary move for people individually or a business, they would recommend filters. Mr. Goetz stated that was a tough question for a water provider and he would defer to the health people. Ms. McNamara stated there were a lot of issues which could make up another meeting. Mr. Goetz concluded that there might be variations with how the filters were maintained and filters themselves created their own byproducts.

Chairman DiPentima stated that next meeting, there would be somebody from the lab and also Sarah Pillsbury to talk about some of the issues that had been raised. He asked that Kim contact Julie and Brian contact Sarah. In response to a question from Mr. Allen, he said they would try for next week. Mr. Stowell asked if future meetings would be advertised so that the public could attend if they wished as he would like to be as transparent as possible and Chairman DiPentima stated it would be on the City's website. There was no real requirement on how far in advance it had to be posted and Mr. Allen recommended 48 hours. Chairman DiPentima stated that it should also be sent to the media.

ADJOURNMENT

The meeting was adjourned at 9:35 a.m.

Respectfully submitted,

Mary E. Koepenick
Administrative Clerk, City of Portsmouth