SPECIAL GLOUCESTER CITY COUNCIL MEETING
Tuesday, July 27, 2010
7:00 p.m.
Kyrouz Auditorium – City Hall
Council Meeting 2010-018

Present: Council President, Jacqueline Hardy; Vice President, Councilor Sefatia Theken; Councilor Ann Mulcahey; Councilor Joseph Ciolino; Councilor Paul McGeary; Councilor Bruce Tobey; Councilor Steven Curcuru; Councilor Greg Verga; Councilor Robert Whynott

Absent: None

Also Present: Linda T. Lowe; Jim Duggan; Michael Hale; Larry Durkin; Kenny Costa; Jeff Towne; Max Schenk; Dr. Jeffrey Griffith; Dr. David Reckhow; David B. Paris; Patricia Murphy, R.N., MS

The meeting was called to order at 7:03 p.m.

Flag Salute and Moment of Silence.

PRESENTATION: Chloramines and the City Of Gloucester Water Supply

Councilor Hardy thanked Cape Ann TV for broadcasting this meeting. She explained a few City Council meetings ago Patricia Murphy, R.N. came before the Council at Oral Communications and spoke of her concerns regarding chloramines about to be introduced into the Gloucester water supply. The Council asked her back to further address her concerns, and those of some members of the community. Larry Durkin, City Environmental Engineer would also speak to the matter as well as a panel of experts to speak on behalf of the City as well.
Patricia Murphy, R.N., MS, Washington Street was speaking as a Gloucester resident of 33 years; parent and nurse spoke regarding chloramine concerns out of those three areas of her life. She noted a few months ago a patient expressed some concern regarding chloramines. At that time she didn't know anything about chloramine. She stated she has done a lot of research; talked to experts; a lot of citizen advocates in the past few months and a lot of public officials. She'd learned a great deal but didn't wish to be viewed as an expert in any way. She emphasized she was speaking as a concerned citizen. She believed in learning, asking questions; knowing what may be good and bad for our health. We all have the right to know both sides to any story. Water is critical to health, to life and to the environment. Concerns as citizens should be listened to on the local, state and federal levels. She hoped they could all work together in an informed and enlightened way working towards reasonable solutions. She appreciated Council President Hardy and each of the Councilors having her return to come before them. They had arranged for a guest speaker who was unable to come from Pennsylvania, but who provided Ms. Murphy with a written testimony of Attorney Susan Pickford Co-Director of the Chloramine Information Center. She then read her testimony by Ms. Pickford (Documentation submitted at meeting and on file). Her statement included that the Chloramine Information Center recognized and appreciated the fact that disinfection of our drinking water was necessary and was one of the greatest innovations of our time and that they further respected the challenges facing the water industry in providing clean and safe water. She noted EPA research; applications of regulations; the claim that chloramine is an ineffective biocide; countries who have banned the use of chloramine in their drinking water facilities; the family of by-

products that chloramine produces; some acute health risks believed to be resulting from use of chloraminated water and their by-products; filtration of chloramine and its possible burden of cost to the consumer; claims that chloramine is a less effective biocide than chlorine; other unintended consequences of chloramine such as fish kills. Upon the completion of reading Ms. Pickford's statement, Ms. Murphy related more information on the Washington, DC area water situation stating that in November 2000 they switched to using chloramine. Approximately two years later the local drinking water utility reported to the EPA which regulates and oversees their drinking water, that about half of the D.C .homes it tested in 2001, and 2002 had levels of lead exceeding the action level of 15; reiterating that it was two years afterwards they found out about it. Follow up testing in 2003 in some homes, lead levels were in the hundreds, even thousands in some homes. This was not made public until January 2004. Several parents are suing the water utility because of the lead damage their children have incurred. Toxic lead levels aren't good for adults, either. Even though D.C. residents have been assured the health crises is over and their tap water is safe to drink, it is now widely acknowledged that the switch from chlorine to chloramine was the main event; and there continues to be lead spikes even through 2008. This Washington, D.C. issue is being investigated in the House of Representatives and elsewhere; that the CDC, the director of the lead program has been accused of withholding data. People were told that everything was safe when it truly wasn't. The data was finally released. Other things were found in some municipalities in water utilities, that they would engage in pre-flushing of water pipes the night before lead testing to alter lead test results. One large issue very concerning to her, and there are articles to support with articles by Dr. Mark Edwards (Documentation submitted at meeting and on file) that even with the modifications that they made in D.C., there are still some severely high lead levels in the schools that continue with the modification. She stated they've been told here that phosphates have been added and that takes care of a lot of these problems. They've made many modifications; and there is still scientific proof that there is lead exposure in the D.C. schools. Dr. David Ozonoff, Professor at Boston University School of Public Health wrote a letter in 2007 (Documentation presented at meeting on file) regarding chloramine being added to the Vermont water district. Dr. Ozonoff is a known expert in research and teaching in the area of environmental epidemiology, water contamination; served two terms with the EPA's negotiation team for rule making on disinfection by--products. In April of 2006 the water district in Vermont began disinfection with chloramine. Several residents came forward with various symptoms of rashes, respiratory discomfort and gastro-intestinal discomfort. Dr. Ozonoff in his letter stated, there needs to be "a more detailed study" of this. "…it was not possible to say…." definitely these symptoms are related to chloramine. "…but it was plausible that something about the treatment change has caused this. Water chemistry is complicated and sometimes produces unexpected and untoward results. The complaints are notice to look into the matter. The provision of safe and secure piped drinking water is one of the great triumphs of twentieth century public health and its effect on the entire community is a great health benefit. At the same time that a water supply is an efficient means to deliver a health-giving substance, it is also an efficient means to distribute harmful ones…We have learned that the disinfectant that we relied upon for so long, free chlorine, also has a negative side, disinfection by-products (DBPs). All water systems are now trying to figure out how to minimize the impact of DBPs…As they make these adjustments missteps are bound to occur, and this may be an example. In any event, health complaints from water users' attendant upon any treatment change are a red flag and need attention." She expressed that one of her big concerns was we're getting more and more into a chemical "soup"; we're drinking chemical "soup". We start with chlorine, and we don't want to drink chlorine either. Chloramine is diluted; but there's problem with chlorine, so now we're adding chloramine. Because of the problems with chloramine, then you add phosphates; and the City is adding polymers to the water to drop the organic matter down in the tanks so they can filter them out. Some of those polymers can be a problem. The best solution, she felt, was to filter everything out possible first - all the organic matter, and then you will need a lot less chemicals. She understood that huge improvements have been made "miraculously" in the last six months in Gloucester; and that's amazing. But they need to do more of that; they need to work together to get a plan now to start for a new filtration plant and get rid of the old pipes that are leaking and leaching. There are various things, like this panel tonight to inform people and urged that

people seek education on the matter in all formats. When she started to read about this issue, she was terrified as a parent. One of the most toxic exposures is the respiratory exposure when chloraminated water is boiled; the by-products are much more of a concern, such as inhaling the vapors coming off a boiling pot of pasta. It is the inhalation of the vapors in the tiny particles. Taking a shower where the particles get really small is the most toxic exposure. She has spoken to folks who have had their first severe asthma attack as soon as chloramine was added to their water. She felt that this was very concerning. She understood this hasn't bee done to hurt 'us"; everyone is doing the best they can. But we have to do better; we have to plan; we have to have the state and federal government give the City more money for these mandates. How can they mandate that you do all this and the cities are going bankrupt.

Larry Durkin, City Environmental Engineer, introduced his team of experts (C.V.'s on file), **Dr. Jeffrey Griffith** would address current research into the matter of chloramines in drinking water; **Dr. David Reckhow** will speak to the drinking water disinfection processes and by products and **Mr. David Paris,** President-Elect New England Water Works Association (NEWWA) will speak to public health issues (Power point presentation was presented and on file).

Dr. Jeffrey Griffith, professor at Tufts University and a medical doctor spoke about disinfection and by-products. He is also public health and infectious disease physician and a world-respected expert in his field. He originally got involved in water related issues because of water disease outbreaks. Over the last 15 years he became educated to the importance to treating water and what some of the problems are. Some of those had just been alluded to in terms of disinfection by-products. When you use chlorine for both disinfection and for subsequent second step to make sure nothing grows in the pipes, etc., it forms disinfection by-products. It is believed that about 3,000 people die per year from prostate cancer because of that. We don't know what the harmful aspects are of continuing to use chlorine in that way. It is believed by many people that it causes a lot of miscarriages; and neural tube defects such as spina bifida, small brains, and things like that. These are not trivial things. The trade off made is that the e-coli bacteria; and what we accept is a lower level of cancer causing chemicals when they use chlorine. Because of this information about "bad stuff happening" with chlorine, and the estimates for the cancer causing elements it could be higher than that. He was speaking about what a conservative person would say. He was emphatic saying he was not exaggerating anything. The desire to look for something else is to try and find something else which is safe. Ideally, he agreed with the prior speaker - the best would be to filter the water; make it sterile; deliver it in pipes with no breaks; and we'd all be drinking sterile water that had been ultra purified. We don't have the money to do that nor was it necessary for most people to drink sterile water. He stated he drank the Boston and WRA water; it was not perfectly sterile. Our bodies were able to deal with that. He thought the issue with chloramines is the level of lack of knowledge about what kind of bad things could occur. He referenced the Washington, DC evidence. He believed, in his view, criminal. Those people added chloramines without paying any attention to what everybody knew they should have done which was to adjust the ph so it wouldn't leach out all this lead. The fact that someone did something that was criminal, in his view, in Washington, D.C., doesn't mean he expects the same thing is going to happen everywhere else in the country. Chloramine has been used for disinfection in the United States since the 1930's. Twenty percent of the public is getting chloraminated water now. We are not seeing, when they look into scientific studies, that people are having these problems in the 60 million people in the United States who are already getting chloraminated water. Someone does need to pay attention to some of these things. He understood the limits of what they know, and study. Have people paid attention to chlormination to the same extent they've paid attention to, say, lyme's disease, AIDS, and diseases like that? No. The best anyone can see in the scientific literature, they are not seeing the rates of diseases are different between the areas where chlormination is being used and the places using chlorine. Some of the things he had heard tonight were anecdotal. He respectfully suggested that "whoever was listening that evening to remember that your mother told you about some things, and remember, she wasn't always right about everything. She was right about a lot of stuff but sometimes it wasn't everything." A lot of what was heard about three people having symptoms of a rash; and it changed when they changed their water – maybe they had a rash and it

would have gone away anyway. These are the kinds of things he didn't believe one could base decisions on but needed to look at the evidence. Chlormination does produce some by-products. They believe it produces fewer by-products. The concentrations of those by-products are ones that would be less dangerous to the public than the current system of using chlorine. When he said 3,000 deaths a year from prostate cancer; it is a big number. In the United States it's not a big number. But if they are talking about trying to minimize the risk to the public, you would want to think about what the order of magnitude is; what direction are you going in. Is there a perfectly safe way to deliver water? If you want that, filter your water; sterilize it, and provide it to people in plastic pipes like that. It will cost you "a million bucks", and it was unclear that it is the best use of your money. He noted he has worked with Dr. David Ozonoff for many years. He stated Dr. Ozonoff saying it is "plausible" that some of the things in Vermont were associated with chlormination is true – it is plausible. The CDC went to investigate and didn't think so. He believed the CDC to be a creditable public health agency and couldn't find any evidence of that. He noted they had previously heard during Ms. Pickford's statements about tri-chloramines which are the ones that cause asthma. They're not talking about tri-chloramines; they're talking about monochlorines. He believed there are people confusing the issue. They are not talking about the swimming pools – they're talking about what comes out of your tap. He noted they've all been to swimming pools and find it irritating. But they are not talking about tri-chloramines; he reiterated they're talking about monochloramines. It's a different species of "stuff". It inflames the issue to "confabulate" those together. People talked about other things this evening in terms of why Europe, for example, doesn't use chloramines. What they banned was tri-chloramines. They also have many different issues. They have much more highly polluted water than us; and they have gone to the more expensive systems of providing ultra-purified and filtered water. He bet if you were drinking the water from the Rhine River with all the industrial pollutants in it, you, too, would use a much more stringent system. Every water system is different. One last benefit he mentioned was legionnaire's disease; those bacteria live in water pipes. People who shower may be exposed to a spray of those things. Chloramines appear to do a better job of getting rid of some of those bacteria. So in places in San Francisco where they've studied this, there's less of it; in fact it's wiped out those kinds of bacteria in the pipes because it lasts for a longer period of time. He summarized by saying he is sworn to protect the public health, and swore an oath to do that. If he thought there was a significant risk to the use of chloramines, and that we did not have a substantial benefit to the switch from chlorine to chloramine; he wouldn't be standing there tonight. The evidence that chloramine causes problems, is mostly anecdotal, in his view. He explained that it could benefit from more study. They do have the experience since the 1930's with the use of chloramines in many places in the United States. They are not seeing the kinds of things that people have associated with the use of chloramines. That is historical evidence, that they have 60-70 years of experience with. It's true that chloramines are not as effective as chlorine in the original "killing" [of bacteria]. There are two stages: you "whack it" with chlorine; you kill the little bad things. Then all you want to do is to keep something in the pipes that will keep anything from re-growing. In that case you don't need something powerful, necessarily. You want something that is going to be persistent and keep those very tiny numbers from growing. The fact that chloramine is not as potent as chlorine is fine. It's OK. The fact that its persistent means it's not changing into bad chemicals, these other disinfection by-products because it persists. They don't have perfect knowledge about all of the bad things with chlorine but believed this is a reasonable public health decision about trying to replace something with known bad things like cancers, great suspicions about miscarriages with something which is best science will show us right now not associated with things like that.

Councilor Tobey stated Dr. Griffith was there at a mid-point from the Congo to Uganda in doing his work. He expressed the Council's gratitude that he was there and would wish him the opportunity to spend some time with his wife.

Councilor Hardy called for questions from the Council in order that Dr. Griffith would be able to promptly depart.

Councilor Theken asked about the mist from showers, steam from boiling water. We have no worries of that then at all.

Dr. Griffith stated as best they know that is the case. People have looked at this issue because of the swimming pool issue about what forms these trichloramines. There are conditions where you can form them; but the amount you get out of your pasta pot is trivial compared to what you get at an Olympic-sized swimming pool. If you get the formation of these things, it's likely to be a miniscule amount. You're avoiding drinking something which they know causes cancer perhaps if they had lots of those chlorine disinfection by-products. He stated there's no complete trade off in life where you can find something that is absolutely safe. He believed the inhalation related to the heating of that is not very well supported.

Councilor Whynott asked if they were not to use chlorine, what would be the alternative or is it "fish or cut bait."

Dr. Griffith responded you have to have something in your pipes that will kill any bacteria that might **"**sneak" in there. There aren't too many things you can use for that. Some of the alternatives also have problems and are extraordinarily expensive. He didn't know the particular details of the Gloucester system. However, every system is different. Your water people would be able to give a break down of what the alternatives are; the costs and the known problems, etc. It is a fair question to ask. He believed it was the kind of reasonable question they should be asking.

Councilor Mulcahey stated the Gloucester water system was in "horrendous" condition. The City spent a lot of money to fix it. When it was in "horrendous" condition, they were using chlorine until last August when they had the big problem with it. Now that our system is working, "supposedly just about perfectly", why do we need this other product up until last summer when chlorine was doing the job up until last summer with a faulty system.

Dr. Griffith felt his answer for the Council was when you examine well-run systems around the United States using chlorine; you're going to get 3,000 cases of prostate cancer a year, miscarriages, and neural tube defects. Those are known things. It works, but that's what you're accepting. You're accepting those known and very highly suspected risks. In your perfectly well run system you still have that risk. When you "jack" the chlorine up to deal with the problem, you are skyrocketing those risks. You've gone from "skyrocketing high" to what would be what is seen around the country an estimate of the risk is based upon well-run systems. That is what you're trading off.

Councilor Tobey posed to Dr. Griffith that as a health professional, we live in an uncertain world with much that is unknown. When day is done the best we can do are the tradeoffs between the risks we know, suspect and manage them so we steadily narrow the band of potential adverse outcomes hoping one day there'll be none but meantime doing what we can in that narrowing effort and wondered if the doctor agreed with that.

Dr. Griffith replied you have to fish and cut bait sometimes. You know you have deaths due to the current system under well-run conditions when you look across the country. Somebody may get prostate cancer here; somebody may have a miscarriage – you know that. When you say you don't know about this other thing, you also don't know if "you're going to get hit by a meteorite." The phrase "doesn't know" doesn't mean that you a risk of 1 in a 100, or 100% of being killed, or one in a million. It means you don't know. The risk is at the low end not the high end. He pointed out that he goes through scientific literature every three months to look to see if there is any new papers on the use of chloramines that meets the standards they would use for having information about this; and that's not there. That evidence doesn't really exist. The concern about this is you're going to something new; but there is an element of concern that you have to have. But he also felt you also have to fish or cut bait. You know you have a problem; and you have something that is going to cause less based on the best evidence. For 15 years, he's done this; people have been doing this for even longer. Yes there are some bad things can happen, MDMA for example with the chlormination, but if you take the MDMA risk and look at the disinfectant by-products from regular chlorination, those are bigger risks. You're going from a lot of bigger risks down to identifying what might be a problem with chlormination; looking at those compounds; but there are less of them. That is why people are saying this is a risk reduction based upon best available evidence. The by products from chloramines are less and a risk reduction. You're trying to reduce risk with the best evidence available.

David Paris, President-Elect of the New England Water Association and the manager of the water district for Manchester, NH for 35 years. He stated that some of the best experts in the country were there tonight along with Councilor Bruce Tobey who sat with him on a federal advisory panel to discuss on disinfection by-products. He noted he brought a seven-page statement that he would not be reading (Documentation presented at meeting and on file). He's been a water supplier for 35 years. Thirty-five years ago he thought it was all figured out; and the engineering society had it all locked up. There is the EPA science advisory board. One of the things Dr. Griffith didn't mention he chairs the U.S. EPA science advisory board group for drinking water science and research. These are very important people who have changed the way we look at drinking water. He stated he is a "chlorine fan". He claimed he had killed more bacteria with simple chlorine than anyone in the room or anybody who was older than he who runs a water system. But sitting on the disinfection by-products panel, he was taken aback by the on-going research that talked about his favorite chemical, chlorine; and the things that chlorine could cause - chronic and acute illness. He thought chlorine and cancer were nebulous concepts because who knew that a lifetime exposure to chlorine by-products could have any effects. There are toxicologists and epidemiologists in this country who study those things. They will show you that chlorine does cause cancer; and that chlorine very probably causes the disinfection by-products reactions that Dr. Griffith mentioned. He was a skeptic going into this panel. After taking a "dose of intellectual humility", understanding that people in the room with PhD's had make it their life's work of studying these issues, he sat back and thought maybe disinfection practices in this country since the 1900's, maybe they are causing people to become ill. He was converted. He believed the issues concerning Gloucester, Manchester and the tap water community in the U.S. are changing because of research and development and understanding. The disinfection practices they had all relied on with chlorine, cheap, simple are all associated with some really nasty outcomes that no one wants, as drinking water professionals and public servants, wants to be associated with. There are alternates on the table for secondary disinfection: monochloramines. Here Mr. Paris paused and explained it was very important to understand that chloramines are a family of substituted nitrogen and chlorine together. If you put three nitrogens on one chlorine, that's trichloramine; two of them is dichloramine. They cause respiratory illnesses, swimmer's cough. Monochloramine is difficult to produce; they do it in Manchester now. It is not a simple treatment. By producing monochloramine from his experience and the experience of his health department in Manchester, it has not come up with the kind of outcomes that you've heard tonight anecdotally. NEWWA feels it's very important that communities become involved in their tap water issues and the community has every right to become part of this process to understand what is going on; to be part of the research and development that is on-going about their own tap water. They encourage it and he complimented Ms. Murphy for her testimony. They were talking about some serious issues that had everything to do with the country changing from 20% being chloraminated to 60% being chloraminated. It is a significant change in the process. He would not stand there and say 35 years from now we won't say we can do better. That's the nature of change; that's the nature of science; and the nature of the world we're in. If you're thinking in terms health risks, he agreed with Dr. Griffith at this point in time that it is a balancing act trying to avoid these long-term chronic and acute illnesses; at the same time trying to eliminate waterborne disease. It is a time of change; a time of understanding.

Dr. David Reckhow, Professor at UMass, expert and leading researchers in disinfection organics and disinfection by-products and environmental chemist. His doctoral program advisor, Dr. Phil Singer are two of the top researchers in their field. He noted Ms. Pickford's testimony. There are unique by-products from chloramines. Chlorine produces the largest amount of disinfection by-products in terms of total mass. They tend to be the regulated ones that they're concerned about from the standpoint of the EPA regulations, THMs, HAAs, total organic halides and many others. They only know about a certain fraction of the total. As Dr. Griffith said, there's a lot they don't know. With chloramines there is much less THMs, HAAs, TOX. As Susan Pickford pointed out in her testimony, there are other compounds. There are more cyanogens halides, nitrosamines, organic chloramines, iodo-disinfection by-products (DBPs) and some others. That's a lot of names sounding like horrible compounds and some of them are. The good news is chloramines produces them in very low quantities and amounts. As both the previous

speakers mentioned, no one uses chloramines by themselves. The Corpus Christi example that Ms. Pickford brought up was probably one of the very few utilities in the country that ever used chloramines by themselves. They always use chlorine in combination with chloramine or ozone in combination with chloramines where the first disinfectant whether free chlorine or ozone is the one that really kills everything. The chloramines are just there to "keep the bugs honest" and keep them away from the water. What they typically do is add a little bit of chlorine, for certain period of time and then you add ammonia and turn the chlorine into monochloramine. That pretty much stops dead the formation of those compounds. That's a good thing for Gloucester to keep the formation from continuing throughout their system. Without the ammonia you'll continue to form more by-products. Chloramines don't produce much THA, HAA, but they do produce a little bit of other things which he described and stated there's a lot in the chlorine mix that they still don't know about. He was referring to a comparison of by-products from chlorine and chloramine. He went through General DBPs from both free chlorine and chloramines only. He noted that Ms. Pickford mentioned iodo-THMs. They do form some iodo-THMs if you've got a high level of iodide in your raw water, and he didn't believe that Gloucester did. If you don't add chlorine ahead of the chloramines, that's not going to happen either. Corpus Christi was an unusual circumstance and is probably not to be repeated almost anywhere in the U.S. If you do what Corpus Christi did and you have a lot of iodide, and you don't use free chlorine, you only use chloramines, you get iodo-THMs. Otherwise, you won't at all, or nothing you could measure with today's best technology. If you treat your water like Corpus Christi did, and if you had water like Corpus Christi did, you do get iodinated THMs. No one does that at all anymore. You don't' have water like Corpus Christi nor do you treat the water the same way at all. There is a lot of research on the toxicology of these compounds which is the work of Michael Plewa that Ms. Pickford made reference to in her testimony, genotoxicity, one way of assessing how dangerous the compounds might be. They really don't know what the connection is between these laboratory tests and actual human health effects. They presume there are some loose connections. The genotoxicity covers four orders of magnitude across the scale. There are some compounds that are toxic like MDMAs, and chloramines does produce a small amount of it that may be many orders of magnitude more toxic than the trihalomethanes; but the good news is the concentrations are three orders or four orders of magnitude lower. Taking the concentration times the toxicity; it still is presumably in Gloucester and almost anywhere in the US, the problem with MDMA based on these assays, is going to be much less than any other disinfection by-products. You have to look at the whole picture. There are a lot of unknowns. He wished they had all the answers. Maybe in 20 years they'll know more. In 1908 in Jersey City, Dr. John Leal, saw waterborne diseases and poor disinfection in his city. All by himself he added chlorine to their water supply without asking anyone's approval. That was the first time chlorine had been added. Jersey City has had chlorine used for the longest time in the in the world. There were a lot of people who said this is a big mistake. It turned out he saved thousands of lives from waterborne outbreaks. There is a history of bold steps and not so bold steps in the absence of complete knowledge that has turned out to be very beneficial for society.

Councilor Tobey stated for a long time Dr. Reckhow was on the Board of Public Works in Northampton. They had to build a water filter plant from scratch. Was he involved in the determinations for the disinfection model would be for that facility.

Dr. Reckhow replied he was. They ended up with free chlorine. They had an opportunity to build a plant from scratch. They had two advantages Gloucester doesn't have. They had a marvelously clean water supply and managed to avoid filtration for until 2006. They didn't have a water treatment until then. They also had the opportunity to build a plant from the ground up designed around chlorination and around granular activated carbon filtration the idea of installing UV treatment and possibly even ozone. They spent quite a bit of money. He believed it was a good investment. If their water quality had been much poorer, they might have taken a different tack.

Councilor Tobey stated a lot of people believe that ozone is the "silver bullet" but what about ozonated by-products.

Dr. Reckhow stated there wasn't the same concern about toxicity that there is with chlorine but there is some concern about ozonated by-products. Ozone is a wonderful technology; a very powerful disinfectant. But it has to be carefully designed into a plant. You can retrofit a plant, but it is expensive.
Councilor Tobey asked Mr. Paris if he recalled the conversation; there were a lot of questions of pressure as the rule process went forward reflected concerns of costs. You have to set rates every year for Manchester, NH, the public objections to what folks have to pay when those amounts go up; did he recall how it played out in D.C.
Mr. Paris stated there was no doubt the industry's position throughout the disinfection by-products rule making, the Federal Advisory Committee Act, long term filtration and disinfection by-products for that rule; the industry certainly throughout was concern about costs pushing technologies away from chlorine in particular because chlorine is simple and cheap which is as easy as "falling off the back of a truck" and clear cut, easy technology. The technology for ozone; Manchester completed a renovation of its water treatment plant in 2006 and the decision was made for primary disinfection to go with ozone. Then they follow by activated carbon which is powerful, different and very expensive. Ozone is produced for about $1.50/lb. Bleach is on the market for under $1/lb. When you put together chloramines which are a combination of ammonia, not only the cost of the chemicals but the control technologies and the training is considerably more difficult and money. The industry pushed back from that because they felt that chlorine was safe and cheap; and "we're all creatures of the regulatory process" and our communities at large in their desire to keep water rates as low as possible. However, there was a real concern about the way chlorine reacts with water. They didn't want to be the ones saying prove it to us before we're going to move towards accepting a regulation like this. There was presumptive evidence that these things were happening, and for the water profession was really enough to say they will find the money. Water utilities and water profession don't get into federal support. They're pretty much self-funded. In Massachusetts and New Hampshire there is a revolving loan fund with low-interest loans. In order to reinvest in a water utility is a very expensive prospect. It goes to replacing the pipe lines in the ground; it goes to the treatment works in process. If a water main that's 150 years old is in the ground unseen no one knows if it's about to blow. The orator in the world can't describe to you that water main is a problem and they need a rate increase to fund it.
Councilor Mulcahey asked when all the water that goes through the waste treatment plant; and they add chemicals to it; how are those chemicals going to react to each other; and what happens to the water that's cleaned that goes to the outfall or in our rivers.
Dr. Reckhow apologized stating he didn't know much about the waste water system in water but addressed it as a typical waste water plant stated that water goes through the sewer to the waste water treatment plant, chloramine is not very reactive, it's reactive enough so that it will be consumed by the organic matter in the waste water ultimately leading to chloride (table salt) and ammonia. The ammonia can be toxic; but waste water plants are used to handling large amounts of ammonia, taking it to less toxic forms like nitrate and then become discharged. If it were like a typical treatment plant, the only impact it would have would be a slightly higher rate of nitrate in the discharge. They're able to handle it.
Councilor Mulcahey asked about the nitrite affecting wildlife.
Dr. Reckhow stated there wouldn't be much of an effect directly. What a large increase in nitrate might do is stimulate algae growth primary productivity in waters. They're probably looking at a relatively small increase in nitrate. He didn't know what the raw water nitrate levels are. But there might be an increase from 10 mg/liter nitrate possibly 11 mg/liter nitrate as a result of chlormination. That would be his guess on the impact on growth of algae.
Councilor Mulcahey asked how they could find out this information.
Dr. Reckhow responded their fine DPW staff can help. He stated he'd be happy to overlook anything they wished him to and be glad to help. This is a subject that interests him; and recognized it's difficult to make these decisions.
Councilor Theken stated Mr. Paris had mentioned three things: what we use, what we're not supposed to use and what he uses and asked that he explain those again.

Mr. Paris noted the chemistry behind chloramines and how they are mixed to make monochlorine molecules. If not done right it is possible to form di- or tri-chloramines. Those are notorious swimming pool by-products. These reactions are closely controlled. They do testing (in Manchester, NH), as does Gloucester, repeatedly, to be sure the ratios are accurate.
Councilor Theken asked who does the monitoring.
Mr. Durkin stated by keeping the ph in the range of 7 and 8 you optimize the speciation of monochloramine. There's very little di-and tri-chloramines. That is a preferable range to keep the ph for less leaching of any metals in the pipelines.
Councilor Theken asked about the alarm systems built in.
John Beckley, P.E., Senior Engineer for Faye, Spofford and Thorndike consulting engineering firm responsible for the chemical upgrade to the chemical systems at the water treatment plant, process design and control engineer, in with response to the Councilor's question stated as part of the upgrades, they included a computerized control system for the plant. All of the chemical feed systems were replaced; the bulk storage system was replaced; the sensors were replaced; and all of those systems feed into the computerized control center the operator can sit at and monitor the plant. There are two computers; one will pick up if the first one fails. There is a set of on-line instrumentation that monitors the water leaving the plant. In fact, they have monitors all the way through, from raw water to finished water. The operator can call up on the screen to see how it is performing now, and all the way back for three months. All of these process monitors are actually trended on the computer screen, and that data is stored. That can all be called up for up to three months back. To meet the DEP requirements, who came through the plant before they went on line, they had to introduce some interlocks. So the plant will actually shut down if some if some of the monitor parameters are outside of the range. The finished water pumps will shut off if you have a high ph leaving the system. If the chlorine is too high or too low, that will shut the system off. Fluoride to high or low will shut the pumps off. It's automated. The operator of the plant actually tests monochlorine, aiming samples at the bench level. It is taken at multiple points throughout the day as well.
Councilor Theken stated then there is someone doing it manually and by computer to which Mr. Beckley responded yes.
Councilor Theken asked about the safety for kidney dialysis and fish tanks.
Dr. Reckhow stated that fish are uniquely sensitive to chloramines and apologized that he didn't know more; that Dr. Griffith would know but had to leave. Kidney dialysis doesn't give an opportunity for chloramines and the ammonia to be filtered out as compared to oral ingestion where there are mechanisms in the body to filter it out.
Councilor Theken asked if studies were being done.
Mr. Durkin stated that he didn't bring Dr. Alan Michaels with him to the meeting. He does a lot of the toxicity testing for the City and he did reply to the letters in the paper. A lot of it is dilution. The MWA supplies water to 2.4 million people, probably 1/3 of the people in Massachusetts and at Deer Island they process the waste water. There is open ocean discharge in Gloucester. The answer is dilution.
Councilor Theken asked for a copy on that.
Councilor Ciolino stated they've heard a lot of science and chemistry this evening. The public wants to be assured that the water is safe. He hadn't heard that someone will tell them that the water is safe.
Mr. Durkin began by saying, what was the big risk during the Boil Water Order? #1 was the bacteria; #2 was the total trihalomethanes. The big risk was dealt with immediately with the Boil Water. The TTHMs, they've been giving notices to the citizens every quarter they have been in violation. The good news is they should not be in violation any because the high levels of the TTHMs resulted following the Boil Order when a lot of chlorine was put into the system. That's been the "elephant in the room" when they've been doing a quarterly average. Generally with the chloramines, the water is safe. Like everyone said, there's risk associated with every disinfection process. One of the things he had with him was the residual chlorine numbers in the distribution system. The numbers are comforting. Some of these locations even before they brought chloramines on line were low; and they had to do some flushing to bring the numbers back up. Plum Cove storage tank had problems and had to have additional chlorine

added there. Places that have been problem areas are improving. Gloucester is a tough place geographically. There are a lot of dead ends that you can't engineer out of the system – Wingaersheek Beach, Lanesville, East Gloucester, parts of West Gloucester. These numbers are very strong levels of disinfectant in the system. The primary disinfection at the plant is being done with chlorine. With the chloramines, the TTHM numbers normally drop in half. The HHA5 numbers can sometimes stay the same but those have not been issue in Gloucester. He spoke of the concern about lead in the system. It was a big topic of discussion with the DEP. A lot of lessons have been learned about what happened in D.C. The ph of water is neutral at 7. Below that is acidic. Above that is basic. DC was operating lower than neutral at a corrosive ph level. They were also running free chlorines of 2 or 3 grams/liter. They looked at lead serviced pipe and identified a certain lead compound called lead 4 which was associated with the lead releases. With how they've they have designed the system is to maintain a ph level of 7.5 to 8. That's optimal for the corrosion control and optimal for the creation of the monochloramine disinfectant. They've increased the alkalinity five parts per million which they did with sodium bicarbonate. They've anticipated some of the problems. They're going to do more testing though not required; but the City developed a testing plan with the state that was approved to do lead testing in August and a full round of lead testing next year. There's been expressed concern about MDMA. They are also sampling for MDMA. They're anticipating the problems; lessons learned from other systems to come up with an approach that minimizes the risk and maximizes the benefits of the chloramines. These numbers are excellent. To credit Mike Hale, DPW Director, they've instituted a directional flushing program which helps remove sediment in the pipes. This helps to get rid of the brown tinted water. What the practice now is to flush the pipes. It pulls sediment out of the pipes; the sediment can react with the free chlorine and lose disinfectant. They'll be flushing in the fall and spring to have the best chance of maintaining the disinfection residual.

Councilor Ciolino asked if they were still operating the chlorine stations in the outskirts of the City.

Mr. Hale stated no, they were taken off line in October; they were just to handle the immediate issue of total coliform in the water system during the boil order.

Councilor Ciolino noted the hot summer, the hottest in many years and expressed concern regarding the organics caused by the heat to the system.

Mr. Hale replied, as Mr. Durkin indicated, until the switch July 9th, they had very low chlorine residual in the outskirts of the City. If you look at historically at the chlorine residuals in the outlying areas, they were very low, whether operating the East or West system. They were trending very, very low. They were very close to additional coliform in the system or something even worse. When they looked at their options, they really didn't have any. Chlorine was not working for the City. The plant upgrade was more than adding chloramine as a secondary disinfectant. They looked at a total chemical optimization. They replaced filters in West Gloucester, ahead of the project, the ones at Babson were just done. A year ago they were removing 60% of the organic as it was coming into the plant last year. Now at mid- to high 80's now. That's a significant amount of organic removed requiring less chemicals in the treatment process of the water. They're doing the best they possibly can to provide the best quality drinking water under the regulations they have had placed upon them.

Councilor McGeary noted one of the things that came up in his reading of the Washington episode was the significant lead pipe infrastructure, including lead pipes going into homes and asked if Gloucester had that; what the nature of Gloucester's infrastructure is.

Mr. Hale responded Gloucester has an old infrastructure and that 62% of the water mains are unlined cast iron. Many of those have leaded joints. There are systems where they still have lead goose necks that are service connections that allowed flexibility to connect iron water pipe. Today they use polyethylene tubing or copper tubing which allows connection to the main and snake through the ground to one's property. When they use straight iron pipe there are threaded fittings rather than a series of bends. They chose to use leaded goose necks with allows for flexibility to get the service from main to the property. They have some, and he didn't know the percentage. They sampled before the conversion process in the fall, they took two goosenecks off service and they were sent to the EPA's lab in Cincinnati to test those lead pipes.

Councilor McGeary asked if they had baseline data on the lead in the water they can use for comparison purposes.
Mr. Hale responded that they did.
Mr. Durkin stated that is on a three year interval requirement. They'll be sampling in August. They'll be getting letters out because to get people to collect samples. The compound of issue was lead 4. In the testing of the Gloucester's gooseneck service pipe there were no lead 4 compounds found.
Councilor McGeary read that one of the other problems that could arise was something called nitrification where the chloramines combine with the organics to create nitrogen compounds. It said there were two things you could do about that. One was to filter the water better; and it sounded to him like they were on the way to doing that at Babson; and the other place they said it could happen was in the storage areas where water doesn't turn over as quickly. He knew that was an issue at Plum Cove, and were they doing anything about that.
Mr. Durkin stated in addition to the sampling program, they're monitoring nitrates in the system and also monitoring heterotrophic plate counts, which are bacteria levels which are indicators of nitrification. They are doing weekly monitoring of all the storage tanks, and bi-weekly bacteria counts at the storage tanks.
Mr. Hale stated relative to water in the standpipes not turning over as quickly as it should, they recognize it as an issue as Blackburn and Plum Cove. They stand as calms of water over the distribution system and don't mix with the system as they properly should. They'll be before the Council in the next two or three meetings to request phase 3 of this water project which will include mixing systems at these standpipes to allow the water to enter into the distribution system at a proper time.
Councilor McGeary asked if there was baseline data from before the introduction of chloramines to see it has had any effect on the plus or minus on the nitrification problem.
Mr. Durkin stated the baseline data was started in May. They've started this ahead of time. They have some. He spoke of some of the testing to give them early warnings of problems such as the heterotrophic plate count. If they do see nitrification, they can take steps to correct it. Phase 3 is to get mixing systems. Blackburn is less of a problem because you have the Fuller School pump station. You want to turn water over in the tank. The Plum Cove tank is a little bit problematic because the tank tends to fill and somewhat float on the system and not exercise. He explained that in Phase 3 in Lanesville area is to install a valve on the trunk line heading up Washington Street such that when Plum Cove fills that it will radio the vault and the valve will close. At that point the Plum Cove system will be operating off the Plum Cove tank they can drop the water level down 10 feet or so. Once that pre-determined level gets "hit", the radio will signal to reopen the valve. The Plum Cove tank needs to be painted inside and out. You have to stay on top of it. You have to ensure the water fresh. They can isolate the tanks and to pull water out of the system to get the fresh chloraminated water into the tank.
Councilor Mulcahey asked how often they as a Council could get updates on the status of the City's drinking water.
Mr. Hale stated it depends on what they are looking for. They are testing at the water filtration facility every 50 minutes. They can give them monthly, quarterly data. If they need more details, he wanted to know so they can provide it in a way easily digested. They desired to be as transparent as possible.
Councilor Mulcahey asked for data from May, prior to the introduction of chloramine and then from the July 9th introduction, and then from September for comparison of results.
Mr. Hale stated that this is what the discussion is about – residuals.
Councilor Mulcahey reiterated that she'd like a comparison from May, July and September.
Councilor Theken asked Mr. Schenk about the possible harm to septic systems.
Mr. Schenk didn't think chloramines would affect septic systems nor has he seen any research to show any adverse affect.
Councilor Hardy asked the panel of experts,. Mr. Hale and Mr. Durkin if any of them cook bathe and drink the water.
Mr. Hale stated yes.
Mr. Paris stated his family drinks and bathe in the water.

Dr. Reckhow stated he works in a community who uses chloramines, and he drinks it regularly and has no problem exposing his family to them.
Councilor Hardy asked why they are mixing ammonia with chlorine when we grow up hearing our mothers saying never mix those two chemicals to use in cleaning, that the fumes would toxic.
Dr. Reckhow stated they do it in the hands of experts; but that you wouldn't want to do at home. It is in use in many places around the country and well controlled in controlled environments.
Councilor Hardy stated they shouldn't be doing it at home.
Mr. Reckhow replied it is best to leave it to the DPW.
Councilor Tobey thanked Dr. Reckhow, Dr. Griffith and Mr. Paris stating they came at their own expense, representing a national body of water professionals from a variety of disciplines and schools of study who care deeply about this; and thanked them all for being there. It was their concern for public health and good industry practice in the water field that drove them here. He asked everyone "as a homework assignment" to read the book, The Blue Death, by Dr. Robert Morris, a study into the early history of water treatment and the development of the science through which problem-solving occurs when you have a disease and you don't know where it's coming from. That was cholera in mid-19th century London. He exclaimed that the good news were the strides made. You don't read about anyone in the U.S. getting cholera from drinking water anymore. They're taking a broad base of problems and narrowing them steadily. Ms. Murphy was right; we have to be concerned about the chemical "stews"; we have to be concerned about the unintended consequences. But we also owe Ms. Murphy and her group a debt of gratitude because they're having a good, fact-based, science-based conversation about this matter. He hoped as a community they would continue this conversation in order to continue to do better, just as the industry across the country continues to work on these problems, "knocking them down" one at a time and making it better. Is the water safer than a year ago? No doubt about it. Will it get safer as ore improvements are made? Will it be better in the future? No doubt about it. He and his family drink and bathe in the Gloucester water.
Councilor Whynott stated what is very clear to him that there was no way to make water completely pure; there would always be something in it. There are impurities in the air, and from pushing water through hundreds of miles of cast iron pipe. He expressed his confidence in the Gloucester DPW whom he felt does a great job. This was not done in a vacuum. A lot of thought went into this. There were many experts involved throughout the process. He was also confident that 20% for a test was a pretty high population for any kind of study. Nothing catastrophic has happened that has been proven other than anecdotal. He was confident in the drinking water in Gloucester. While he stated he wasn't a fan of tap water for drinking from any city anywhere, he noted he cooks and showers with it, and brushes his teeth with it. He believed the water to be safe.
Councilor Mulcahey appreciated all the information presented and the time taken by all the presenters, feeling there was a lot to think about. She hoped that the audience there and at home, should they have questions, to call the DPW or call their Councilors.
Councilor Ciolino raised his plastic drinking container stating he was drinking Gloucester tap water.
Councilor McGeary thanked the panel for coming at their own expense, even thought it is lovely to come to Gloucester; and appreciated their effort and input.
Councilor Theken thanked everyone for their presentations. She expressed she had learned a great deal that evening. There are some concerns that remain, and felt they need to look at them. They need to continue to work together. She cautioned that if anyone was not feeling well, they need to let the Board of Health know so they can check it and record it. Telling your City Councilor was fine, but the Board of Health needs to have documentation. If they don't hear from the public about such matters, they'll not be able to learn. They learned about by-products affect the fish and wildlife and rivers. They (the DPW) are doing a wonderful job. We don't want a repeat of last year. This is a work in progress.
Councilor Hardy thanked the panel knowing they came at their own expense and time. She also thanked Patricia Murphy for coming forward during Oral Communication (at a previous City Council meeting). She felt without her coming forward they wouldn't have gotten to this point; and this evening will give people pause; how it applies to their family; what questions should they continue to keep asking; and

whether it is right or not. She noted there is a "frequently asked questions" pamphlet on the City's website and distributed with the City's water bills. She requested that the Administration to continue adding to the pamphlet questions that could be answered and available on the City's website. She believed that would take care of some of the questions raised by Councilor Mulcahey as well. The evening may raise more questions; but it was good to have dialog.

The Council recessed at 9:04 p.m. and reconvened at 9:07 p.m.

Consent Agenda:

- **Mayor's Report**

1. Job description Facilities Manager (Refer O&A)
2. Organizational Chart DPW management structure (Refer O&A)

- **Orders**

1. CC23010-053 (McGeary) Amend GCO Sec. 22-265 Re: Old County Rd. restricting turns (Refer O&A and TC)

Items to be removed/added to the Consent Agenda: None.

By unanimous consent the City Council accepted the Consent Agenda as presented.

Committee Reports:

Special Meeting, Budget & Finance Committee, July 27, 2010

Other Business:

Discussion with General Counsel Re: Address and Explain the Pro Bono Legal Counsel Service Agreement in Connection with City Council Joining the Litigation Against the Charter School and the DESE.

Councilor Hardy noted they had originally scheduled Pro Bono Counsel to be at their meeting that evening; however, Suzanne Egan, General Counsel was unable to attend so this item was being continued to August 3, 2010.
Councilor Tobey stated he would not able to attend the next City Council meeting scheduled for August 3rd due to professional reasons. He addressed the matter of the City Council being involved in litigation; they as Councilors (through an email that is public record), were told by the City Solicitor to watch who they talk to and what they say; that they not do or say things that could jeopardize the City's position as City Councilors. He wanted the same message to go to the members of the School Committee and the Mayor, as well as the Council, citing that there are 16 elected officials in the City, all fiduciaries of a corporation. They owe it the highest level of trust. They can't deviate from the advice, any one of the 16 of them. He knew of the meeting on August 3rd, a "sort of" follow up to the meeting that was "engineered for the satisfaction of Commissioner Chester"; and the City's legal counsel wasn't there. He felt they can't, any one of the 16 of them, be proceeding like "free agents" now that this matter has the City's name is on the lawsuit as a co-plaintiff with concerns about money as substantial as $2.4 million per year. Therefore, Councilor Tobey requested that General Counsel be informed: "That no elected representative of the City of Gloucester attend any further meetings involving the settlement of the charter school issue, including the August 3rd meeting with Commissioner Chester, unless the City's legal counsel in the ongoing litigation against BESE and the Charter School is also in attendance."

Councilor Hardy instructed the Clerk of Committees to send the message to Legal Counsel as soon as possible.

Committee Reports:

Budget & Finance: 07/27/2010

[Note: The Budget & Finance Committee Report was taken as the first order of business of the Special City Council meeting. **Councilor Curcuru** left the meeting upon the completion of the Budget & Finance Committee Report at 7:10 p.m.)

MOTION: On motion by Councilor Hardy, seconded by Councilor McGeary, the Budget & Finance Committee voted 3 in favor, 0 opposed to recommend to the City Council the transfer (2011-SBT-1) of $1,267,664.00 from Pub Prop Maint. Sal/Wage-Perm Pos, Unifund Account #101000.10.270.51100.0000.00.000.00.051 for the Department of Works Personal Services to the following line item accounts:

PERSONAL SERVICES

Transfer To:

101000.10.472.51101.4200.00.000.00.051	Operations Manager	75,000
101000.10.472.51102.4100.00.100.00.051	Districtwide Custodial Sal	106,042
101000.10.472.51102.4100.20.174.00.051	Custodial Sal. - Beeman	51,733
101000.10.472.51102.4100.20.175.00.051	Custodial Sal. - E.G.	35,957
101000.10.472.51102.4100.20.176.00.051	Custodial Sal. - P.C.	53,487
101000.10.472.51102.4100.20.177.00.051	Custodial Sal. - Vets	35,957
101000.10.472.51102.4100.20.178.00.051	Custodial Sal. - W.P.	35,957
101000.10.472.51102.4100.30.172.00.051	Custodial Sal. - O'Maley	152,323
101000.10.472.51102.4100.40.171.00.051	Custodial Sal. - GHS	243,553
101000.10.472.51102.4200.10.100.00.051	License Maint Personnel Sal.	147,676
101000.10.472.51102.4200.20.100.00.051	Maintenance Personnel Sal.	209,979
101000.10.472.51302.4100.00.100.00.051	Custodial Subs/Overtime	65,975
101000.10.472.51302.4200.00.100.00.051	Maintenance Overtime	25,000
101000.10.472.51902.4100.00.100.00.051	Cust. Clothing Allowance	6,175
101000.10.472.51902.4200.00.100.00.051	Maintenance Clothing Allow.	2,600
101000.10.472.51990.4100.00.100.00.051	Facilities Energy Education Stipend	20,250
	Personal Services Total:	**1,267,664**

Discussion:

Mr. Towne stated 2hen the Council voted the FY11 budget, they parked the former school custodial maintenance accounts in their former account #368 which was $2,921,893.00 within Mike Hale's Public Works Dept. 470 because they had not created the sub-department 472 categories. What they voted was $1,267,664.00 into wages and for personal services and $1,654,229.00 in ordinary services. The first one addresses personal services. It takes it from Dept. 4751105100 for $1,267.664.00 and it puts in a dozen categories in Dept. 472. The second transfer takes the ordinary account that they put into 472000 for $1,654,229.00 into 472 and puts it into approximately 20 different accounts. The numbers changed because the budget was reduced. This is what the DPW Director will start with. It being new, he'll be able to make transfers within their accounts, Dept. 472.

MOTION: On motion by Councilor Curcuru, seconded by Councilor Theken, the City Council voted ROLL CALL 9 in favor, 0 opposed to transfer (2011-SBT-1) of $1,267,664.00 from Pub Prop Maint. Sal/Wage-Perm Pos, Unifund Account #101000.10.270.51100.0000.00.000.00.051 for the Department of Works Personal Services to the following line item accounts:

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101000.10.472.51990.4100.00.100.00.051	Facilities Energy Education Stipend	20,250
	Personal Services Total:	**1,267,664**

MOTION: On motion by Councilor Hardy, seconded by Councilor McGeary, the Budget & Finance Committee voted 3 in favor, 0 opposed to recommend to the City Council the transfer (2011-SBT-2) for a total of $1,654,229.00 from Pub Prop Maint. Contractual Services, Unifund Account #101000.10.470.52000.0000.00.000.00.052 for Department of Public Works Ordinary Services to the following line item accounts:

ORDINARY SERVICES

Transfer To:

101000.10.472.52101.4130.20.273.00.052	Electric - Fuller	31,217
101000.10.472.52101.4130.20.274.00.052	Electric - Beeman	31,855
101000.10.472.52101.4130.20.275.00.052	Electric - East Gloucester	17,801
101000.10.472.52101.4130.20.276.00.052	Electric - Plum Cove	29,044
101000.10.472.52101.4130.20.277.00.052	Electric - Veterans	18,738
101000.10.472.52101.4130.20.278.00.052	Electric - West Parish	19,675
101000.10.472.52101.4130.30.272.00.052	Electric - O'Maley	213,613
101000.10.472.52101.4130.40.271.00.052	Electric - GHS	209,125
101000.10.472.52102.4120.20.273.00.052	Heating - Fuller	77,575
101000.10.472.52102.4120.20.274.00.052	Heating - Beeman	23,410
101000.10.472.52102.4120.20.275.00.052	Heating - East Gloucester	27,085
101000.10.472.52102.4120.20.276.00.052	Heating - Plum Cove	13,031
101000.10.472.52102.4120.20.278.00.052	Heating - West Parish	39,051
101000.10.472.52102.4120.30.272.00.052	Heating - O'Maley	124,098
101000.10.472.52102.4120.40.271.00.052	Heating - GHS	34,992
101000.10.472.52103.4111.00.200.00.052	Gas Costs	132,468
101000.10.472.52401.4100.00.200.00.052	Security & Fire Alarms	16,000
101000.10.472.52401.4230.00.200.00.052	Elevator Maintenance	4,400
101000.10.472.52411.4140.00.200.00.052	Telephone Maintenance	4,000
101000.10.472.53006.4100.00.200.00.052	Contractual Services	122,000
101000.10.472.53401.4140.00.200.00.052	Telephones	70,000
101000.10.472.53801.4220.00.200.00.052	Chemical/Pest Control	3,600
101000.10.472.54301.4230.00.200.00.054	Plumbing & Heating	95,000

101000.10.472.54302.4220.00.200.00.054	Electrical Repairs	20,000
101000.10.472.54303.4220.00.200.00.054	Glass Supplies	25,000
101000.10.472.54306.4100.00.200.00.054	Custodial Equip	25,000
101000.10.472.54307.4200.00.200.00.054	Workorder Account	92,451
101000.10.472.54307.4230.00.200.00.054	Emergency Repairs	50,000
101000.10.472.54500.4100.00.200.00.054	Central Supply	68,000
101000.10.472.54500.4220.00.200.00.054	Bldg Maint/Bulbs/Extinguishers	13,000
101000.10.472.57100.4100.00.200.00.057	Fac.Dir. Contractual Travel	3,000
	Ordinary Services Total:	**1,654,229**

Discussion:

MOTION: On motion by Councilor Curcuru, seconded by Councilor Theken, the City Council voted by ROLL CALL 9 in favor, 0 opposed to transfer (2011-SBT-2) for a total of $1,654,229.00 from Pub Prop Maint. Contractual Services, Unifund Account #101000.10.470.52000.0000.00.000.00.052 for Department of Public Works Ordinary Services to the following line item accounts:

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101000.10.472.52102.4120.20.276.00.052	Heating - Plum Cove	13,031

101000.10.472.52102.4120.20.278.00.052	Heating - West Parish	39,051
101000.10.472.52102.4120.30.272.00.052	Heating - O'Maley	124,098
101000.10.472.52102.4120.40.271.00.052	Heating - GHS	34,992
101000.10.472.52103.4111.00.200.00.052	Gas Costs	132,468
101000.10.472.52401.4100.00.200.00.052	Security & Fire Alarms	16,000
101000.10.472.52401.4230.00.200.00.052	Elevator Maintenance	4,400
101000.10.472.52411.4140.00.200.00.052	Telephone Maintenance	4,000
101000.10.472.53006.4100.00.200.00.052	Contractual Services	122,000
101000.10.472.53401.4140.00.200.00.052	Telephones	70,000
101000.10.472.53801.4220.00.200.00.052	Chemical/Pest Control	3,600
101000.10.472.54301.4230.00.200.00.054	Plumbing & Heating	95,000
101000.10.472.54302.4220.00.200.00.054	Electrical Repairs	20,000
101000.10.472.54303.4220.00.200.00.054	Glass Supplies	25,000
101000.10.472.54306.4100.00.200.00.054	Custodial Equip	25,000
101000.10.472.54307.4200.00.200.00.054	Workorder Account	92,451
101000.10.472.54307.4230.00.200.00.054	Emergency Repairs	50,000
101000.10.472.54500.4100.00.200.00.054	Central Supply	68,000
101000.10.472.54500.4220.00.200.00.054	Bldg Maint/Bulbs/Extinguishers	13,000
101000.10.472.57100.4100.00.200.00.057	Fac.Dir. Contractual Travel	3,000
	Ordinary Services Total:	**1,654,229**

A motion was made, seconded and voted to adjourn the meeting at 9:10 p.m.

Respectfully submitted,

Dana C. Jorgensson
Clerk of Committees

DOCUMENTATION/ITEMS SUBMITTED DURING MEETING:

- Questions & Answers About Disinfecting Water with Chloramines – City of Gloucester
- Copy of Power Point presentation by Larry Durkin, P.E. – Gloucester Environmental Engineer
- Copy of Power Point presentation by Dr. David Reckhow;

- Testimony of Susan K. Pickford, Co-Director, Chloramine Information Center, Camp Hill, PA before the PA House Committee on Health, dated June 17, 2010 plus supplement of same date;
- Typed notes presented by Patricia Murphy, R.N. related to Ms. Pickford's testimony;
- Peer Reviewed Studies & Professional Articles from Chloramine Information Center dated May 19, 2010;
- Global NEST Journal Article: Lead (Pb) Exposure through Drinking Water: Lessons to be learned from recent U.S. Experience, accepted: 20/02/09.
- Copy of letter to Ms. Annette Smith, Executive Director, Vermonters for a Clean Environment, Inc. from Dr. David Ozonoff, MD. MPH, Professor of Environmental Health, Chair Emeritus, Department of Environmental Health, Boston University School of Public Health;
- C.V.'s of Dr. Jeffrey Griffith, Tufts University Associate Professor, Department of Public Health and Community Medicine; Adjunct Associate Professor, Friedman School of Nutrition Science and Policy; Adjunct Associate Professor, School of Engineering; Dr. David Reckhow, Faculty member of the University of Massachusetts, Amherst since 1985; David B. Harris, President-Elect New England Water Works Association (NEWWA) and Water Supply Administrator for Manchester Water works for over 35 years; Patricia Murphy, R.N., MS, and Susan Pickford, founder and Co-Director of the Chloramine Information Center in Pennsylvania;
- Statement of testimony from David Harris not read at the meeting but submitted for the record.
- Email originally dated Wednesday, July 28, 2010 to Councilor Jackie Hardy et. al. from Douglas Smith, Ph.D, 2 Mayflower Lane, Gloucester with documents attached as follows:
  - Occurrence, genotoxicity, and carcinogenicity of regulated and emerging disinfection by-products in drinking water: A review and roadmap for research
  - The epidemiology and possible mechanisms of disinfection by-products in drinking water
  - Chlorinated Urban Water: A cause of Dialysis-Induced Hemolytic Anemia
  - Heterogeneous dermatitis complaints after changing in drinking water treatment: a case report
  - Types of Disinfectant in Drinking Water and Patterns of Mortality in Massachusetts

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