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December 21, 2005

Mr. Chittibabu Vasudevan, Ph.D., P.E.
Director
Remedial Action Bureau A
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Re: Bethpage Water District
Naval Weapons Industrial Reserve Plant (NWIRP) – OU2
GM-38 Area Remediation – 90% Design
H2M Project No.: BPWD 05-50

Dear Mr. Vasudevan:

In conjunction with the Bethpage Water District, we have received and reviewed the 90% design documents for the above referenced project. We are providing you with our technical comments on the design documents as required during this public comment period, which ends December 31, 2005. As already stated to the NYSDEC numerous times, the Bethpage Water District is gravely concerned about the implementation of this remediation system and its potential adverse impact to public supply wells. Although your office has attempted to persuade the Bethpage Water District that this remediation plan will not adversely impact its public supply wells through mere discussion, without any supporting data, the District stands fast that it is against this plan moving forward as designed with what we feel are basic flaws and unanswered questions. Please do not construe our comments as in any way supporting this plan. The District is commenting as required because it is clear that the NYSDEC is not heeding the warning of the District by placing the interest of the public water supplier at risk. Under whatever pressure the NYSDEC is proceeding without adequately answering key questions, the Bethpage Water District will be forced to take its necessary steps to oppose this current plan.

Although the NYSDEC has provided a written response to our past comments, we reiterate that making statements to the District that "all is well" with the plan, without the necessary supporting data, is cavalier given the history of the inaccuracy of modeling on this project and the severity of the potential for public supply well impacts. Accordingly, the following previously submitted comments still need to be addressed to the satisfaction of the District, with supporting data, to demonstrate that this plan will not adversely impact the supply wells.

1. The sampling results of July 2005 show vinyl chloride at contamination concentrations of 187 and 183 ppb at RW-1MW-2 and RW-1, respectively. Vinyl chloride has been detected on site most recently in GP-3, but has not been detected in any off-site wells in this area until now. The GM-38 wells are non detect for vinyl chloride. Also, in the same two wells, contaminant concentrations of 476 and 708 ppb cis-1,2-dichloroethene were detected. The GM-38 sample results were 2.1 ppb and 8.3 ppb. In addition, the trichloroethene (TCE) concentration at RW-1 was 327 ppb, as compared to 1,350 ppb at GM-38D2. Based on the proximity of RW-1 to the District's public supply wells, the

presence of excessive vinyl chloride contamination and cis-1,2-dichloriethene in RW-1 and the lack of information regarding source, path and concentration of contaminants, RW-1 cannot be permitted to pump as an extraction well as it will put the public supply wells at risk.

2. The results of the sampling at RW-2 revealed a TCE concentration of 185 ppb, as compared to 1,350 ppb TCE at GM-38D. Regardless of any attempt to interpret the data / model to state that the extraction well is in the hot spot, the laboratory data proves that it is not. The laboratory data has confirmed that RW-2 is not located in the hot spot.

3. With regard to the capture zone and hot spot maps, we cannot agree that RW-1 or RW-2 are in the hot spot. The laboratory data confirms that neither well is in the hot spot. The maps conveniently show the hot spot of the plume in and around both extraction wells, when the real laboratory data proves otherwise. What information are we to use in making critical decisions, what we think can be (theoretical model) or what we know to be (actual laboratory analyses)?

4. With the recent completion of the recovery wells, at a minimum, the well at the end of North Windhorst is located outside the hot spot to the east and is within the influence of the District's Plant No. 4. Hydraulic test data has not been provided for RW-1, but based on our evaluation of its location and proximity to Plant No. 4, RW-1 is also likely within the influence of the supply wells at Plant No. 4. The District remains significantly concerned that the recovery wells will further draw the elevated contamination closer to Plant No. 4 and further within its influence. Any plan that results in the potential for further contamination of the public supply wells is unacceptable.

5. As you know, the design of the existing air stripping system at Plant No. 4 can treat a maximum influent concentration of 600 ppb down to an effluent of 2 ppb. The design was prepared in 1993 based on the very limited information available at the time as compared to today. As you know, the District has a "non-detection" policy regarding VOCs in its treated water supply. Accordingly, a design of 600 ppb down to 2 ppb would be equivalent to a treatment of 150 ppb to non-detect. Based on the potential of up to 250 ppb, the District will likely experience detections in the treated effluent. This would cause the District to be forced to remove the plant from service. Removing the plant from service would have a serious impact on the District's ability to meet peak demand and fire flow conditions since it is the District's largest supply facility. As such, the District cannot be in agreement with any action that could cause the plant to have to be taken off line. It is the District's strong opinion that the recovery well is not located in the correct position. The well should have been located within the highest known concentration area at Arthur Avenue to maximize mass removal and help minimize the significance of the impact at Plant 4.

6. Based on the above, should the contamination concentrations at Plant No. 4 become too excessive to treat, as determined by the District, the District will be forced to shut down the water supply facility. Should this situation occur, the District will be seeking cost recovery from Grumman and the Navy as required for either improving the treatment system or replacing the plant completely.

With regard to the 90% design documents, the following comments are provided for your consideration:

1. The permanent access road to the treatment plant originates from the east end of Sophia Street. The property from 120 feet west of the end of Sophia Street to the end of Sophia Street is owned by the Bethpage Water District. An easement agreement with the Water District to enter and exit the access road from Sophia Street must be in place prior to the completion of the design.

2. Correspondence from the Navy indicated that construction is planned to start in March of 2006. Many general construction aspects of the project require permitting from the Town of Oyster Bay. What is the status of the Navy's permitting process with the Town?

3. The treatment system is stated to operate for a period of no less than 5 years, unless area groundwater contamination is at or below 2 to 5 parts per billion (ppb), and no more than 10 years, unless TVOC concentrations in individual monitoring wells are at or below 100 ppb. First of all, a 10 year maximum operation is unacceptable should groundwater contamination remain above 100 ppb. Secondly, the stated operational parameters are exactly the reason we continue to disagree with the location of the extraction wells. Conveniently, with RW-2 (185 ppb TCE) not being located within the 1,400 ppb TCE hot spot, there exists the potential for a pre-mature system shut-down by the Navy prior to the full remediation of the area. Time of operation should not be a criteria, groundwater contamination should. Also, the plan states that the Navy may shut down a well or modify extraction rates to optimize performance, but there is no mention of any performance basis in making such a determination. The NYSDEC must have regulatory control over the system performance and operation, not the Navy.

4. Vinyl chloride (187 ppb) was found in extraction and monitoring wells at RW-1. There have been no detections of vinyl chloride in any other off-site monitoring wells in the area. There is no data as to the source, path, extent, concentration, etc., of vinyl chloride contamination in the area, yet a design influent of 300 ppb has been selected. Please provide the basis of selecting this design influent.

5. The plan states that the number and locations of injection wells will be determined after acquiring additional hydrogeologic data and performance data on the initial injection wells. This is a statement of work that should be done during a study or design phase, not a construction phase. How can an extraction / injection remediation system be designed and constructed without knowing how or where the treated water is going to be injected? Important basic treatment system information continues to be lacking in the plan.

6. The plan states that equipment will be sized to prevent the discharge of contaminants to the atmosphere or the groundwater in excess of permitted or regulated values. This is too vague. The not to exceed value should be stated. For treated water being injected into the ground, the value should be less than 0.5 ppb.

7. Statements made regarding factors that need to be in place to make the remediation system effective include the long term operation and maintenance of VOC removal systems at three Bethpage public supply well fields for at least 30 years, or until treatment at the public supply wells is no longer required, or Bethpage decides to shut down the well fields. First, Bethpage operations should be in no way connected to the effectiveness of the remediation system

performance. Second, we do not understand the connection between the Bethpage operations and the treatment system effectiveness given it is stated that the Bethpage wells could operate for 30 years or be shut down tomorrow?

8. The plan states a vinyl chloride contingency plan is to be in place to deal with large quantities of vinyl chloride that may be encountered from an upstream contaminant source. This statement contradicts the fact that the plan is proceeding without any information on the excessive vinyl chloride contamination discovered at RW-1. Since the NYSDEC has no data on vinyl chloride, how can a contingency plan possibly be put in place prior to a sufficient study? Since the NYSDEC is proceeding with the current plan, a vinyl chloride contingency plan based on no data will unfortunately be of little help should the public supply wells be impacted with vinyl chloride. Please explain how a contingency plan will prevent vinyl chloride contamination from entering the public supply wells.

9. The plan states that discussions with the NYSDEC have already revealed that a State Pollutant Discharge Elimination System (SPDES) Permit will not be issued by the NYSDEC, even though an application will be made. If an application is made, and a permit is not granted, how can the discharge be permissible under this plan?

10. In the potable water line specification, the referenced meter equipment must be "purchased through" not "supplied by" the Bethpage Water District. Also, the specification refers to the meter and RPZ being installed along the public right-of-way. Please note that the referenced location is not a public right of way, but is Bethpage Water District property. Further, the specification states that the subcontractor will tap the existing water line. Please amend to state that the subcontractor prepares for the tap, but the Water District performs the actual tap.

11. The air stripper specification infers that a nozzle assembly will be used to distribute influent water over the packing material. Details of the nozzle system were not provided, but should be included in the specifications. Nozzle distributors have been known to fail, resulting in short-circuiting of the packing material. A distribution tray should also be used to ensure that adequate water distribution occurs should a nozzle fail. Also, instrumentation should be included in the form of a low pressure safety circuit on the influent line to shut the system down on nozzle failure. When in normal operation, a certain water pressure will be created by the nozzle operation. Should a nozzle fail, the inlet water pressure will decrease. Such systems have been required by the Health Department as a safety against short-circuiting within the tower and inadequate treatment.

12. Air flow requirements must be strictly adhered to for successful treatment. A failure circuit is described in the specifications such that should a low air pressure at the blower outlet be present, the system will shut down. An air flow safety should also be included such that if the blower is not producing the required air flow, while still satisfying the pressure safety, the system should still shut down since treatment effectiveness is being compromised.

13. A caustic feed system is included in the treatment process. Please explain the purpose of pH adjustment, including the pH objective prior to injection. Given the natural pH of the

groundwater and the affect on pH by the air stripping process, we are unsure as to the purpose of the pH adjustment system.

14. The carbon polishing system for water treatment will consist of two (2) 20,000 pound carbon loaded vessels. The piping arrangement is described as being in series or parallel, allowing for the switch of primary and secondary carbon treatment and actually taking a vessel off line and treating the flow though one vessel. Typically, the manufacturer recommends no more than a 700 gpm flow through a single vessel. The proposed system will potentially have 1,100 gpm flow through one vessel. The manufacturer should confirm that this operation will not adversely impact the treatment objectives.

15. The system is to operate continuously, yet there is only an uninterruptible power supply (UPS) proposed for the PLC control system. Emergency power generation for the entire treatment system should be required to ensure that the treatment system can operate during any and all periods of LIPA power outages.

16. Is this plant to be manned 24 hours a day, 7 days a week, for all the years of operation? There is an autodialer system included to notify someone that there has been an alarm or failure in the plant. Who is the autodialer going to call, and what is the response time? Downtime of the treatment system must be minimized.

17. The extraction wells are proposed to be operated by variable speed well pumps. Why are the well pumps variable speed if the flow rates are supposed to be the determining factors of the treatment system? Also, the variable frequency drives for the well pump motors are planned to be controlled by water level in the wells themselves. How is this pertinent? The well pumps are planned to be set at 150 feet below grade, which should be well below pumping levels, and the system is designed for flow rates of 300 and 800 gpm. Well pump output should be the controlling factor for the treatment system, not water levels. Nowhere have water levels been identified as a factor in the remediation system. Also, the plan states that the variable frequency drives will be set to maintain an operator selected speed. We also do not understand this process. If the purpose of the drive is to vary speed, why would there be a speed setpoint? We feel the drive should be controlled by a flow setpoint.

18. The described automatic blower shut-down sequence can result in untreated water cascading through the tower without any air flow. Prior to the blower automatically shutting down, the flow through the tower has to be stopped and a time delay has to be added so that any water in the tower is fully treated before the blower stops.

19. The purpose for the termination vault for future well connections must be further explained. It has already been clearly stated that a third well will not be included in the treatment process. Who, why, when, how will it be decided that a third extraction well is required?

Once the above comments have been reviewed, we would appreciate a written response so that we can understand how each comment is being addressed, if at all. The District would also like to be informed

as early as possible as to the time and date of the public information session for this plan so that we can schedule ourselves accordingly.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.

Richard W. Humann, P.E.

cc: Board of Commissioners
Supt. Andrew Musgrave
Anthony Sabino, Esq.
United States Senator Charles E. Schumer
United States Senator Hillary Rodham Clinton
United States Congressman Peter T. King
New York State Senator Carl L. Marcellino
New York State Assemblyman Joseph S. Saladino
Nassau County Legislator Edward P. Mangano
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Town of Oyster Bay Town Board
Mr. Hal Mayer, Town of Oyster Bay
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