

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Concerning: Minutes of the meeting of 7 June 2004
Date: June 8, 2004

PRESENT

M. Alarcon
N. Bartilucci
H. Bokuniewicz
R. Liebe
R. Mazza
J. Milazzo
B. Nemickas
D. Paquette
W. Spitz
R. Walka
P. Witkowski

REGRETS

S. Jones
L. Koppelman
M. Nofi
G. Proios
S. Robbins
K. Willis

1. The minutes of the last meeting had been mailed earlier. There were no comments at this time.
2. Richard Walka addressed the Council concerning the project being undertaken by Dvirka and Bartilucci (db) for hazardous waste assessment for private, small businesses. Mr. Walka is a vice president in charge of db's Division in support of industrial services in the private sector. He had worked formerly for the EPA Region II dealing with water and hazardous wastes.

The current project was the result of db's response to an RFP from Empire State Development (ESD). ESD has provided one million dollars to provide free pollution assessments to small businesses in the southern counties of NYS. A small business is one with less than 100 employees. Consulting firms were chosen to do the job rather than regulatory agencies, like the DEC, to avoid any reluctance of small businesses to participate due to potential regulatory (permitting) implications.

Small businesses such as photo-finishing companies, garages, etc. are targeted. The focus is on identifying substitute chemicals and processes that can allow wastes to safely enter the sewage system as a disposal option. In some instances, a more compatible chemical can be substituted but there is certain inertia since it "has always been done this way". Unions may even be involved because of a change in work effort associated with shifts in chemical procedures. One example is the replacement

of methylene chloride with soluble caustics for cleaning operations, like those used by the LIRR. In this case, there are real cost savings in the avoidance of permits, storage facilities, etc. Another example is a shift to water-based paints by companies like Grumman. Even without a change in chemicals or processes, wastes can be avoided in some small businesses merely by better “housekeeping” so that stockpiled chemicals do not have to be discarded because their shelf life has expired.

So-called “P2” seminars have been run in BNL for fleet managers (e.g. UPS, FedEx) and others are planned in Suffolk and Nassau counties both with the support of the county executive. Mike Derring helped in Suffolk and the Nassau Bar Association is co-sponsoring the seminar (10 October) in Nassau. The Town of Brookhaven is scheduled for 24 June. Long Island Association is cooperating in these efforts. Seminars are under development in Erie, Yonkers and Westchester. The program is pending in NYC.

On the horizon, attention is likely to be devoted more to schools and hospitals. LIU has just dealt with probably a half-million dollars in fines to EPA concerning, among other things the disposal of fluorescent lights and computer equipment as well as storage tank violations and the disposal of chemical lab waste. Currently, db will be offering SEP (Supplemental Environmental Projects) guidance to K-12 school districts and BOCES in pollution assessment.

Copies of Mr. Walka’s PowerPoint presentation were distributed and are available.

3. NYC’s Aquifer Recharge Storage (ARS) program was discussed. Nick provided copies of the recent NY Times article.

Funding is available from NYC but the project for a pilot study at one well (north of JFK airport) is on hold. The DEC contends that two permits are required: a SPDES permit for the inspections of chlorinated water and a well-permit, allowing the use of the Lloyd aquifer which is under a moratorium since 1986 except in the case of hardship. The “hardship” exemption has never been tested. The USGS expects to conduct some of the modeling and geochemical monitoring on any pilot project, but is waiting for project approval. The City is now holding meetings with Nassau County Health Department, Mssrs. Wissenberg and DiNapoli and others, but no DEC permits have been filed. An EIS seems likely to be required when any permit applications are reviewed.

ARS has been done in other places, such as NJ, CA and FL. We believe, however, that these projects in other states usually operate with more-or-less continuous recycling not long-term (multi-year) storage. It seems that when the NYC project was conceived years ago, it was to provide relief during drought but now it is being considered as a possible response to an emergency situation involving the replacement and repair of NYC’s water tunnels. The USGS had estimated that, without recharge, 100 mgd could be provided from the Lloyd. The demands due to the water tunnels’ repairs, however, may reach 400 mgd and engage a field of 50 wells. This may not be realistic. There are important technical questions still to be resolved, potential adverse chemical reactions, fouling, upward leakage into the magothy and the position of the saltwater/freshwater interface to name a few. The possibility of upward leakage raising the water table elevation is especially troublesome because, since the Woodhaven and Jamaica water companies stopped

operations, the rebound of the Magothy water table has already caused flooding problems in basements and underground facilities.

4. The Master's thesis on dating groundwater at East Northport and Peconic supply wells has been complete. Groundwater from public supply wells at two locations on Long Island were dated using three geochemical methods – tritium-helium, radiocarbon, and three different species of chlorofluorocarbons. At a well on the north fork of Long Island, the best estimate of average groundwater age was 27 years; in East Northport it was 39 years. These ages are older than those independently calculated with numerical models, most likely because the wells are not old enough to have established equilibrium between pumping and recharge as assumed in the model. Because the average age of the water supply represents a mixture of young and old water, any particular contaminant found in the current water supply could have been inherited with the older fraction of the mixture, or supplied from modern land-use as the younger component of the mixture. Other tracers, samples from monitoring wells, or more detailed information on sources would be needed to date particular contaminants.

The study also highlighted the need for caution in interpreting the SWAP results. Ages based on the SWAP capture zones were consistently too young when compared to the average geochemical age probably because the wells are not in equilibrium as assumed, and still capturing older water at the screened depth.

5. The Pine Barrens Research Forum will be held on Friday October 8 at BNL. The theme will be “monitoring” and I will ask Ron Busciolano to give a presentation on the USGS Program. Other suggestions are welcome.
6. The schedule of meetings for the fall will be:

Mondays 9:30 – 11:00 AM

- 20 September (SCWA?)
- 18 October (Dvirka and Bartilucci?)
- 15 November (SCWA?)
- 20 December (SUNY)
- 18 January (Tuesday) after Martin Luther King Day (Dvirka and Bartilucci?)