

MEMORANDUM

To: Groundwater Advisory Council
From: H. Bokuniewicz
Re: Minutes of the meeting of April 27, 2015
Date: April 28, 2015

PRESENT

N. Bartilucci
H. Bokuniewicz
S. Colabufo
K. Mishkin
A. Pallische
D. Paquette
A. Rapiejko
M. Scorca
W. Spitz
S. Terracciano

REGRETS

M. Alarcon
C. Gallagher
P. Granger
R. Liebe
R. Mazza
M. Nofi
J. Pilewski
H. Walker
M. White

1. Steve Colabufo had provided revisions to the minutes of the last meeting. These are posted on the website address <http://you.stonybrook.edu/somas/institutes/long-island-groundwater-research-institute/>.
2. Arnold Palleschi joined us for this meeting. Arnold had served as the director of the Conservation Department of the Town of Hempstead and with the Water Department. He is now with Dvirka and Bartilucci and serves as the chair of the Nassau County Water Resources Board. The Board has met several times to consider NYC's plans to reactivate the Jamaica Water District. At this stage, they function as a watchdog over this initiative.

NYC plans to reactivate 30 wells, including three Lloyd wells. Although these wells are currently inactive, and had been for a long time, they still hold valid permits which will expire in 2017. The three Lloyd wells are particularly contentious in the face of issues of saltwater intrusion. NYS Senator Jack Martins has a bill pending that would require any well that has been inactive for more than two years to be re-examined with a full impact statement before being re-activated.

The USGS was requested to meet with NYC (Emily Lloyd) sometime soon and with the Major (1 June, 2015) on the issue of reactivating these wells. The USGS will consider restarting and expanding a monitoring program for water level, water quality and saltwater intrusion. Modeling is expected to be needed before reactivation. The USGS had been occasionally involved in this area since the 1980's and Herb Buxton (USGS) had modeled a few scenarios some years ago. Although the NYC is proceeding towards reactivation, new modeling has not been done. The CDM groundwater model of Nassau County does extend into Queens although some additional work would probably need to be done to improve the resolution.

The new wells are intended to be used temporarily a back-up source of water while repairs to the aqueduct tunnel is under repair. It seems that 33 MGD would be withdrawn from an area of three square miles. This seems excessive; when the Jamaica Water District was operating in the past the cone of depression was below sea-level. This is intended to take 8 months but it may be

longer. The leaking aqueduct tunnel passes through “cavernous” limestone. Repairs to this section and completing a by-pass tunnel will require, perhaps time-consuming grouting. While the withdrawals from the Jamaican wells will be intense, 33 MGD seems insignificant in light of NYC’s annual water demand of 1.2 billion gallons per day.

Having expended so much time effort and money in reactivating these wells, it seems unlikely that they will not continue to be used over the long term, perhaps if only to alleviate local flooding. Flooding has been an issue here since the Jamaica Water District was shut down and, recently, has been exacerbated by higher-than-normal precipitation. However, the NYC DEP (Jim Roberts, Deputy Director) seems to have discounted the use of these wells solely for dewatering.

Interconnections with Nassau County still exist and water districts in Nassau have excess capacity at least in the winter. Twenty years ago water was transmitted into Queens from the Western Nassau County Water Authority, although the arrangement was controversial.

Water from Nassau (and/or Suffolk?) could be sold to NYC temporarily in this situation or in future emergencies. All water districts have franchise areas within which they have the sole right to serve the water needs in that area as a permanent condition. The Western Nassau County Water Authority had included the Jamaica Water District before it was taken over by NYC and subsequently deactivated. The DEC encourages inter-connections among all districts and, in emergencies water can be transmitted from one district to another with only a requirement to report such actions. Permanent transmissions between franchise areas may require NYS legislative approval.

In the present situation, NYC may have rejected the use of interconnections to Nassau County.

3. Katherine Mishkin discussed the EPA’s EQuIS database. Katherine is with EPS superfund Program in Region II and coordinator there for EQuIS. Since 2008, all data from superfund sites have been required to be incorporated into EQuIS. There are now over 100 Federal superfund sites in this system, some with as much as 14 years of data. EQuIS is on the EPA Region II website. The site is for internal use, but the data can be shared and a web-based version exists called ENTERPRISE. EQuIS is fairly prescriptive; certain data is required before it can be incorporated into EQuIS but the template is an EXCEL file. Usually there are two shapes to the data submission, the lab provides analytical data to the contractor who adds location information and submits it to EQuIS. EQuIS is commercial software, but each consultant does not need to have their own version of EQuIS. Data just needs to be provided in the prescribed EXCEL files.

Data in EQuIS can be exported in a variety of formats for different application. These include STORET and ARCGIS. However, EQuIS is specifically designed for each client. As a result, different agencies (such as between the State and EPA or even between different EPA Regions) will have different versions so that data cannot be seamlessly exchanged.

EQuIS contains a wide variety of data besides that associated with groundwater, like analysis of air samples or soil vapor, but it is all monitoring data. Water suppliers are required to supply data in SDWIS. SIDWIS is another EPA data base but there are no linkages to EQuIS or to STORET (SCRIBE is yet another data base on an ACCESS platform; NWIS, the National Water Information System, is another).

While data sharing sounds deceptively simple, we have learned how very difficult this straightforward task is. The diversity of systems and formats make implementation very difficult. For one thing, in order to be “sharable” data must be in the same format with common naming

conventions. International standards might be the best foundation to adopt for a common database. Different systems may have different naming conventions; “pore water” in one data base may be called something else in another; chemical names, too, can have different nomenclature.

There is little incentive to expend the time, effort and money to properly code a database. It cannot be done by lightly trained aides but require professional experience and intelligent intentions. The most common incentive, when there is one at all, is a contractual or regulatory requirement. A funding source would provide another incentive. While “agencies can’t talk to each other”, a seamless data base is just not a priority.

Data bases are also one of the topics in which LICAP has an interest.

4. As discussed at the last meeting, LICAP is producing white papers on relevant topics. Mike Alarcon has now agreed to draft a white paper on the Lloyd. LICAP expects that these will be reviewed by committee and revised before release. Other topics still need (volunteer) authors. These are:
 - Cross County Water Transmission
 - Regulatory Review: What Works, What doesn’t and how to fix it
 - Regional Contamination Sites on Long Island
 - Alternate Water Supply Options: Aquifer Recharge, Desalination, Water Re-Use
 - Potential Polluters: Inspections and Enforcement
 - Wastewater Management

The Subcommittee on Water Resources Opportunity primarily focuses on short-term, and mostly Nassau County, issues. Karl Schweitzer is the current chair but he may need to step down, or at least, get help from a co-chair.

5. The topic of geothermal power is being done by Steve Colabufo and Paul Boyle (P.W. Grosser). A large open-loop project is being done in Yaphank. Three glacial-aquifer wells will be used for cooling only. A temperature model showed an increase of 3 or 4 degrees in 15 to 20 years. No potential changes in water chemistry were investigated.
6. Nineteen alternate septic systems are to be installed at selected private residences in Suffolk County. If the efficiency of nitrate removal can be increased, population density might be increased. Still, the new systems may cost \$40,000 to \$50,000 to install. These are not passive but require pumps and aeration. Provisions (costs) for maintenance and for continued operation during power failures must be anticipated. Although reductions of nitrate concentrations to 3 to 5 mg/L are advertised some expect reductions to 15 to 19 mg/L. The costs and benefits of such systems on a regional basis must be compared to the cost of sewerage.
7. The EPA will have its next “groundwater” meeting at the Nature Conservancy in Cold Spring Harbor. They will discuss industrial contamination and the EPA and NYS superfund sites.
8. The next meeting will be on June 1 at the offices of the SCWA in Oakdale.