



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Governor

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Lt. Governor

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STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for January 26, 2012

Board Members Present: Art Becker (Chairman), Gary Poppe (voted Vice-chair at this meeting), Richard Dalton, Joseph Pepe and Joe Yost

Board Members Absent: Carol Graff, Karl Muessig, Fred Sickels

Board Legal Advisor Present: Jill Denyes, DAG (attended the PM session)

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, and Melia Stoop

Other NJDEP staff present: Kristin Tedesco (Division of Water Supply, attended the PM session only) and Jeff Hoffman (Compliance & Enforcement, attended the AM session only)

Member(s) of the Public who attended the morning session: Robert Feuer, Eric Hoffman and Jeff Campbell

1. **Call to Order – Chairman** Art Becker called the meeting to order at 9:30 am with a quorum present.
2. **Review of Minutes from November 22, 2011 Meeting –**
A motion to approve the minutes without change was made by G. Poppe, seconded by A. Becker and approved unanimously.
3. **Testing & Licensing Issues-**

Review and Certification of Exam Applicants for the December 15, 2011 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams–

Master – A motion to approve the exam score for the sole applicant for the exam was made by J. Pepe, seconded by G. Poppe and approved unanimously.

Journeyman – A motion to certify the exam scores was made by G. Poppe, seconded by J. Yost, and approved unanimously.

Journeyman B – A motion to certify the exam scores was made by R. Dalton, seconded by A. Becker and approved unanimously.

Monitoring – A motion to certify the exam scores was made by R. Dalton, seconded by G. Poppe and approved unanimously.

Soil Borer – A motion to certify the exam scores was made by J. Yost, seconded by G. Poppe and approved unanimously.

Pump Installer – Board members noted that while most of the applicants had passed the technical section, none had passed the regulatory part of the exam. The hope is that future applicants will benefit from classes offered for the upcoming continuing education program. A motion was made to certify the exam scores by J. Yost, seconded by J. Pepe and approved unanimously.

4. Licensing Topics

Pump Installer Exam Challenge by John Thorson, AC Schultes Inc. Mr. Richard Gardner, who is the production manager for A.C. Schultes, Inc, had submitted a letter on behalf of Mr. Thorson expressing his opinion that the test answer as graded by the Department is not correct. The question pertains to performing a continuity test on a submersible well pump. A motion to discuss the question in executive session was made and approved unanimously at 10:15 am. The Board returned to open session at 10:25 am.

The Board determined that the question was worded properly and that the applicant's answer was incorrect. Mr. Thorson's score will remain unchanged.

Pump Installer Test Survey Update- Since none of the most recent set of test candidates passed the pump installer exam, the responses to the survey were carefully reviewed and discussed. A number of the candidates had passed the technical portion but failed the regulatory section. A. Becker noted that the responses indicated that people had studied the regulations an average of eight hours. This would appear to be sufficient provided the regulations were understood. The list of suggested study materials is short and members felt that test takers should be able to get through the material. Members expressed a desire to get the continuing education program up and running as soon as possible since training sessions would also help candidates prepare properly for exams. Board members also noted with concern that a number of the test takers are currently working without proper supervision which amounts to working without a license.

G. Poppe mentioned that NJGWA will be holding a training seminar on pump installation and offered to invite the recent test candidates to the event. Well permitting staff will supply a list of the recent test candidates to him.

5. Board Business: Reappointment of Board Members, Status Update -

Chairman Becker explained that he had been notified in writing that Anthony Tirro has not been reappointed to the Board. P. Bono reported that there has been no word yet on the reappointment of the other Board members. Although the appointments are made by the Commissioner, they are awaiting a review from the Governor's office. A. Becker will draft a letter thanking Mr. Tirro for his many years of service to the Board. A. Becker noted that vacancies on the Board make it challenging for the required quorum to be present at a meeting. T. Pilawski will provide a contact person in the Commissioner's office for A. Becker to request to have all appointments filled and renewed. Mr. Tirro

had been serving as the Board's Vice-chair. The role of a vice-chair is essential to meetings when the chairman cannot be present. J. Yost made a motion to appoint G. Poppe as the Vice-Chair for the remaining portion of the year term (until May). The motion was seconded by J. Pepe and approved unanimously.

6. The meeting dates for the **2012 Board Meeting Schedule** have been publicly noticed and set as follows:

Thursday-January 26th

Thursday-July 19th

Thursday-March 15th

Thursday-September 13th

Thursday-May 24th

Thursday-November 29th

Two conference calls, which are to be held for solely for the approval of well driller and pump installer exam scores, were also published:

Thursday, May 3rd, 2012 and Wednesday, November 7th, 2012

7. **Board Business: Enforcement Activities**

J. Altieri gave a summary of the Enforcements Activities & fines issued during the past two years. There has been an increase in the level of activity over the past year. G. Poppe suggested making these activities more visible to the drilling community and the public would help to have a greater impact as a deterrent. Many states post violation and fine histories.

T. Pilawski mentioned that she is working to address the backlog of paper decommissioning reports waiting to be reviewed. Holly Papp will be returning to help provide more of a field presence. She also adds that she wants to quickly get the updated rules in place so that folks who do enforcement activities have the proper regulatory tools needed to address violations. She is planning to have staff out the field at least once per week.

J. Hoffman wants to have the needed regulatory support to check licenses and permits in the field as well as to be able to revoke or suspend licenses when warranted. There was a general discussion about the increased level of coordination between the well permitting program and enforcement as well as between the enforcement field offices and local health departments.

8. **Board Business: Licensing Activities**

S. Reya noted that copies of our current exams for soil boring and monitoring licenses have been provided to the National Ground Water Association (NGWA) for review. P. Bono mentioned that earlier the well permitting program had been advised that a dual track program using NGWA could be established prior to the adoption of rule amendments as long as the current testing process was kept in place.

9. Technical Topics

Robert Feuer of Smarter Energy Now came before the Board to recommend the acceptance of direct expansion (DX) geothermal systems in NJ. He has been working in to install DX geothermal systems in NY, NJ & Connecticut. He participated in the recommendations for writing Connecticut's criteria for installing these systems, including regular inspections of sacrificial cathodes and requirements for well driller licensing. In Connecticut, DX geothermal systems inspections are regulated as part of the HVAC requirements. His company uses a PVC stabilizer to help insure that the uncoated copper casing is centered in the borehole and does not use a water-based circulating fluid. Many of their borings are drilled on radial angles. Because of this, his company's system does not have any method for decommissioning geothermal wells when they begin to fail or are no longer needed. He estimates that these geothermal wells can be installed for about \$90.00 per borehole and typically measure about 100 feet deep. His company primarily installs residential systems.

Eric Hoffman of Shaw Environmental, Inc., made a second appearance before the Board to present an update on the bench test for an alternative decommissioning method for two types of electrodes installed at a remediation site in Maplewood, NJ. The Board had requested the bench test prior to approving his request for a deviation based on site-specific conditions. Mr. Shaw and his colleague Jeff Campbell brought samples from the bench test which illustrated that the grout injection technique thoroughly penetrated the full diameter of the simulated borehole.

Based on the bench test results, the Board recommended that the Department approve the deviation request for decommissioning all electrodes at the site. The motion was made by G. Poppe, seconded by J. Yost and approved unanimously.

Update on the Agreenability pilot geothermal project: S. Reya provided an update on the pilot demonstration for the installation of a closed loop geothermal system. It is anticipated that this will take place in February. G. Poppe expressed an interest in attending. A. Becker requested S. Reya to keep members of the Board updated as appropriate.

Update on the approval of three Baroid Geothermal grout mixes: Barotherm Gold 1.2. (pre-packed), Barotherm-400 lb sand mix and Barotherm max. R. Dalton raised the concern that one of the submitted samples exceeded the Department's maximum permeability standard. S. Reya pointed out that the "failed" sample was listed as being at the end of the batch and that a second, separate sample from the same mixture had met the permeability standard. S. Reya will request additional information on the full sample report to address these concerns.

10. Status and Development of Amendments to the Well Rules

T. Pilawski introduced Kristin Tedesco as the rule manager for the well rule amendments. She explained that K. Tedesco and Kati Wessling are working with the well permitting program to prepare the well rule. To date, staff members have worked to amend Subchapter 1 and 2 with some additional work on Subchapter 3. The proposal of amendments will also establish the Board's procedures for licensing, continuing education requirements and suspension and revocation of licenses. The rule launch

meeting was held last December and the presentation to the Commissioner is scheduled for February 6th. T. Pilawski mentioned that the main priorities of the Division Director, Fred Sickles, is to address those regulations that pertain to geothermal well systems, methods for approving new materials and technologies and to establish the continuing education program. A. Becker acknowledged that these are needed in the rules but also emphasized that the amendments need to address the requirements that govern the actual well construction, maintenance and decommissioning activities. Many of these are outdated and as a matter of practicality, encourage non-compliance or make it impossible to employ current techniques within the industry.

T. Pilawski and K. Tedesco provided a description of the next steps in the rule process and timing of the rule process and timeframes. K. Tedesco and P. Bono asked the Board members for a number of clarifications that are needed on a variety of smaller issues for the writing the rule provisions, including the definition of appurtenances. The topic of unlicensed people who routinely open wells to work on pumps came up. Also during the session a discussion of who should be qualified to disinfect public community supply wells concluded that master, journeyman, journeyman B and pump installer licensees should be allowed to do so.

G. Poppe and J. Pepe reiterated that a pump installer license or higher is needed to open a well in accordance with the Act as well as the regulations. An extensive discussion took place regarding the meaning of the journeyman vs. the master license. It was proposed that a Journeyman license holder be allowed to drill a Category 1 public community water supply well under the project management and oversight of a master well driller. This motion was made by J. Yost and seconded by R. Dalton and was approved unanimously by all present. One of the concerns raised by Board members regarding the construction of public community supply wells is that engineering firms design wells without consulting a licensed well driller for compliance with NJ state well construction regulations. Another point is that it is difficult for a journeyman to qualify to sit for the master license exam due to the few numbers of community wells installed annually. Master candidates are required to submit permits and records for five wells as experience and the construction of some wells may take months. This means that only experience obtaining during the installation of a new well is currently accepted. The Board members suggested that work on the modification and decommissioning of public community supply wells should also count towards the experience requirement. After further discussion, a second motion was made by G. Poppe and seconded by J. Yost to require that a master driller apply for permits for public community water supply wells and shall act as a project manager responsible for all well drilling activity subject to Subchapters 1, 2 and 3 of the well regulations. All members present voted to approve this motion.

Board members voiced their support for the success of the rule amendments. The need to revise the construction and decommissioning subchapters for the sake of the drilling industry was again emphasized by the members. A. Becker offered to provide whatever assistance the DEP staff may need for drafting the rule provisions.

A motion to adjourn was made by G. Poppe and seconded by J. Yost at 3:50 PM.
3:50pm -Motion to Adjourn: Gary Poppe 1st, Joe Yost 2nd.



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STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

New Jersey Department of Environmental Protection Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for March 15, 2012

Board Members Present: Art Becker (Chairman), Richard Dalton, Joseph Pepe, Steve Doughty, Carol Graff and Dr. Karl Muessig

Board Members Absent: Gary Poppe (Vice Chairman), Joseph Yost
There is a Board vacancy for a driller position.

Board Legal Advisor Present: Jill Denyes, DAG, & Tirza Wahrman, DAG

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Pat Bono, Steve Reya, Julia Altieri, Melia Stoop. Terry Pilawski (afternoon session)

Other NJDEP staff present: Kristin Tedesco & Katrina Wessling (Division of Water Supply, attended the afternoon session) and Melissa Hornsby (Compliance & Enforcement, attended the morning session only)

Member(s) of the Public who attended the morning session: Gordon Craig of Craig Test Boring Co.

1. Call to Order –

Chairman Art Becker called the meeting to order at 9:30 am without quorum present. He stated that the Board was unable to fulfill the quorum requirements for the meeting as a result of the fact that the Department and/or Governor's Office have been delinquent in appointing a member to the vacant licensed well driller position. Two licensed Board members were unable to attend the meeting, which meant the Board was unable to satisfy the quorum requirement of having three licensed individuals present. A. Becker urged the Department to work on the remaining appointment so the Board would be able to operate effectively at future meetings.

2. Review of Minutes from January 26, 2012 Meeting –

A motion to approve the regular meeting minutes could not be done without a quorum. Two suggested corrections were noted by present Board members:

- Item 4 (page 2) under "Pump Installer Test Survey Update- " the second sentence should be omitted because the statement is repetitive of the first sentence.

- Item 8 (page 3) under the “Board Business: Licensing Activities-“ The first sentence should be revised to indicate that current well driller exams “were provided to NGWA.” Bureau staff will make these corrections for the Board’s certification at the May 24th meeting.

Board members reviewed the “executive session” minutes as well and did not suggest any changes. These will also be certified at the May meeting.

3. Review and Certification of Exam Applicants for the April 4, 2012 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams–

S. Reya noted that Vice-Chairman G. Poppe reviewed and certified the applicants for all exam types and certified all exam applicants by email (dated March 14, 2012) to allow a quorum vote for applicant certification.

Master – A motion to approve all listed applicants for the exam was made by S. Doughty, seconded by C. Graff and approved unanimously.

Journeyman – A motion to approve all listed applicants for the exam was made by S. Doughty. The motion was conditioned upon the fact that one applicant, Mr. Edward Killip, submits payment for an outstanding penalty assessment issued by the Department. It was noted that his check was reportedly mailed to the Department on March 14, 2012. Mr. Killip shall be considered “approved” for the exam provided the Department receives his full payment prior to the exam date. The motion was seconded by C. Graff and approved unanimously.

Journeyman B – A motion to approve all listed applicants for the exam was made by A. Becker, seconded by R. Dalton and approved unanimously.

Monitoring – A motion to approve all listed applicants for the exam was made by R. Dalton, seconded by J. Pepe and approved unanimously.

Soil Borer – A motion to approve all listed exam applicants was made by C. Graff, seconded by S. Doughty and approved unanimously.

Pump Installer – A motion to approve all listed exam applicants was made by J. Pepe, seconded by S. Doughty and approved unanimously.

4. Board Business: Enforcement Activities–

J. Altieri provided a compliance and enforcement update on what has occurred since the Board’s last meeting. She spoke about the fact that DEP’s Water Compliance and Enforcement program had devoted significant time over the past two months to address a number of the Well Permitting Program’s outstanding enforcement actions. Pursuit of these past violations resulted in the receipt of \$6,000 in outstanding fines.

Other updates included:

- 1.) Summit Well Drilling voluntarily meeting with Well Permitting staff to settle outstanding reporting violations and outstanding well record submittals. Staff prepared a complete account of outstanding actions, primarily the submission of well records and outstanding NONCs. J. Altieri said that Summit Well Drilling’s staff was extremely responsive to resolving their violations and has hired a full time employee to review their old files and submit all delinquent well records.
- 2.) An unlicensed Pump Installer, whose license lapsed many years ago, paid 12 outstanding fines for conducting well pump installation work without a license.
- 3.) The issue of a well driller utilizing contaminated well water in the drilling of potable wells has been resolved. The Department’s Southern Water Compliance and Enforcement and Atlantic County Health Department were instrumental in resolving this matter.

J. Altieri added that continued coordination between all three Compliance and Enforcement regions (Northern, Central and Southern) has helped to resolve old issues, while continuing to issue new enforcement correspondence on a regular basis.

5. Board Business: Reappointment of Board Members, Status Update –

The Board was informed of an Administrative Order (Number 2012-01) signed by the NJDEP Commissioner, appointing individuals to serve as members of the NJ State Well Drillers and Pump Installers Examining and Advisory Board. The order consisted of only eight appointments, leaving a driller vacancy open. A second order has been prepared for the Commissioner's signature and sent to his office for review. S. Doughty said that he is attempting to expedite the newest Administrative Order, which would finalize the appointment of a new Board member for the vacant well driller position. As stated by A. Becker earlier in the meeting, the lack of a complete Board, in particular a licensed driller position has impacted the Board's ability to function and caused problems with meeting quorum requirements at Board meetings.

6. Letter of Thanks-

A Becker read a letter he had recently sent out on behalf of the Board thanking Mr. Anthony Tirro, Master Well Driller, for his many years of outstanding service to the Board. The Board members present were unanimous in their support of the letter.

7. Memo from Jill Denyes, DAG, Regarding Website requirements for State Boards-

J. Denyes discussed a memo she wrote March 13, 2012 and sent P. Bono concerning L. 2011, c.167 and application to DEP Board and Commissions. The law that becomes effective February 1, 2013 and requires that Board are to maintain internet websites and to post certain information on that website.

Her memo notes that "The act requires 'Environmental authorities, boards or commissions', 'Regional Authorities' and 'state authorities, boards or commissions' to also maintain websites and to post certain information such as mission statement, budget audit reports, regulations, Open Public Meeting Act notices and a list of attorneys, consultants and contractors." Her recommendation, on behalf of the NJ Department of Law and Public Safety's Division of Law, is that the Board complies with this law and develops or updates website information accordingly.

J. Denyes noted that the Board already has an area on the Department's website that contains much of the required information. A. Becker pointed out that some of the information posted on the current website is outdated or incorrect. He indicated that the new statutory requirement is a positive requirement for the Board since it will force the Department and Board to keep the website up to date. S. Doughty volunteered to spearhead updating the Board information contained on the current Department website.

8. Technical Topics-

S. Reya discussed a question recently posed to him by a CETCO Drilling Products representative. Specifically, the representative asked if the Board would be willing to modify the onsite testing procedures for their CETCO High TC Geothermal Grout. Rather than pump the grout mixture (for which CETCO has documented acceptable lab permeability data, tested by an independent lab and found to be below the Department's maximum allowable permeability value), it was requested that the field demonstration be modified to allow for the pumping of the grout through a horizontal tremie line. The rationale for this is due to a limited number of closed loop geothermal well installations proposed for New Jersey, according to the CETCO representative. A. Becker said that he believes that the Board should remain consistent and require that CETCO conduct all required field demonstrations in accordance with what has been required of both CETCO and other drilling product manufacturers in the past. All Board members present agreed. S. Reya will inform CETCO representatives that the recommendation of Board members present was that the test should be conducted in accordance with previous tests, which entails pumping the proposed grout material into an actual geothermal well and testing samples from the grout mixer and the borehole return.

Gordon Craig, President of Craig Test Boring and Geothermal Services, stated that CETCO staff may contact him for available geothermal wellfield installations within the state. He noted that if his company is not drilling at a time and site convenient to CETCO staff, he would likely be able to refer them to another drilling contractor working in the state.

R. Dalton also provided an overview of all geothermal well grouts presented to the Board for approval over the years and noted that only 3 of the 52 permeability tests yielded values that exceed the Department's maximum allowable permeability value.

9. Status and Development of Amendments to the Well Rules (N.J.A.C. 7:9D)

Bureau of Water Allocation and Well Permitting Bureau Chief, Terry Pilawski, along with other Division staff, Kati Wessling, and Kristin Tedesco presented a working draft of the amendments being proposed to N.J.A.C. 7:9D. T. Pilawski stated that K. Tedesco is currently in the process of drafting rule language and K. Wessling is editing the draft document. The next step will be the review of the draft by Division Director, Fred Sickels, followed by a Department legal staff approval.

K. Wessling said that there is a requirement that a rule be adopted within one year from the date of proposal. If not adopted within this timeframe, the rule would have to be re-proposed. She and K. Tedesco indicated that the time from proposal to adoption will likely be determined by the number of written comments received once the draft goes out for public comments. All comments submitted must be reviewed and responded to by the Department. K. Tedesco noted that revisions have been made to all four subchapters of the well regulations. Additionally, she noted that the Board procedures, which cover hearings for recommending suspension/revocation of licenses, license candidate review/certification and continuing education requirements/course approvals, have been revised since the last Board meeting to incorporate the comments and concerns of Board meetings.

K. Wessling addressed the property rights of license holders and hearing rights for pursuing license suspension as they pertain to complying with the NJ Open Public Meetings Act. J. Denyes added that since a license is a property right, any Board actions to recommend suspension or removal of a license would require holding of a hearing.

A discussion regarding hearing deliberations and Board votes being held in open or closed session ensued. Many Board members expressed security and liability concerns with holding the deliberations and vote in open session. Board members also expressed concern with the perception of a conflict of interest should they recommend suspension or revocation because they would essentially be taking the livelihood of another licensed individual. A point of clarification is that the Board's final vote to suspend or revoke is merely a recommendation to the DEP Commissioner, not a directive. It was, therefore, questioned if the Board's determination needed to remain a part of the public record, as the Commissioner could choose to accept or reject the Board's recommendation. J. Denyes indicated that the Board is definitely subject to the NJ Open Public Meetings Act. This means that the hearing session must occur in an open session; the deliberative discussion can take place in closed session and the final vote must occur in open session. The intention of this act is to ensure transparency of state boards. She also added that the NJ Office of Legal affairs would provide legal representation of Board members acting in their official capacity, provided they conducted themselves in accordance with the Board's Bylaws.

10. Continuing Education-

The current continuing education requirement proposal in the draft well drilling regulations is that DEP require a total of 21 continuing education units (CEUs) over the three-year license cycle. This is

consistent with the National Ground Water Association's annual requirement of 7 CEUs. K. Wessling asked if Board members felt that a minimum prescribed number of credits pertaining to NJ regulations must be obtained each license cycle. One idea suggested was that 3 NJ regulatory CEUs be required, as well as 2 safety related CEUs. Board members felt that this may make the industry more aware of regulatory requirements with which they must comply.

Gordon Craig noted that he did not believe this to be a prudent requirement because the industry would then be at the mercy of NJDEP to provide the required regulatory classes. He felt that for large companies, as well as the total number of licensed individuals in the state, the Department is ill equipped to offer such courses with the flexibility and frequency that would be necessary. He felt that providing CEU courses should be left up to private industry.

Finally, there was a general discussion over the Board's role in approving courses, course providers and the timeframe associated with each.

11. Electronic Well Record and Well Decommissioning Submissions-

A. Becker noted that the Well Permitting Program needs to examine the review process for electronic well records and well decommissioning reports. He indicated that a large number of each is being returned to staff from his company for "technical deficiencies." He requested the WP staff to look into the way we are asking for this information to be reported as it seems to differ from the way experienced drillers interpret the questions.

12. Adjournment --The meeting was adjourned at 2:30 pm.



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STATE WELL DRILLERS AND PUMP INSTALLERS
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BOB MARTIN
Commissioner

New Jersey Department of Environmental Protection Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for May 24, 2012

Board Members Present: Art Becker (Chairman), Gary Poppe (Vice Chairman), Joseph Yost, Richard Dalton, Joseph Pepe, Gordon Craig, Steve Doughty, Carol Graff and Dr. Karl Muessig

Board Members Absent: None

Board Legal Advisor Present: Jill Denyes, DAG, & Tirza Wahrman, DAG

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Mike Schumacher, Brian Buttari, Melia Stoop

Member(s) of the Public: Robert Jensen of Agreenability.

1. Call to Order –

Chairman Art Becker called the meeting to order at 9:30 am with a quorum present. He then welcomed Mr. Gordon Craig, President of Craig Test Boring and Geothermal Services Inc., to the Board. Mr. Craig was appointed via Administrative Order Number 2012-07, which was signed by Department of Environmental Protection Commissioner Bob Martin on May 17, 2012. A. Becker stated that Mr. Craig has been a leader in the drilling industry for a very long time and is an excellent addition to the Board. He added that his experience in the geotechnical and geothermal aspects of the industry will be invaluable to the Department and Board.

2. Review of the Minutes from the January 26, 2012 Meeting –

These minutes could not be approved at the Board's March 15, 2012 due to the lack of Board quorum. Several typographical errors were noted in these minutes:

- Page 2, Item 4: The first sentence should be corrected to read "Mr. Richard Gardner, who is the production manager for A.C. Schultes, Inc., had submitted a letter on behalf of Mr. Thorson expressing his opinion that the test answer as graded by the Department is not correct."
- Page 4, Item 9: In the Update on the Agreenability pilot geothermal project section, "interested" should be replaced with interest". In the Update on the approval of three Baroid Geothermal grout mixes section "on eof" should be replaced with "one of". Also the third sentence should contain "a" before "second sample".

- Page 5, Item 10: In the second paragraph, the word “disinfection” should be replaced with “disinfect”.

Review of the Executive Session Minutes from the January 26, 2012 Meeting-

A motion to accept the January 26th, 2012 meeting minutes without change and the January Executive Minutes with the above noted changes was made by G. Poppe and seconded by J. Yost. All members were in favor of the motion with the exceptions of S. Doughty, G. Craig, C. Graff and Karl Muessig who abstained.

- 3. Review of Minutes from the March 15th, 2012 Meeting** – One typographical error was noted: the last word under Item one should be “meetings” not “meeting”. A motion to accept the minutes with this change was made by K. Muessig and seconded by S. Doughty. All members voted in favor of the motion with the exceptions of G. Poppe and G. Craig, who abstained as they were not present at the meeting.
- 4. Review of Minutes from the May 2, 2012 Conference Call Minutes-**
A motion to approve the minutes without change was made by G. Poppe and seconded by C. Graff. All members voted in favor of the motion with the exception of K. Muessig, who abstained as he did not participate in the conference call.
- 5. Review and Certification of Exam Applicants for the June 13th, 2012 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams -**

Master – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by A. Becker and approved unanimously.

Journeyman - A motion to approve all listed applicants for the exam was made by J. Yost, seconded by Gary Poppe and approved unanimously.

Journeyman B – A motion to approve all listed applicants for the exam was made by K. Muessig, seconded by C. Graff and approved unanimously.

Monitoring – A motion to approve all listed applicants for the exam was made by S. Doughty, seconded by K. Muessig and approved unanimously.

Soil Borer – A motion to approve all listed exam applicants was made by G. Poppe, seconded by R. Dalton and approved unanimously.

Pump Installer – A motion to approve all listed exam applicants was made by G. Poppe, seconded by J. Pepe and approved unanimously.

- 6. Pump Installer Exam Survey Results-** Board members reviewed the results of the Pump Installer Exam Surveys that were completed by applicants who took the April 4, 2012 exam. Members again discussed the notion of requiring two years of experience as a prerequisite to sit for the exam, as the consensus of the Board members is that one year of field experience simply is not long enough to learn all aspects of the pump installation/maintenance field. A. Becker expressed his belief that continuing education is important and that many employees in the industry simply replace inoperable parts, but are not truly educated in troubleshooting the actual problem(s). J. Pepe expressed his concerns that often employers and business owners are not properly training their successors on technical material or sound business practices.

It is hoped that the move to use the National Ground Water Association (NGWA) pump exams will remedy the failure problem to some extent. The NGWA offers two separate pump tests: one for pumps over 100 gallons per minute and one under 100 gallons per minute. The current NJ license exam does

not allow applicants to choose a specialty exam type based upon the types of pumps on which they most often work and this may be a contributing factor to the poor passing rates. Board members requested that S. Reya question applicants when they come in for exam reviews and obtain additional information pertaining to the applicant's day to day experience in the field. The Bureau will also continue to include the survey in all Pump Installer exams that are administered and report back to the Board.

7. NJDEP Enforcement Activities Update-

J. Altieri provided a compliance and enforcement update on what has occurred since the Board's last meeting. She reported that Bureau has been working with NJDEP's Northern Water Compliance & Enforcement Office and, as a result, a final resolution was reached regarding the decommissioning of an improperly constructed well in Warren County ordered sealed in 2005. G. Poppe expressed his frustrations that the resolving enforcement problems take years and drillers who violate the regulations are able to continue to obtain new drilling permits and to renew their drilling licenses.

Terry Pilawski expressed her belief that rule revisions will strengthen the Department's enforcement authority and allow for stricter penalties for those who repeatedly violate NJDEP well regulations. She also noted that the Bureau has recently hired additional staff, which should free up some staff resources for field work and investigations. K. Muessig and P. Bono also discussed adding permit "conditions" to electronic permits upon issuance that would require the drilling contractor to notify the Department prior to the start of drilling activities. This would allow the Department to inspect well installations on a periodic basis and concentrate on observing known violators.

J. Altieri indicated that the Bureau is making progress in several outstanding cases and that state attorneys have been appointed for several enforcement cases. Bureau staff members are working to prepare for a hearing or settlement in those situations. T. Pilawski reiterated that she is pushing to increase field presence to encourage compliance with the regulations and level the playing field so that all drilling contractors are forced to meet the same standards.

K. Muessig and C. Graff requested that the Department start to post up-to-date information on the website so that well drilling/pump installation violations are visible to the public. Such activities could act as a serious deterrent to all licensed individuals.

8. Agreeability Geothermal System Request for Approval- Mr. Robert Jensen, President of Agreeability, described the results of a recent test pilot installation recently conducted with his closed loop geothermal piping. The installation was performed at a private residence in Chester, NJ and consisted of four (4) holes that were drilled to a depth of 288 ft. The Agreeability system consists of a set of four (4) geothermal "loops" that are arranged around a larger diameter center pipe, through which a tremie pipe can be inserted for the purpose of grouting the geothermal twisted pipe bundle (2TPB) within a borehole. The center pipe is perforated with 1/4-inch holes to facilitate the flow of grout material into the annular space around and between the nine (9) pipes within the borehole. The closed loop geothermal piping system was re-designed to address concerns raised by the Board at their September 16, 2010 meeting. At that time, Board members expressed concerns about the ability to establish of an adequate grout seal within and around the annular spaces created by the nine (9) separate pipes within the borehole.

As a result of these comments, the pipe system was re-designed and an approval was granted for a test installation consisting of four (4) wells, which were drilled in a consolidated formation in Chester Township in April 2012. The conclusions of this test are summarized in Mr. Jensen's letter and documented in his report "Documentation of the installation of 4.5" Twisted Pipe in Chester NJ" (dated April 20, 2012). This report indicates that "each well took at least the calculated quantity of grout required to fill the well. These results give no indication of any incomplete grouting having taken place.

The process of grouting the well using the perforated center pipe of the 2TPB product did not cause any complications to the grouting process.” Mr. Jensen noted that the drilling contractor, Colaluze Well Drilling pumped several batches of grout through the center pipe and allowed it to set up for the purpose of “anchoring” the pipe bundle. On the following day the contractor returned and pumped grout through the center pipe until return was observed at the surface. Mr. Jensen indicated that the grouting operation proceeded smoothly and effectively grouted the entire borehole. S. Reya also conducted an inspection of the well installations. He reported that the design allows for adequate grouting of the entire borehole in a manner that is consistent with other closed loop geothermal wells and did not observe any problems with grouting operation during any of his site inspections.

Mr. Jensen reiterated that the high density polyethylene (HDPE) piping material, circulating fluids and grout mixes used in Agreenability’s system meet the specifications set forth at N.J.A.C. 7:9D-2.5. Bureau staff have reviewed his information and concur that it meets the criteria set by regulation. Mr. Jensen requested to have his system approved for state-wide use. In addition, a schematic labeled “TP-001” that details the full specifications of your 2TPB geothermal well design was provided by Mr. Jensen.

Art Becker made a motion consisting of two parts: 1) to recommend approval of Agreenability’s 2TPB closed loop geothermal piping bundle to the Department, as it has been demonstrated to meet all applicable provisions of N.J.A.C. 7:9D with regard to construction materials. It has also been demonstrated, via a pilot program, the product allows for sufficient grout placement within the borehole. He noted that all concerns regarding the grouting of the preliminary version of the product have been addressed and resolved in the current version. 2) The “center pipe” portion within the bundle may be replaced with a different material provided the overall configuration of the bundle remains unchanged and the center pipe is not used to circulate fluid. Any changes other than the center pipe would necessitate submitting the re-designed product to the Board for review. The motion was seconded by G. Craig and approved unanimously.

9. **Nebraska Grout Task Force Webinar Update-** A. Becker informed the Board members that a free webinar is being put on by Penn State featuring the Nebraska Grout Task Force results. This study demonstrates the results of a multi-year test that is being conducted by the Nebraska Department of Health and Human Services in conjunction with several bentonite manufacturers. Speaker Tom Christopherson, program manager for the Water Well Standards and Contractors Licensing Program from the Nebraska Department of Health & Human Services, will discuss pros and cons of many types of grout mixtures and detail how geology and water content of native soils affects the quality of the grout seal. Some of the study results disprove certain assumptions about how grout material behaves in the annulus.
10. **Grout Material Update-** S. Reya noted that the Bureau had recently sent a letter to Baroid Industrial Drilling products, which formally approved three (3) of their products, as recommended by the Board. Baroid’s Barotherm Gold (containing up to 400 lbs. of silica sand to 50 lbs. of bentonite), Barotherm Gold 1.2 (a pre-blended version of Barotherm Gold) and Barotherm Max were all included in this approval.
11. **NJDEP- Division of Water Supply Website Redesign-** P. Bono discussed the newly revised Division website, which is intended to be more user friendly. A. Becker reported that he has found it to be more intuitive and feels that Board and testing information is easier to find. Board members provided input to Bureau staff as to information they would most like to see posted on the site.
12. **Licensing Topics-** S. Reya informed the Board that the next step in the proposed National Ground Water Association (NGWA) licensing program is for NJDEP to review the current technical portions of all classes of driller and pump installer exams. Both S. Reya and P. Bono will shortly be receiving

copies of NGWA exams (after signing confidentiality exams), and will review them to ensure that all appropriate topics are covered. This will enable the Bureau and Board members to work together to develop New Jersey regulatory exam modules, which will contain any relevant questions not covered on NGWA's existing technical exams. The exams will also be reviewed to determine whether any questions will directly conflict with NJ regulations. G. Poppe, J. Pepe, J. Yost and G. Craig made offers to assist with the exam writing process. S. Reya will reach out to these members after the NGWA exams have been reviewed. They are also waiting on the current regulation draft, so questions can be developed based on the "new" regulations, rather than the existing regulations. Otherwise test questions would have to be re-written in a year or so.

- 13. Discussion of HVACR Letter from Gary Poppe-** G. Poppe discussed a letter he recently wrote, on behalf of the New Jersey Ground Water Association (NJGWA) to the newly established Heating Ventilation Air Conditioning and Refrigeration (HVACR) Board, which raised concerns over the proposed new HVACR regulations. Specifically, he noted that the HVACR rule proposal essentially prohibited well drillers from working on the lateral lines of geothermal well systems. A listing of licensed professionals who are exempt from obtaining a HVACR license is listed in the rule proposal, but well drillers are not listed in this provision. Additionally, he noted that "the definition of 'Heating, ventilating, air conditioning and refrigeration' or 'HVACR' as it appears under 13:32A-1.2 (Definitions). While this definition correctly indicates that drilling of the well for a geo-thermal system is not within the HVACR definition it fails to include those functions of the well driller to connect the well to the geo-thermal equipment. A. Becker and G. Poppe requested that NJDEP support this effort and notify the Department of Community Affairs and the HVACR Board that the proposed rule infringes on activities that have been regulated by NJDEP's statutes and well drilling regulations. A. Becker will send a letter to Division Director, Fred Sickels, summarizing these concerns and requesting NJDEP support.

14. Regulation Update-

Terry Pilawski stated that the draft Well Driller rule proposal (NJAC 7:9D) is about 98% complete, and that she expects the relatively few outstanding issues to be resolved shortly. Once the draft is complete, the Division of Water Supply & Geoscience will forward the proposal to both Janis Hoagland (DEP's Office of Legal Affairs) and Deputy Attorney General Mike Schuitt for their review and mark-up. Following their review, staff will make all necessary revisions in preparation for submittal to the Office of Administrative Law (OAL) for publication of the proposal in the New Jersey Register (Register). Once published, there will be a comment period, expected to be 60 days, and at least one public hearing. After close of the comment period, staff will prepare responses to comments and determine whether any modifications are warranted to the rule language as proposed. At that point, work on the adoption document will commence and a time frame can be established for rule adoption. State agencies must adopt proposed revisions within one (1) year of publication of the proposal in the NJ Register.

15. Letter to Licensed Site Remediation Professional (LSRP) Board-

A. Becker and C. Graff talked about a proposed letter to the LSRP board regarding the need for LSRPs to verify and record license numbers of well drillers employed for investigative or remedial work that required the drilling of soil borings and/or monitor wells. They will also note in the letter that one driller is required for each drilling rig onsite. By requiring LSRPs to perform these checks, NJDEP can effectively increase compliance with the drilling regulations, without necessitating any additional staff. A. Becker will draft this letter shortly.

- 16. Adjournment-** A motion to adjourn the meeting was made at 2:00 pm G. Craig, seconded by C. Graff and approved unanimously.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

New Jersey Department of Environmental Protection Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for July 19, 2012

Board Members Present: Art Becker (Chairman), Gary Poppe (Vice Chairman), Richard Dalton, Gordon Craig, Steve Doughty, Carol Graff and Dr. Karl Muessig

Board Members Absent: Joseph Yost, Joseph Pepe

Board Legal Advisor Present: Tirza Wahrman, Deputy Attorney General (DAG)

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Mike Schumacher, Brian Buttari, Letitia Jones, Melia Stoop

Member(s) of the Public: None.

1. Call to Order –

Chairman Art Becker called the meeting to order at 9:30 am with a quorum present.

2. Review of the Minutes from the May 24, 2012 Meeting –

A motion to approve the minutes without change was made by K. Muessig, seconded by S. Doughty and approved unanimously. C. Graff suggested that future minutes contain a listing or attachment of the exam scores that were certified by the Board at the meeting. It was noted that passing applicant scores will be listed but failing applicants will be omitted from the list.

3. Review and Certification of Exam Applicants for the June 13th, 2012 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams –

Master – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by C. Graff and approved unanimously.

Journeyman – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by G. Craig and approved unanimously.

Journeyman B – A motion to approve all listed applicants for the exam was made by S. Doughty, seconded by A. Becker and approved unanimously.

Monitoring – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by R. Dalton and approved unanimously.

Soil Borer – A motion to approve all listed exam applicants was made by G. Craig, seconded by C. Graff and approved unanimously.

Pump Installer – A motion to approve all listed exam applicants was made by C. Graff, seconded by K. Muessig and approved unanimously.

4. **Pump Installer Exam Survey Results-** Board members reviewed the results of the Pump Installer Exam Surveys that were completed by applicants who took the June 13, 2012 exam. Members discussed a common problem within the pump industry: the fact that little troubleshooting of electrical components of a pumping system is performed anymore. Typically, entire components are replaced rather than determining the actual cause of the problem by troubleshooting the entire pumping system. Additionally, it was noted that employers often send unlicensed employees out to a site to determine the problem instead of having a licensed person perform the diagnosis to determine the cause of the problem.

Members also expressed their concerns that often employers and business owners are not properly training their successors on technical expertise or sound business practices. These observations were supported by the results of both the pump installer survey and the exam scores on the technical portion of the exam. S. Doughty questioned how to remedy the problem and G. Poppe asked how to promote public awareness of these problems. All agreed that these concerns are an industry-wide issue and that there is no immediate solution. Members also noted that the issue should be further discussed at the next meeting when J. Pepe and J. Yost are both present, as they have extensive knowledge of the pump industry.

It is also anticipated that the move to use the National Ground Water Association (NGWA) pump installer exams will remedy the high exam failure rate to some extent. The NGWA offers two separate pump tests: one for pumps over 100 gallons per minute and one under 100 gallons per minute. The current NJ license exam does not allow applicants to choose a specialty exam type based upon the types of pumps on which they most often work. This may be a contributing factor to the poor passing rates, which are generally the lowest among all license categories. Chairman Becker stated that the surveys continue to be very informative to the Board and requested that DEP staff continue to include the survey in all Pump Installer exams that are administered.

5. **Board Business & Correspondence-LSRP Letter-** Chairman Becker discussed a letter he recently drafted to the Licensed Site Remediation Professional (LSRP) Board. The letter stresses the importance of documenting the name, NJDEP driller license number and license class of any individual performing well drilling activities on sites managed under the LSRP program. The letter requests that the LSRP Board reminds LSRPs of these requirements and notes that failure to meet such state requirements could place project results in jeopardy and could result in a violation of the state well drilling regulations. C. Graff stated that the letter should also urge LSRPs to make sure that the state regulatory requirement to have the well permit number permanently affixed on all wells is followed. A. Becker will revise the letter to incorporate the Board's comments and send the letter to Karen L. Hershey, Esq., Secretary and Liaison to the LSRP Board. It is envisioned that the Board can distribute the letter to the various LSRPs and include the information in LSRP training material.

6. **NJDEP Enforcement Activities Update-**

J. Altieri provided a compliance and enforcement update on Department activity since the Board's last meeting. Bureau staff members have been working with NJDEP's Northern Water Compliance & Enforcement Office and, as a result, a final resolution was reached regarding the decommissioning

of an improperly constructed well in Warren County. Brian Buttari witnessed this well decommissioning to ensure that proper procedures were followed. In a separate incident, B. Buttari recently witnessed an unlicensed individual acting as a pump installer. Initial reports of violations reported on this individual date back ten years. Well permitting staff are following up.

Another recent enforcement case came to light based on a complaint filed by the son of a deceased pump installer. In this situation the partner, who is not licensed, has been operating a business and displaying the name and license number of the former (deceased) partner. Staff are investigating the details to determine if the person has been performing pump work without a license. T. Pilawski questioned whether the Department has the ability to issue a cease and desist order to the unlicensed person in addition to violation notices that have already been sent to immediately stop the person from violating the regulations. DAG T. Wahrman, requested that all details of the case be forwarded to her for follow up on the possibility of issuing a cease and desist order.

J. Altieri said the Department continues to work with state DAGs on two ongoing cases of alleged improperly constructed wells. G. Poppe brought up some outstanding cases that he believed put the state's groundwater at risk because improperly constructed wells that have not been decommissioned can act as conduits for contamination to reach confined aquifers. J. Altieri indicated that she intends to follow up on the referenced cases shortly.

7. **Technical Topic- Discussion of Heating Ventilation Air Conditioning and Refrigeration (HVACR) Board Correspondence-** P. Bono summarized a licensing and geothermal system construction issue that was discussed at the Board's May meeting. The proposed Heating, Ventilation, Air conditioning and Refrigeration (HVACR) regulations (N.J.A.C. 13:32A) conflict with geothermal well licensing requirements already established in the well drilling regulations (N.J.A.C. 7:9D). They also do not reference construction standards for all geothermal well system installations as established in N.J.A.C. 7:9D. Representatives of the New Jersey Ground Association (NJGWA) recently met with NJDEP Division of Water Supply Director, Fred Sickels, Terry Pilawski and other Division staff to request assistance from the Department in resolving the conflict with the HVACR regulation proposal. Two letters (dated May 30, 2012, and another on July 11, 2012) detailing these concerns were sent from Mr. Sickels to David M. Puteska, who is the liaison for the HVACR Board. In addition, NJGWA, sent a letter to Mr. Puteska prior to both NJDEP letters. To date no written response has been received from any of the three letters. It was suggested that someone from the Director's office call Mr. Puteska's office to see if they plan to address the Department and NJGWA's joint concerns regarding the apparent conflict with the well drilling regulations. S. Doughty offered to follow up on this matter.
8. **Technical Topic Updates-** S. Reya notified the board that Baroid Industrial Drilling Products would be coming in shortly to meet with Bureau staff to present data on their development of antimicrobial grout material and drilling fluids. He also announced that the approval letter for the installation of Agreenability's geothermal system (geothermal twisted pipe bundle/2TPB) was signed by Bureau of Water Allocation and Well Permitting Chief, Terry Pilawski, and sent out to Agreenability President, Robert Jensen.
9. **Well Permitting Program Updates- Document Review and Data Entry**
Assistance from additional staff within the Bureau of Water Allocation and Well Permitting has aided in catching up on the review of paper well decommissioning reports. J. Altieri said that

approximately 7,000 decommissioning reports were done in the last six months while still attempting to keep up with current paper submissions. Unfortunately, however, data entry of "historic" paper well decommissioning reports is somewhat backlogged at the moment. T. Pilawski added that the Bureau has recently hired additional staff, which should free up some staff resources for this task. Efforts to review and enter historic well records (pre-2003) recently resumed since the close of the fiscal year.

Online Well Search Tool

M. Schumacher updated the Board on a new well search tool that will allow users to access well permits, well records and well decommissioning reports online through the DEP website. He noted that the vast amount of user requests have recently caused the program to "crash" because the Department's servers cannot handle the high volume of requests being submitted. The Department is pursuing the development of a new portal service that would be better able to handle the demands for receptor evaluation searches. It could also be used by drillers to search for information. T. Pilawski spoke about how security concerns have necessitated the development of this portal service as the Department does not want to list sensitive information, such as the location and construction details of public community water systems, directly on a website. The new portal service will essentially perform an identity check of users who request such information. If the check fails to verify the identity of the user, access to such records would be denied through the internet portal. The Division is still ironing out security concerns and Division policies as they relate to the dissemination of this sensitive material.

Well Regulation Update

The draft of the well regulation (N.J.A.C. 7:9D) have been submitted to the Department's Office of Legal Affairs. T. Pilawski said that she hopes to receive comments back from this office shortly. Once these comments have been addressed the draft will be published in the New Jersey Register and made available for public comment, at which point licensed drillers, pump installers, consultants, engineers, health departments and the public may submit written comments to the Department. A. Becker thanked Division staff for their work on the revisions to the regulations.

National Ground Water Association (NGWA) Proposed Testing and Licensing Program

S. Reya said that both he and P. Bono were able to review current NGWA certification exams after signing a confidentiality agreement. He stated that they found the exams to be thorough and consistent with the technical portions of the current NJ exams. He also said the exams did not contain any questions that would directly conflict with NJ regulations, which was a concern expressed by several Board members in the past. The proposed testing and licensing program allows for the development of a NJ regulations component for each category of license. S. Reya and P. Bono noted that this portion of the exam can contain any other topics the Board may want to address that may not be fully covered by the current NGWA certification exam.

They requested volunteers to work on the regulatory exam module for the Pump Installer exam. S. Reya will contact G. Poppe, J. Pepe and J. Yost, all of whom regularly perform pump installation work, to request their assistance and input with this task. A. Becker also noted that he would be willing to assist with developing this exam. All Board members are welcome to participate.

- 10. Adjournment-** A motion to adjourn the meeting was made by Gary Poppe, seconded by Gordon Craig and approved by all at 12:36 pm.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

New Jersey Department of Environmental Protection Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for September 13, 2012

Board Members Present: Art Becker (Chairman), Gary Poppe (Vice Chairman), Richard Dalton, Gordon Craig, Joseph Yost, Joseph Pepe, Steve Doughty, Carol Graff, and Dr. Karl Muessig

Board Members Absent: None

Board Legal Advisor Present: Tirza Wahrman, Deputy Attorney General (DAG)

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Mike Schumacher, Brian Buttari, Julie Mullins and Melia Stoop

Member(s) of the Public: None.

1. Call to Order –

Chairman Art Becker called the meeting to order at 9:44 am with a quorum present.

2. Review of the Minutes from the July 19th, 2012 Meeting –

A motion to approve the minutes without change was made by G. Poppe, seconded by G. Craig and approved unanimously.

3. Review and Certification of Exam Applicants for the October 3rd, 2012 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams –

Master – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by C. Graff and approved unanimously.

Journeyman – A motion to approve all listed applicants for the exam was made by R. Dalton, seconded by G. Craig and approved unanimously.

Journeyman B – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by J. Yost and approved unanimously.

Monitoring – A motion to approve all listed applicants for the exam was made by G. Craig, seconded by G. Poppe and approved unanimously.

Soil Borer – A motion to approve all listed exam applicants was made by J. Yost, seconded by A. Becker and approved unanimously.

Pump Installer – A motion to approve all listed exam applicants was made by S. Doughty, seconded by K. Muessig and approved unanimously.

4. Proposed National Ground Water Association (NGWA) Testing Program-

Board members discussed integrating the current New Jersey Well Driller and Pump Installer exam questions into the NGWA format meaning all questions need to be multiple choice or true/false. Several members volunteered to review the current NJ pump installer exam and reformat questions for the NJ module of the exam that is to be administered by NGWA. The topics covered will primarily include NJ regulations and safety questions. The technical portions of the pump installer exam will be covered in the two technical NGWA exams which will also be required for all applicants.

Work on the Pump Installers Exam will commence this afternoon after the conclusion of the regularly scheduled Board meeting. Additionally, a meeting to work on the NJ Module for the Environmental Resource and Geotechnical Well Driller (currently known as Monitoring Well Driller) exam is scheduled for October 23, 2012. Volunteers from the Board include C. Graff, G. Craig, A. Becker and R. Dalton.

5. NJDEP Enforcement Activities Update-

J. Altieri provided a compliance and enforcement update on Department activity since the Board's last meeting. Bureau staff members have done field inspections for five (5) locations in the past seven (7) weeks following up on reports of violations well permitting and well construction regulation violations. Also, Bureau staff has met multiple times with a NJ Deputy Attorney General (DAG) to resolve a case involving multiple wells drilled in saltwater environments. DEP is making the case that the wells were constructed in violation of both well permitting and construction provisions of the regulations. J. Altieri thanked R. Dalton, K. Muessig and Steve Johnson in the Geological and Water Survey Program for their valuable information and input regarding the geologic formations and groundwater quality in the vicinity of the wells in question. An expert report summarizing this information was prepared by Steve Johnson. Bureau staff will continue to work with their assigned DAG and the well drilling contractor's attorney to attempt to reach a settlement in the case; otherwise a hearing will be necessary.

A discussion of appropriate well construction practices in known or suspected saltwater environments ensued. Bureau staff may alter the regulation proposal to clarify some of the existing wording to ensure that it is clear how to properly construct wells so that the groundwater resources are protected from the risk of salt water intrusion.

It was also noted that Brian Buttari and Julie Mullins were successful in catching a well driller constructing a well without obtaining the required NJDEP well drilling permit. This inspection came as a result of a phone call report of the illegal activity to the Bureau. The Bureau will continue to follow up on this case. Additional field inspections were also conducted in Atlantic County and Ocean County. Staff were following up on reported problems that included suspected improper well construction and the use of a deceased pump installer's license by an unlicensed person. Unfortunately, neither inspection yielded any conclusive findings.

6. License Suspension Process-

Terry Pilawski, Chief of the Bureau Water Allocation and Well Permitting, discussed suspending licenses for constant offenders and drillers who have showed a continued disregard for the regulations and/or complete incompetence. As has been addressed at multiple Board meetings, a clear process for license suspension was never laid out in the past. However, T. Pilawski pointed out that the draft regulations include this much needed process and she questioned whether the Bureau and Board could implement the process prior to the enactment of the new regulation revisions. She stressed that the Bureau needs the Board's approval and cooperation with this procedure. A. Becker stated that the Board is 100% in favor of taking licenses from people who violate the regulations. He added that a total lack of enforcement from NJDEP has created significant problems in the industry. All members expressed hope that license suspensions to key violators would likely spread throughout the industry and get the word out that the regulations must be followed.

G. Poppe echoed these sentiments and said that law-breakers are running rampant because of lack of enforcement. C. Graff suggested writing articles to notify the public that NJDEP Enforcement staff is beginning to show up on work sites. Another suggestion made by G. Craig was to publicly post violations on the DEP website as another deterrent.

7. Program Updates-

T. Pilawski said that additional staff resources are being brought in to the program to assist with paperwork so that more field people can act. Also, it was brought up that Donna Quinn, who has worked in Well Permitting for many years, is retiring within a few weeks and this will necessitate additional transferring of staff within the program.

J. Pepe expressed a disconnect between local health departments and the State DEP and suggested that the DEP work with these entities to better coordinate well drilling and pump installation permitting and construction requirements. Local health departments receive money from DEP to enforce DEP regulations so making sure this is done is important, as was pointed out by T. Wahrman.

J. Yost brought up what he believes to be a large oversight within the state, which is the limited amount of resources and coordination relating to the construction of public community water supply wells. He feels that the DEP and the Board concentrate too much on residential, environmental and geothermal wells, while generally overlooking public supply wells that supply potable drinking water to millions of people. He also feels that the DEP is encouraging licensed Professional Engineers to design wells and provide sub-standard designs to the Master well driller with which they are expected to comply. He also added that often such designs are not feasible or not even possible to construct in the real world, yet the engineers and certain Bureaus within the DEP continue to focus on and approve such plans. **A. Becker requested that this issue be added to the agenda for the November Board meeting for detailed discussion.**

8. Board Business & Correspondence-LSRP Letter-

Chairman Becker discussed the letter he recently drafted that will be sent to the Licensed Site Remediation Professional (LSRP) Board. The letter stresses the importance of documenting the name, NJDEP driller license number and license class of any individual performing well drilling activities on sites managed under the LSRP program. The letter requests that the LSRP Board reminds LSRPs of these requirements and notes that failure to meet such state requirements could place project results in jeopardy and could result in a violation of the state well drilling regulations. The Board now agrees with the content of the letter and with the revisions that have been made as a result of comments made at the last Board meeting. Karl Muessig provided an update for distribution of the letter which was that he had recently spoke with the Chairman of the LSRP Board, Dave Sweeney, who suggesting using an automated email listserve to send the letter to all

individuals who are on the LSRP email distribution list. This list includes both licensed LSRPs as well as other people within NJDEP's Site Remediation Program who are not licensed.

9. Raw Water Sample Port Location-

Kat Burkhard and Linda Ofori from NJDEP's Bureau of Safe Drinking Water discussed where raw water samples should be taken in a water system. They provided a diagram that they intend to include in a guidance document to instruct those working with water systems on how to best set up their water systems to allow for the collection of a raw water sample. The purpose of this is to ensure that water samples are truly representative of raw water and that the samples are not influenced by other parts of the system such as water storage tanks and system plumbing components. Therefore the location of the water sample port is critical. Additionally, DEP staff is working to make sure that samples are collected in accordance with the Federal Ground Water Rule of 2009. Collection of samples in accordance with this rule applies to both new and existing systems.

Two concerns with locating the sample port in the location depicted on the diagram (on the "pump side" of the check valve and water storage tank) were identified by Board members:

- 1.) Taking a raw water sample before the check valve is problematic to obtain as there is either no pressure because this location is prior to the influence of the pressure tank; or if the pressure switch is manually bypassed to start the well pump, dangerous conditions could be caused by both electrical hazards and high water pressure. A proper test or bypass switch would have to be installed. Alternatively, K. Muessig suggested that demand for water could be created by opening faucets within the building being served, which would then turn the pump on and allow the collection of a sample by opening the sample port as the well pump continues to pump.
- 2.) There should not be a sample tap prior to the check valve because it destroys the integrity of a sanitary well. A raw water sample should not be taken prior to the check valve unless there is a backflow preventer/check valve installed to stop any backflow of contaminants into the water line toward the well. A possible scenario discussed was if the gasket in the sample port fails and a hose is left hooked to the sample port back siphoning through this line would then be possible.

Board members and P. Bono all agreed that water samplers should all be trained before taking samples to make sure that people are collecting adequate samples in accordance with applicable rules and recommendation while not putting themselves or others in danger. It was also noted that any water system modifications necessitated by these new sampling procedures would have to be performed by licensed well drillers or pump installers.

The Board's advice was that the sample port must be installed prior to the check valve preceding any water storage equipment. Members added that when the sample port is installed in this location, a backflow prevention device (such as another check valve) should precede the sample port and be installed between the sample port and the well pump. Members felt that by putting a check valve prior to the sample port, in addition to the check valve after the port, a true sample of the raw water would be obtained and the well and water supply would not be put in jeopardy of contamination.

The document provided by Safe Drinking Water Staff also noted that sampling ports should be located a minimum of two to three feet above the ground. Most existing setups will not comply with this recommendation. J. Yost provided a diagram of an installation meeting these requirements, which he felt would be satisfactory. K. Burkhardt and L. Ofori will continue to work on the guidance document with input from Well Permitting Program staff as necessary.

10. Discussion of Heating Ventilation Air Conditioning and Refrigeration (HVACR) Rule-

Chairman Becker provided an update on the proposed Heating, Ventilation, Air conditioning and Refrigeration (HVACR) regulations (N.J.A.C. 13:32A), which conflict with geothermal well licensing requirements already established in the well drilling regulations (N.J.A.C. 7:9D). This issue has been brought up at several Board meetings and both the New Jersey Ground Water Association (NJGWA) and NJDEP have sent letters (three total) to the HVACR Board. Some areas of concern that remain unresolved were noted by Board members:

- G. Craig strongly disagreed with the wording on page 5, number 2, which reads “geothermal systems (not including drilling of the well point)” as something that falls under the definition of HVACR work. The issue being that by calling a well a “wellpoint” it is undefined and would not encompass open loop or closed loop geothermal wells, as neither type contains a wellpoint. Since the time essentially has no meaning that pertains to geothermal wells, it doesn’t exempt the proposed new HVACR licensees from doing working on any part of a geothermal system. Also, by listing “geothermal” as being within the jurisdiction of HVACR work, the long established Well Driller and Pump Installer licenses are being completely disregarded.
- Perhaps more important, the Board felt that a statement noting that all geothermal systems must be installed in accordance with the licensing, permitting and construction requirements of the well regulations (N.J.A.C. 7:9D) is necessary. It was suggested that DEP suggest that the statement “geothermal systems shall be installed by a licensed well driller or pump installer in accordance with N.J.A.C. 7:9D” should be added to the proposed regulation. The well regulations have long been in effect and not pointing this issue out now could lead to non-compliance within the industry and likely cause confusion amongst local inspectors if two state regulations contain conflicting information.

S. Doughty volunteered to work with the Director of Water Supply and possibly the Assistant Commissioner’s office to talk to the Department of Consumer Affairs staff to work towards resolving this matter. T. Wahrman, DAG, also volunteered to contact the legal staff assigned to the HVACR rule and make it clear that DEP would like to work with them to make the necessary changes in the draft regulation prior to adoption.

11. Well Permitting Program Updates- Update on Well Regulations (N.J.A.C. 7:9D) Revisions-

T. Pilawski reported that there was no activity on the submitted revisions to the well rules. The Department’s legal staff is currently backed up reviewing other regulatory proposals and has been unable to review the draft well regulations.

Well Search Tool Development-

P. Bono said that Michael Schumacher continues to work on the online well search tool that will allow outside users to access well information from their own computers through a website portal. The tool and associated user identity check/security component of the program are currently in the final stages of development. Department licensed professionals, such as well drillers, pump installers and LSRPs will M. Schumacher anticipates that testing of this new system will commence within the next few months. J. Yost and A. Becker both noted that the ePermitting system has been slow lately and is still in need of additional improvements to make it more user friendly.

T. Pilawski and P. Bono also discussed working with the Department’s Site Remediation Program to obtain more accurate location coordinates on historic well records and data enter all of this information into the Department’s database.

- 12. Adjournment-** A motion to adjourn the meeting was made by K. Muessig, seconded by S. Doughty and approved by all at 1:00 pm.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

Mail Code 401-03

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NJ STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

BOB MARTIN
Commissioner

New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Minutes for November 29, 2012

Board Members Present: Art Becker (Chairman), Gary Poppe (Vice Chairman), Richard Dalton, Gordon Craig, Joseph Yost, Joseph Pepe, Steve Doughty and Dr. Karl Muessig

Board Members Absent: Carol Graff

Board Legal Advisor Present: Michael Schuit, Deputy Attorney General (DAG)

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Mike Schumacher, Julie Mullins and Melia Stoop

NJDEP-Central Water Compliance and Enforcement Member- Jeff Hoffman

Member(s) of the Public: None.

1. Call to Order –

The meeting was held at the DEP headquarters at 401 East State Street, Trenton, NJ. Chairman Art Becker called the meeting to order at 9:39 am with a quorum present. A. Becker then stated that Deputy Attorney General Tirza Wahrman has left State service and that another legal advisor will be assigned.

2. Review of the Minutes from the September 13th Meeting and the November 7th conference call–

A motion to approve the minutes for the September meeting without change was made by G. Poppe, seconded by G. Craig and approved unanimously.

Board members reviewed the minutes for the conference call held on November 7, 2012 to approve the scores for the October 3rd exam. A motion to adopt the minutes without change was made by J. Yost and seconded by G. Poppe. It was approved unanimously.

3. Board Meeting Schedule for 2013-

Board members set the meeting schedule dates for 2013 as follows:

January 17, March 21, May 23, July 18, September 12 and November 21. These dates will be publically noticed as required.

4. Review and Certification of Exam Applicants for the December 12, 2012 Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams –

Master – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by J. Yost and approved unanimously.

Journeyman – A motion to approve all listed applicants for the exam was made by G. Craig, seconded by R. Dalton and approved unanimously.

Journeyman B – A motion to approve all listed applicants for the exam was made by R. Dalton, seconded by S. Doughty and approved unanimously.

Monitoring – A motion to approve all listed applicants for the exam was made by G. Poppe, seconded by A. Becker and approved unanimously.

Soil Borer – A motion to approve all listed exam applicants was made by G. Craig, seconded by S. Doughty and approved unanimously.

Pump Installer – A motion to approve all listed exam applicants was made by J. Yost, seconded by J. Pepe and approved unanimously.

5. Review of the Pump Installers Exam Surveys Provided by Applicants Who Took the October 3rd 2012 Exam-

J. Pepe noted that he believes the proposed change to a two-year experience requirement of applicants will significantly improve applicant scores. He indicated that he simply does not feel that one year is an adequate amount of time to properly learn diagnostic and repair skills for well pumping systems.

A. Becker noted that several applicants indicated studying the regulatory portion of the exam for significant amounts of time (as much as 40 hours). This made the Board members question whether applicants are actually studying the “right” material. A discussion ensued about whether Pump Installer applicants are only studying relevant pump installation regulatory requirements and safety issues or if the applicants are overwhelmed by the study material and studying information that really pertains to well drillers. S. Doughty suggested that the Bureau draft a study guide that narrows down the portions of the regulations that apply to pump installers and give them a concise area to study. Finally, it was noted by A. Becker that both the National Ground Water Association (NGWA) and several well-known well pump manufacturers are looking to provide technical assistance and training to the industry, as lack of technical knowledge has proven to be a major problem in recent years.

6. Update on the Work Sessions –

S. Reya provided an update on the proposed revisions to the existing exams which will be submitted to the NGWA when the Department institutes the new (to be proposed) NGWA testing program at a future date. He indicated that several Board volunteers participated in the work session held on October 23rd to revise the monitoring well driller exam. Participates were able to generate a pool of about 50-60 questions. This provides enough surplus questions so that a slightly different mix of

questions can be generated each time the test is administered. To date, workgroups have covered the Pump Installer exam and the Monitoring Well Driller exam. Creation of a new exam to the Vertical Closed Loop Geothermal driller license would be taking place after the Board meeting this afternoon. S. Reya asked for volunteers to work on the Journeyman's test questions, which is anticipated to commence in the afternoon after the regular Board meeting in January adjourns.

The 2013 well driller and pump installer exam schedule was provided to Board members. The 2013 exams will be held on: April 3rd, June 12th, October 2nd and December 11th.

7. Status of Draft Regulations-

T. Pilawski said that unfortunately there are a few other draft regulations that are in DEP's legal division ahead of the well regulations in the queue to review. She added that some "emergency" rules may also soon be proposed to address concerns resulting from damage incurred by Hurricane Sandy. This would further delay the Department's internal review of the well regulations. It is also anticipated that once the regulations are proposed, it would be at least nine to ten months before they are adopted and become effective. Board members expressed being discouraged by the lack of progress with implementing the proposed regulations, as many feel the current regulations are out of date and ineffective. DAG Michael Schuit stated that he and several others from his office intend to meet with the DEP rule writers to address some questions that their office (Office of Legal Affairs) has with regard to the draft revision proposal.

8. Enforcement Activities- Julia Altieri & Jeff Hoffman (NJDEP Central Water Compliance and Enforcement) –

J. Altieri spoke about several active enforcement cases. One case involved three wells, two of which, are alleged to be improperly constructed in an area of saltwater intrusion. The DAG assigned to represent the Department has successfully negotiated a settlement of the case prior to the court hearing date. Of the utmost importance to the settlement was that the well driller agrees to completely overdrill and decommission the wells. As a result of his agreeing to do so, the Department has been willing to reduce the fines assessed against the well driller. The Bureau intends to send staff to witness the decommissioning of these wells to insure full compliance.

Board members and Bureau staff discussed appropriate well drilling construction methods that should be utilized in potential saltwater intrusion areas. A. Becker said that most people need to be educated on the subject of saltwater intrusion because if we lose a large quantity of fresh water to saltwater contamination, we lose the most valuable resource in the state.

It was also noted that the case concerning a well drilled by Michael Kavalunas from Total Quality Drilling, who discussed this case with the Board at a previous meeting, is still ongoing and that a date for the hearing has been set for February 4, 2013. The Bureau is currently compiling reports and photo/video documentation with the assigned DAG in preparation of a court hearing.

J. Hoffman discussed a draft document for referring license suspension cases to the Board for further action. Since the regulation and statute state that the Board is authorized to suspend licenses, he is attempting to create a document that would lay out the charges against an individual and the rationale for why the Department believes an individual's license should be suspended. He believes that the current well regulations, N.J.A.C. 7:9D, already allow for this and there is no need to wait for the new regulations to pursue license suspension against egregious violators in certain situations. This

document would detail the final agency actions that the DEP has taken against an individual and would be the first step, prior to conducting Board hearings. T. Pilawski stated that Bureau staff will verify that DEP can legally suspend a license under the current regulations. The Well permitting program staff will provide feedback to J. Hoffman once a legal opinion. T. Pilawski will talk to Division Director, Fred Sickels prior to the next Board meeting.

A suggestion made by J. Hoffman was to publicize the final agency actions that J. Altieri discussed earlier via an industry newsletter. He felt that if word spread through the industry that the Department pursued violations against these two individuals and companies, it would increase compliance. J. Yost said he feels that NJDEP simply does not have enough people out in the field to catch the illegal activity on a regular basis.

T. Pilawski stated that the Bureau will be initiating an effort to identify the "top" drilling companies who fail to submit well records. The goal is to gain compliance by meeting with representatives from these and to arrange a schedule for the submission of late well records.

9. Resolving Illegally Drilled (Unpermitted) Wells-

P. Bono asked the Board members for technical guidance regarding acceptable and feasible ways to deal with unpermitted well installations. She stated that generally the Bureau requires such wells to be overdrilled entirely to the original drilled depth, followed by complete grouting of the cleared borehole. The rationale for this is that if the drilling contractor is unable to provide sufficient conclusive information that proves the well was constructed properly, DEP cannot assume that it was. Therefore, if the annular space between the casing and the borehole was not properly grouted, it serves little environmental purpose to grout inside the well casing upon decommissioning. A. Becker stated that Cement Bond Logs, if available, could be used to document grouting. This activity is extremely costly and conducted only on larger capacity wells. The consensus of the Board was that every well and geologic formation creates a unique situation, but in general, removing the entire well would be protective of the state's aquifer and should be required if the original well construction details cannot be verified. The Board also stressed that it is the personal responsibility of every licensed well driller to complete and submit the required paperwork such as permit applications, records and drilling logs. Individuals should be held accountable if requirements are not followed.

10. Public Community Supply Well Permitting and Construction-

J. Yost raised a problem he has repeatedly witnessed in the municipal well drilling industry. Master well drillers are the licensed professionals charged with installing wells in accordance with DEP rules, however, the wells are designed and submitted for DEP review by NJ professional engineers. The plans that are approved as part of NJDEP Safe Drinking Water construction permit may or may not comply with the well rules. Additionally, he pointed out how the driller must apply for the permit through one DEP Bureau (BWA&WP), while the engineer must submit the proposed construction plans to another DEP Bureau (BWSE). He feels that the entire process makes it almost impossible for the licensed Master drillers to comply with the regulations yet they are held accountable if the well does not meet the well construction regulations. Often, the project engineers do not seek input from licensed drillers at the most critical point when the well is in the initial design and bidding phases. At no point is there an appropriate time in the process when a Master driller can provide feedback to the water company or the project engineer prior to final design of the well or contract. Further, it is the driller whose license is at risk if the well is not installed according to the approved design in the SDW permit or the drilling contract.

The driller must submit the well permit, be onsite for the drilling and submit the well record, yet their expertise is often overlooked by engineers and the DEP. He also mentioned that the well construction regulations (N.J.A.C. 7:9D) and the Safe Drinking Water Act Regulations (N.J.A.C. 7:10) do not cover all aspects of large diameter public supply well construction. Often times, the engineers also do not provide them with enough information at the time the well permit application is submitted to the Bureau of Water Allocation and Well Permitting. He questioned how the engineers can be encouraged by the Department to design wells, yet they often don't have the technical expertise and knowledge of the regulations to effectively do this. It would appear there needs to be a change to the Department's permit approval process.

G. Craig noted that in the geothermal industry he has encountered similar problems, where a bid that is written by an engineer calls for a design that is either impractical or would result in an illegal installation (not in compliance with DEP regulations). He stated that these issues must be caught and pointed out at the time of bidding to make it clear that the contractor will not be required to install a non-conforming well. With regard to DEP's internal permitting process, S. Reya noted that the two Bureau's referenced by J. Yost are now better coordinated. When the well permit application is reviewed, it is checked for consistency with engineering submittals, such as the SDW Permit to Construct and/or Permit to Operate. He said that the Bureau of Water Allocation and Well Permitting also recently began requiring proposed well construction schematics to accompany the well permit application, so the Bureau can ensure that the proposed well design is in full compliance with applicable regulations. However, S. Reya also acknowledged that Bureau staff members do receive calls from drillers that complain that local municipalities or water companies often put out bid specifications that are clearly not in compliance with our well regulations. Yet once a drilling company submits a bid, they are required to build that well design.

11. Update to the Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) Board Rule Meeting-

S. Doughty updated the Board members on the Department's progress regarding the resolution of direct conflicts between the proposed HVACR rules and the well regulations NJAC 7:9D with the HVACR Board and the Department of Community Affairs (DCA). NJDEP Division of Water Supply and Geoscience Director, Fred Sickels, recently accompanied board members G. Poppe and G. Craig to the HVACR Board meeting on October 11th in Newark. At that meeting, it was reported that the HVACR Board is still reviewing the written comments that were submitted by the New Jersey Ground Water Association (NJGWA) and Director Sickels. Following that meeting S. Doughty, Director Sickels and a DEP Assistant Commissioner were scheduled to have a conference call with their counterparts at DCA to discuss the conflicting regulations. Additionally, one person from DEP's radon mitigation program was also to be included because some areas of the proposed regulation are thought to also be in conflict with that program (and associated DEP regulations). Unfortunately the call was cancelled by DEP due to Hurricane Sandy preparatory work. S. Doughty hopes to conduct this conference call (or resolve the problem by alternative method) shortly because he believes the proposed rules may be adopted soon due to the approaching expiration of the proposal (April 16, 1013). This means DEP must make their point to DCA and the HVACR Board very soon so the proposal is not adopted without change. Finally, he noted that the Board's replacement DAG (Jill Denyes) will have to assist in picking up this matter from Tirza Wahrman, who had initially reached out to the DAG working with the HVACR Board on the proposal of their new rule.

12. Hurricane Sandy Update-

T. Pilawski said that Division staff called each of the 605 public water systems in the days immediately following the hurricane to ask for the status of operations and resources. For example, is the water system still in operation and does the system have back-up power (generators) and fuel? Also, she said that Division staff worked shifts at the Regional Operations and Intelligence Center (ROIC) in Ewing, NJ and provided 24-hour coverage to address issues related to water systems as they arose for several weeks following the storm.

P. Bono said that wells subject to flooding and wells in high risk salt water areas have become an issue recently. She has suggested that the Bureau of Safe Drinking Water maintain up to date chlorination documents online. Also, she has recently been working with affected homeowners whose wells have been impacted by salt water flooding and/or damage from Hurricane Sandy and the associated cleanup. Many of these wells are located in areas of salt water intrusion so the replacement well permits are now being issued with conditions requiring double casing. T. Pilawski also noted that NJGS staff had recently provided a helpful GIS layer tool that will help the Well Permitting Program staff identify well permit coordinates that are located in areas of salt water intrusion potential. Additional training will also soon be provided to the well permit processing staff to identify such areas of concern upon review of the well permit application.

T. Pilawski said new flood maps, which are soon to be released from FEMA, may play into the issuance of well permits in flood plain areas. Fred Sickels has suggested that the updated maps be forwarded to all licensed well drillers so they can set up well vents accordingly in these areas. It is anticipated that the flood maps may differ from current maps by as much as two to eight feet. T. Pilawski also plans to run a report of all water systems located in flood plains to see if their designs are adequate for hurricanes and other such emergencies.

The Safe Drinking Water Ground Water Rule sampling document is now posted online. This is the document that was finalized after consulting with the Board at a past meeting, according to P. Bono. J. Pepe questioned whether there is any reference to this federal Ground Water Rule on the website section pertaining to Pump Installers, Journeyman Well Drillers, Journeyman B Well Drillers, or Master Well Drillers. Bureau staff said it is not contained in these sections, nor is it referenced in any of the suggested study material. It was suggested the Department make this information more readily available for these licensees because it is essential information that they need to know to effectively do their job. J. Pepe also suggested that ground water sampling and disinfection questions from the Federal Ground Water Rule be included on these exams, which all members said was an excellent idea.

13. Adjournment-

A motion to adjourn was made at 1:20 pm by G. Craig, seconded by K. Muessig and approved unanimously.