



State of New Jersey

Department of Environmental Protection

Jon S. Corzine
Governor

Mark Mauriello
Acting Commissioner

Division of Water Supply
Bureau of Water Systems and Well Permitting
P.O. BOX 426
TRENTON, NEW JERSEY 08625-0426
TELEPHONE (609) 984-6831
FAX (609) 633-1231
STATE WELL DRILLERS AND PUMP INSTALLERS
EXAMINING AND ADVISORY BOARD

State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for Tuesday, November 18, 2008

Board Members Present: Chairman Art Becker, Tony Tirro, Dick Dalton, Joseph Pepe, Sr., Fred Sickels, Karl Muessig, Carol Graff, Joe Yost, Gary Poppe

Board Members Absent: - none

NJDEP Staff Present: Steve Reya, Pat Bono, Tracy Omrod, and Brian Buttari (PM session only)

Other State Personnel Present: D.A.G. Helene Chudzik, D.A.G. Jill Denyes,
Legal advisors to the Board

Members of the public who addressed the Board (PM session only):

Paul Auerbach, Total Green, Monroe, NY
Charlie Wynosky, Advanced Geothermal Technology, Reading, PA
Andrew Ward, Princeton Construction Group, Stockton, NJ
Hal Roberts, Earthlinked Technologies, Lakeland, FL
Mel Hensch, Energy Star Partner, Tiverton, RI
Thomas Ambrosio, Earthlinked Dealer, Silver Fox Construction, Lyndhurst, NJ
John Ambrosio, Developer, Little Falls, NJ

- 1. Call to Order** - The meeting was called to order by Art Becker at 9:40 am with a quorum present
- 2. Review of Minutes from Sept. 18, 2008, Board Meeting** - F. Sickels questioned the wording of the last sentence in paragraph two of item #13, which read "it was agreed that staff can bring up any questionable applications to the Board prior to certification." This sentence referred to the issue of multiple applicants utilizing the same well permit numbers to document their well drilling experience. Mr. Sickels suggested that it should be revised by replacing the phrase "it was agreed" with the phrase "it was the consensus of the Board." He felt that the statement was vague, as it did not specify that the Board, specifically was the party in agreement. The sentence will be revised to state "It was the consensus of the Board that staff would bring any questionable applications, which contain duplicate wells as experience, to the Board's attention for discussion prior to certification." A motion to accept the minutes with the change noted above was made by G. Poppe and seconded by A. Tirro and unanimously approved.
- 3. Review of Executive Session Minutes from Sept. 18, 2008** - A motion to accept the minutes without changes was made by Gary Poppe and seconded by Dick Dalton and unanimously approved.

4. **Discussion of proposed 2009 Board Meeting Dates** – A motion to approve the proposed dates for the 2009 Board meetings was made by J. Yost, seconded by K. Muessig and unanimously approved. The meetings will be scheduled as follows: January 27, 2009, March 19, 2009, May 21, 2009, July 16, 2009, September 17, 2009 and November, 19, 2009. S. Reya said that he would grade the December exams and email the results in a spreadsheet for email certification. He did not want the applicants to have to wait until early February to receive their exam results. H. Chudzik stated that the Board had done so in the past and could do so again provided they followed up the email certification with a formal motion at the meeting.
5. **Review and Certification of Applicants for the December 9, 2008 Pump Installer, Soil Borer and Monitoring Well Driller exams** – A motion to approve the Pump Installer exam applicant list was made by R. Dalton, seconded by J. Pepe and unanimously approved. A motion to approve the Soil Borers exam applicant list was made by G. Poppe, seconded by T. Tirro and unanimously approved. A motion to approve the Monitoring Well exam applicant list was made by K. Muessig, seconded by G. Poppe and unanimously approved.
6. **Review and Certification of Scores from the October 7, 2008 Master, Journeyman and Journeyman B Well Driller Exams** – A motion to approve the Journeyman B well driller exam scores was made by A. Tirro, seconded by J. Yost and unanimously approved. A motion to approve the Journeyman Well Driller exam scores was made by J. Yost, seconded by D. Dalton and unanimously approved. A motion to approve the Master Well Driller exam scores was made by F. Sickels, seconded by J. Yost and unanimously approved. The passing rates for the exams were as follows: Journeyman B- 31%, Journeyman B-25% Master-67%.
7. **Licensing Topics –**

Alan Uminski-Lapsed Soil Borer Certification

S. Reya introduced the issue of Alan Uminski's Soil Borer certification. Mr. Uminski's July 8, 2008 letter was discussed at the September 18, 2008 meeting and the issue was deferred, as legal council was not present at the September meeting. Mr. Uminski originally wrote to the Board stating that at the time he received his Soil Borer Certification (January 19, 1990), the certification was "**perpetual** never requiring renewal." He also noted that he was not given the opportunity to be grandfathered into the Soil Borer License, through payment of the required fee, as the Department failed to notify him of the change to his certification status. After contacting the Bureau, he was reportedly informed that the address listed in the Bureau's records was "unknown." Therefore, Mr. Uminski requested that his license be reinstated. Bureau staff was also to look into past precedent that had been set, with regard to a lapsed certification. It was not clear whether an individual could have a license "reinstated" if the individual had perpetual certification and was not notified of a grandfathering process.

Mr. Reya discussed how the November 15, 2005 Board Meeting minutes detailed a similar issue, in which the Board agreed that the regulations do not provide an avenue for license reinstatement without passing the required exam. It was also noted that the Department sends out notification of the regulation adoption as a courtesy, however, it is the individual's responsibility to remain apprised of regulatory changes and requirements.

D.A.G. H. Chudzik agreed that it would be consistent with both the regulations and Board precedent to deny the request to reinstate the license. She did, however, note that the Board could allow him to sit for the exam, as the apprentice requirement is no longer in effect. S. Reya brought

up the fact that Mr. Uminski would not be able to provide two references (one of who is licensed), or the one required permitted boring (over fifty feet in depth). His letter stated that he is employed by Lockheed Martin and conducts work under the EPA Office of Solid Waste and Emergency Response Directive 93557-03. According to Mr. Uminski, the EPA has taken the position that permit acquisition is not required for superfund sites. Since Mr. Uminski was previously certified by the state, it was the determination of the Board that he could sit for the exam, without providing the specified work experience documentation. F. Sickels suggested that the Board waive the deadline for the application, which would allow him to sit for the December 9, 2008 exam. It was stipulated that he would have to submit an application by December, 2009. Further, the Board agreed that the application could be faxed in for staff to review, and ultimately mail in the hard copy with the required application fee. The motion to waive the application deadline and allow him to sit for the exam was made by F. Sickels, seconded by K. Muessig and approved by all others excluding R. Dalton, who abstained. Mr. Dalton stated that he had known Mr. Uminski personally for many years and felt that it was not appropriate for him to vote on the motion.

John Turnbull-Lapsed Journeyman License

Mr. Reya informed the Board that the Bureau had received a Journeyman B application from lapsed John Turnbull, whose Journeyman license had lapsed. Mr. Turnbull is unable to provide the two required references, as he has owned his own business in New York for 22 years. Mr. Turnbull is currently certified by the National Groundwater Association for all categories required to sit for the Journeyman B exam. K. Muessig made a motion to waive the reference requirement and allow him to sit for the April 9, 2009. The motion was seconded by J. Yost and approved unanimously.

8. Recognition of Service to the Board

A. Becker took a moment to formally recognize the years of service DAG Helene Chudzik has provided as legal counsel to the Board. This role will now be fulfilled by DAG Jill Denyes. Board members expressed their gratitude to Helene and wished her well in her latest endeavors with the NJ Division of Law.

9. Executive Session – A motion to enter executive session to discuss revisions to exams for all licensing categories was made by G. Poppe, seconded by A. Becker and approved unanimously.

10. Program Updates –

- a. E-permitting - P. Bono reported that the DEP is still on schedule to initiate the e-permitting system sometime in January. There are some outstanding issues that need to be corrected before the system will be fully functional, but those that are operable will be turned on.
- b. A draft copy of the decommissioning report form (a.k.a. the abandonment report) for was passed out to the Board members for comment. This form will be posted on the web with an explanation on how to fill it out. G. Poppe and J. Yost raised a couple of questions regarding certain fields on the form. Due to limited time available for discussion, members were asked to forward comments to P. Bono.
- c. The DEP Well Permitting Program is initiating an effort to have well drilling companies submit outstanding well records. Some companies submit less than 10 percent of the records due to the DEP. A. Becker asked if the DEP will pursue fines for offenders that do not respond to this request and Pat Bono assured him that they would.
- d. Board members raised questions about how the well permitting staff were checking to determine that the coordinates submitted on well records are accurate. Currently staff

does do a check against the DEP's I-map system to see if the proposed location matches the address of the property. Locations reported on the well records are being checked in-house. However, limited staff resources have precluded actual field checks to determine exact accuracy of the reported coordinates. F. Sickels stated that if assistance can be secured, the DEP would like to conduct at least random spot checks to establish the accuracy of the submitted location information. Staff will continue to seek opportunities for assistance with this project.

Lunch Break

Prior to the beginning of several scheduled presentations on DX geothermal systems, Board members took some time to review the information submitted by various parties.

11. Presentations –

- a. Total Green's DX geothermal system – Mr. Paul Auerbach, represents his company which is a distributor of a DX geothermal system. The presentation was general in nature and covered basic information such as the advantages of a geothermal system for homeowners. He estimated that 8-10 holes would be drilled for well-insulated home approx. 3000 square foot in size. Twelve holes per field will 72,000 BTU's. The tubing material used to circulate the cooling/heating fluids is refrigerant grade copper. The system uses mason grade sand instead of grout in the installed wells. Mr. Auerbach claims the oldest systems are about 15 years old and that the cathode needs to be replaced every 5 years in areas of high acidity.
F. Sickels explained that this raises a concern to the DEP since there is no good mechanism to insure that the system owners would replace cathodes when needed and that certain portions of the state have very high acidic groundwaters at the depths these wells would be installed. Specifically, Mr. Auerbach is requesting that his system be granted a deviation from meeting a number of well construction requirements: the requirement to have a licensed driller install the well system, grouting the well, and the use of copper as the casing material. There was a discussion by several board members to explain that current grout requirements along with the casing requirement are set so that these systems can withstand the corrosivity of the geology and waters through which they pass. Mr. Auerbach argued that any cementitious grout would diminish the corrosion control protection applied to the copper piping. Regarding Mr. Auerbach's request to grant a deviation from the well regulations to allow for the installation of this particular DX geothermal system, F. Sickels explained that deviations are site specific and this request was technology specific. Therefore, the DEP would need to determine if there is a vehicle that would allow for a new technology to be accepted without a regulation change. The Board's new legal counsel, Ms. J. Denyes, will get back to DEP staff on that issue.

- b. Earth Linked Technologies - Hal Roberts, CEO of EarthLinked Technologies, which is a manufacturer of a DX geothermal system. Mr. Roberts submitted a package of information to members for their review and consideration. Mr. Roberts claims that Florida has given a blanket approval for the installation of these systems. Several other associates working with Earth Linked Tech raised a number of additional concerns or objections to complying with NJ state well construction regulations. Tom Ambrosio, Mel Hensch of Energy Star Partner

13. **Discussion of additional well construction materials under review by the Board – Earth Source Energy** - manufacturer of DX geothermal system from Mass submitted a package. This system uses T-111 grout (cementitious thermally enhanced grout), copper tubing and NU22B refrigerant (AKA R-422B).

A brief summary of the DX geothermal systems that have requested DEP approval for installation in NJ are summed up as follows:

Earthlinked system:

- Refrigerant: R-22 and R-407C (Genetron 22 and Genetron 407C are both manufactured by Honeywell)
- Lubricant-mineral oil: SUNISCO 3GS Refrigerant Oil
- Grout: bentonite or cement based geothermal grout

Total Green/ECR System:

- Refrigerant: R-22 (Genetron 22)
- Lubricant: mineral oil (no further specifics)
- Grout - no grout, mason's sand

EarthSource Energy System:

- Refrigerant: NU22B (aka R-422B), Manufactured by Icor International
- Lubricant: Not specified
- Grout: T-111 grout (cementitious thermally enhanced grout)

The systems are typically comprised of copper tubing (7/8" supply, 3/8" return), which is installed in diagonally-drilled boreholes that range from approximately 50 ft. to 100 ft deep. We have MSDS sheets for all three refrigerants. Additionally, the Earthlinked submittal contains some documentation regarding case studies and EPA correspondence concerning R-22.

K. Muessig will contact the appropriate state program in New Hampshire for their regulations on geothermal well systems.

Hardin Geotechnologies – Has previously requested the Board to endorse the use of their PVC pipe for geothermal systems in NJ. Previously, G. Poppe indicated he was not able to get the sample pieces of pipe to work according to the design in the Hardin presentation. A. Becker reported that he has discussed the design of the pipe with several colleagues for their opinion. They doubted the design would work as indicated since grout under pressure comes out wherever the differential pressure is lowest. This would mean that the grout would end up at (top/bottom) along the length of pipe (casing) in such a way as to leave sections of the annulus devoid of grout. A more detailed review cannot be completed until Hardin submits additional information.

14. Ongoing Topics of Discussion

Continuing Education Program - Although an amendment to the Subsurface and Percolating Waters Act now requires continuing education credits for renewing driller licenses, the DEP has not yet developed such a program. The BWS&WP has been unable to hire staff to develop the continuing education program. F. Sickels suggested that such a program would have to be out sourced given the restrictions on hiring. A. Becker suggested that staff contact the state of Florida to learn more about their licensing program, which is conducted via a third party.

15. Adjournment - A motion to adjourn the meeting was made by K. Muessig at 4:20 pm, seconded by D. Dalton and unanimously approved.