



State of New Jersey

Department of Environmental Protection

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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 July 16, 2009

Board Members Present: Anthony Tirro, Richard Dalton, Fred Sickels, Karl Muessig, Joe Yost, Gary Poppe

Board Members Absent: Art Becker, Joe Pepe Sr.

NJDEP Staff Present: Steve Reya, Pat Bono, Tracy Omrod, Michael Schumacher (am only), John Fields

Other State Personnel Present: D.A.G. Jill Denyes - Legal advisor to the Board

Member(s) of the Public: Keith Barrack- Florio, Perrucci, Steinhardt & Fader

1. **Call to Order** - The meeting was called to order by A. Tirro at 9:40 am with a quorum present
2. **Review of Minutes from May 21, 2009 Meeting** - A motion to accept the minutes without change was made by G. Poppe, seconded by C. Graff and unanimously approved.

3. Certification of the June 9, 2009 Pump Installer, Soil Borer and Monitoring Exams

Pump Installer – A motion to accept the scores was made by F. Sickels seconded by G. Poppe and unanimously approved.

Soil Borer – A motion to accept the scores was made by F. Sickels seconded by C. and unanimously approved.

Monitoring – A motion to accept the scores was made by J. Yost seconded by F. Sickels and unanimously approved.

4. Minimum Passing Score for Well Driller/Pump Installer Exams

F. Sickels asked the other Board members about the rationale for the requirement that exam applicants obtain 80% on all portions of an exam to receive a passing score. He questioned whether lowering the passing score to 70% or 75% would be appropriate. F. Sickels noted that he was concerned with the fact that so few applicants pass the well driller and pump installer exams. C. Graff stated that she believed the

passing score was 70% many years ago, however, the standard was raised to 80% at some point. F. Sickels stated that he believed the issue of lowering the standard warranted further discussion. J. Yost noted that he had recently reviewed the exams and felt that they were not very difficult. K. Muessig expressed concern with the potential transitional phase where applicants have been held to the 80% standard until now. He felt that lowering the standard would cause recently licensed individuals and those who had recently failed their exams to feel as though they were held to a higher standard than more recent applicants. S. Reya noted that two out-of-state applicants who had recently taken the monitoring well driller exam had informed him that they felt the exam was difficult, yet fair. S. Reya also stated that the applicants told him that the technical portion of the exam contained everything a driller in that field should know and would be expected to be tested on, while the regulatory portion was contained within the study material sent out to them by the Bureau. Therefore, S. Reya questioned whether the high failure rate could at least partially be attributed to a lack of experience and/or effort on the part of the applicant. A. Tirro stated that the licenses would not be "given away" should the passing grade be lowered, the standard would simply be lowered a little bit. J. Yost said that he believed that lowering the scores would ultimately license a lot of individuals who aren't qualified to perform the work they would be licensed to perform.

R. Dalton suggested the possibility of requiring that an applicant obtain an average score of 80% provided the regulatory portion of the exam is the higher of the two. S. Reya pointed out the fact that the Department's computer program, NJEMS, is currently designed to issue a license invoice or a "fail letter" when the scores are inputted into the system. He stated that there is currently no mechanism by which NJEMS could average the two scores. He expressed concern with altering the data in order to make the system work. J. Yost again stated that the passing score should not be lowered, as he does not think that applicants prepare for exams the way they should. He believed that this is often the case because applicants are frequently asked to take an exam by their employer, therefore, the applicant isn't motivated to study for the exam. F. Sickels again expressed concern with the extremely high failure rate of the exams and added that something had to be done to increase the passing rate. A discussion ensued regarding different strategies to lower the minimum passing score. P. Bono noted that a small percentage of applicants who fail the exams actually make an appointment to come in to the review their exams. She felt that this opportunity, which is allowed by the regulations, is not being utilized by many applicants meaning they are not doing all that they can to ensure improving their scores from one test cycle to the next. F. Sickels again added that he wants to do something to see what percentage of applicants would pass if the minimum score is lowered or an averaging of the multiple sections is allowed. The minimum score on each portion is stipulated in the regulations, however, meaning that it is unclear what could be changed in the immediate future.

5. Licensing of Closed Loop Ge thermal Well Drillers

F. Sickels described a meeting where he had recently met with former Governor Florio, the energy director from the current governor's office (Mr. Esser?) and Harry Sussman (who had addressed the Board at the May 21, 2009) regarding the need for more drillers in the ge thermal well drilling industry. F. Sickels noted their concerns regarding the difficulty that ge thermal drillers experience when trying to apply for a NJ drilling license; specifically, the experience qualifications. F. Sickels further explained that he believed Mr. Sussman's concerns to be valid and hoped that the Board and the Bureau could assist in resolving the issue of what can be done to license additional ge thermal drillers who are qualified (specifically those who drill closed loop ge thermal wells). The problem, F. Sickels noted, is that the regulations categorize closed loop ge thermal wells as category 4 wells and only a Journeyman B or higher licensed driller can install these wells. In order to apply to sit for these license exams, the applicant must demonstrate that he/she worked under the supervision of a Journeyman B, Journeyman or Master well drillers and have assisted in drilling category 1 and 2 wells. These three license classes are essentially water well licenses. Therefore, ge thermal well drillers must have experience drilling water

wells in order to apply for the exams; this would exclude those who drill only closed loop ge thermal wells. F. Sickels also said that he had recently spoken by phone with the Board's former legal advisor, DAG Helene Chudzik, regarding the predicament of closed loop ge thermal well drillers and the "catch 22" where applicants cannot qualify for a license that is required for their line of work even after working in the industry for the required timeframe. He also added that P. Bono and S. Reya had found a citation in the regulations (N.J.A.C. 7:9D-1.7(a)), which appeared to give the Board the authority to recommend additional license categories for establishment by the Department. H. Chudzik reportedly informed F. Sickels that she did not believe new license categories could be created without changing the current regulations. DAG J. Denyes agreed, stating that a new category (closed loop ge thermal well driller) could not be created without a formal rule writing and public comment process. A. Tirro indicated that at the time the regulations were originally written (prior to being adopted in 2001) the Board, under H. Chudzik's guidance, specifically included that section so that new categories could be added without waiting several years for a regulation change. K. Muessig suggested attempting a limited rule revision to incorporate the change and attempt to have it expedited since energy efficiency is a high priority within the governor's office. F. Sickels said that he believed that the rule cannot be opened for limited revisions but that the entire set of regulations would then be subject to comment. Since the regulations need numerous revisions, he was concerned that the amount of time and effort needed to address other technical and administrative provisions would overshadow the department's ability to deal with this specific licensing issue. Finally, he noted that the last time the regulations were changed, the Bureau agreed to perform a comprehensive revision at the time of the next re-write and he did not want attempt this prematurely.

F. Sickels said that he had also explored a second option in a phone call with Chairman A. Becker regarding the concerns of several staff members in which the standards for a Journeyman license would ultimately be lowered. This could potentially allow individuals who had traditionally performed drilling of specialized well types to become licensed to drill many types of wells, including potable wells, and they would also essentially become pump installers without any experience or demonstrated knowledge of pump equipment. F. Sickels brought up the fact that there isn't a way to create a sub-class of the journeyman or journeyman B license that would limit the licensee to performing limited well types, such as closed loop ge thermal wells. G. Poppe said that these drillers would still be drilling through confining units and would still be required to grout the boreholes and would need to take into account the same environmental impacts as those who drill potable wells. His concern is that although the proposed action would enable more ge thermal well drillers to sit for the exams, their licenses would then enable them to drill many types of wells, including potable, in response to shifts in market demands. DAG Jill Denyes confirmed that once issued, the Department would not be able to restrict the types of wells drilled. He felt that issuing an unrestricted journeyman/journeyman B license could adversely affect the industry as the newly licensed individuals begin branching out in the industry, performing or overseeing work that they never experienced prior to obtaining a license.

F. Sickels indicated that the governor's office is concerned about the number of people available to perform the amount of work within the industry. He stated that he believes that the long-term solution is to create a new category of license for such drillers. P. Bono asked whether it would be possible to create an interim license, prior to the next rule change that is restricted to only this category of wells in accordance with the provision in the regulation discussed earlier. DAG J. Denyes stated that this would not be possible without a rule change. F. Sickels questioned whether such applicants could pass the journeyman exam even if we accept their experience and allow them to sit. P. Bono said that she was concerned that if the Department issues them a Journeyman license the person could then go out and drill nearly any type of well within the state. F. Sickels again said that the "catch 22" is unfair and the Department could be challenged on that issue. C. Graff suggested that the applications should be reviewed and interpreted to allow for approval of test candidates with three years of drilling experience, regardless of the type(s) of wells drilled. S. Reya stated that the exams would contain pump

installation/repair and well development questions, which would be both difficult and foreign to drillers who have never had any experience performing such tasks. He also noted that if the applicants studied from a reference manual and did pass the test, the applicant would then be licensed to construct or repair wells and pumping systems without ever having actually working on pumping equipment in the field (no experience) under the supervision of a licensed pump installer. G. Poppe posed the possibility of allowing geothermal drillers to take the National Groundwater Association's geothermal certification and having New Jersey accept that in lieu of sitting for the pump installer section of the exam.

Keith Barrack, from Florio, Perrucci, Steinhardt & Fader, addressed the Board stating that his clients, Harry and Mark Sussman, intend to hire licensed well drillers to construct closed loop geothermal wells that range from 4,000 to 5,000 ft in depth. (Note: DEP staff believe that the reported depths are in error. 400-500 feet would more likely be the maximum.) Mr. Barrack stated that the Sussmans have been having a difficult time finding qualified individuals to perform the work. He also indicated that his office would be willing to assist the Bureau, Board or the Board's legal council to attempt to expedite a rule change to create an appropriate license category, as he felt that the Governor's office would support this legislation.

S. Reya noted that the definition of a "journeyman well driller" in the regulations (N.J.A.C. 7:9D-1.5) in which it states that a licensed journeyman would be required to have "at least three years of experience under the supervision of a New Jersey licensed master or journeyman well driller in the trade, business, or calling of well drilling, with concentration in the practical construction of wells, and the installation and repair of well pumping equipment and appurtenances thereto..." He questioned whether the Bureau could legally license geothermal drillers as journeyman drillers, even if they passed the exam, since they would not have any experience with installation and repair of well pumping equipment and/or associated appurtenances. He also noted that the individuals would essentially become licensed pump installers regardless of whether or not they had ever installed a water supply well that would include pumping equipment. DAG J. Denyes stated the experience criteria listed in section 1.8 of the regulation, in which it specifies three years of well drilling experience under the supervision of a master or journeyman well driller would take precedent, therefore, the pump installation experience stipulations in the journeyman definition would not be required.

A discussion about out-of-state applicants ensued. The Board members agreed that the current criteria for NGWA certifications would remain the same. Out-of-state geothermal drillers, therefore, would not be required to pass the NGWA geothermal category but they would be required to pass all other sections that would be required of a typical journeyman applicant. M. Schumacher pointed out the fact that by changing the minimum experience to allow for the drilling of any type of wells for a three year period, individuals who had only ever drilled soil borings would be licensed to construct and grout wells. A. Tirro stated that he believed that closed loop geothermal drillers should be allowed to sit for the journeyman exam. J. Yost, G. Poppe, C. Graff and K. Muessig agreed. Several Board members indicated that the application should not require "water well" drilling experience.

G. Poppe made a motion to allow individuals with three years of well drilling experience to sit for the journeyman exam. A. Tirro seconded the motion and all were in favor.

S. Reya asked how the applications could be revised to reflect this change in policy. He questioned whether the journeyman application would require permitted wells, whether borings (permitted or unpermitted) would be acceptable, or whether the Board wanted to require minimum depths of the wells/borings or if any other construction criteria, such as grouted wells/borings, would be required. Also, he questioned whether the applications for all other license categories would be revised. He did not feel as though the journeyman application could be revised to become the easiest license to qualify for without altering the application standards of the "lesser" license categories. He thought that since the

journeyman license is the highest category of license one can obtain without already holding a license (upgrading from a journeyman to a master), it could not have an application process that is easier than that of a monitoring well driller or soil borer. F. Sickels indicated that the Bureau would work on the application revisions independently, at a later date.

6. Changes to the License Testing Program

P. Bono discussed changes in the licensing program, which will be publicized in the Bureau's upcoming newsletter. She said that exams for all license classes would be offered at each of the four test dates offered annually. This change would be effective beginning on the December 10, 2009 exam, according to P. Bono. Additionally, she said that once application is approved, it would now be considered valid for one year. All applicants who failed the exam would simply be required to submit a streamlined application containing their current address and the exam fee, which would remain unchanged. P. Bono also informed the Board that applicants would have to wait a minimum of 30 days to take a test should the applicant review a failed test. This would mean that applicants would generally not be able to review a failed exam if attempting to sit for consecutive exam cycles. F. Sickels indicated that the Bureau staff would continue to investigate contracting a third party vendor to assist in administering the licensing program. He suggested a possible scenario in which the NGWA test is utilized as the basis for the exams, however, a New Jersey regulation section must also be taken.

7. Proposed Revisions to Current Well Driller & Pump Installer Exam Study Guides

S. Reya discussed the status of the study guide revisions that the Board had recently reviewed. He said that A. Becker had expressed concern with the high price of the Johnson "Groundwater & Wells" text and felt that NGWA may offer a comprehensive study guide at a more reasonable price. He also thought that if applicants had a smaller, more concise reference, test scores might improve. C. Graff noted that the Bureau could still recommend the Johnson text but state that it is recommended but not mandatory. P. Bono states that once the study guide draft is finalized, the format will be cleaned up. Much of the information that S. Reya compiled in the revision may now need to be changed, however, if the Board chooses to change from the Johnson manual to a NGWA study guide. R. Dalton brought a copy of NGWA's "Manual of Water Well Construction Practices" to the meeting for review. A. Tirro volunteered to work with S. Reya prior to the next Board meeting and review the NGWA book to determine its suitability as a study guide reference.

8. Elevator Shaft Driller Update

S. Reya said that he had recently contacted the Department of Community Affairs (DCA) to determine what aspects of elevator shaft installation their program covered. He said that in speaking with a representative from their Elevator Safety Unit, he was informed that all elevator installations or modifications are permitted. DCA regulates the piston for the hydraulic cylinder, liners and cathodic protection systems that ensure that the piston does not corrode and release fluid into the shaft. S. Reya stated that DCA does not regulate how the actual shaft is installed into the ground and does not have any construction nor licensing requirements that would conflict with the well drilling regulations. The Board discussed potential avenues through which they could license the representatives from United Drilling who had addressed the Board at the last meeting. Both men held licenses in Minnesota and in two counties in Florida. New Jersey, however, does not currently have an elevator shaft driller license and the "lowest" allowable license that would enable elevator shaft drilling is a journeyman B. It did not appear that the Board could consider out of state experience as equivalent to a license in New Jersey and thereby license the individuals without examination. The Board members noted that the individuals from United Drilling could utilize the out-of-state experience route to qualify to sit for the journeyman or journeyman B exam since they appeared to have extensive out-of-state experience. This would mean that the

individuals would have to acquire NGWA certifications in the appropriate categories prior to sitting for the New Jersey exams. They would also be tested on well pumping equipment, well development and questions regarding potable/non-potable water supply wells on the New Jersey exam, as the journeyman/journeyman B license would allow them to drill multiple categories of wells. F. Sickels stated that the rules are the rules and the Bureau and Board cannot allow such applicants to sit for the exam if they have only obtained in-state experience, which likely was not obtained under the supervision of New Jersey licensed well drillers. J. Yost suggested contacting the elevator union to determine ways that their industry could come into compliance with the drilling regulations. R. Dalton, K. Muessig and F. Sickels also discussed working with DCA to resolve the issue.

F. Sickels noted that he believed that the long term solution to the elevator shaft drillers would be to add a new license class to the drilling regulations. Currently, however, such applicants have two choices: hire a New Jersey Licensed drillers to be onsite and work under their supervision or obtain a license through the out-of-state application process.

9. Discussion of additional materials submitted for review by the Board (Earth to Air DX System)

F. Sickels stated that there might be a way that the Department could approve the copper tubing that has been proposed for DX system installations, provided it is completely encased in a plastic coating. He also stated, however, that the regulations are very specific regarding the water-based circulated fluids that are approved for use in closed loop systems. The Department cannot approve the refrigerants that have been proposed for use in DX systems unless the regulations are revised to reflect such technology. A rule change would be required because there is no vehicle that would allow the use of the refrigerants. F. Sickels felt that such a rule change could potentially be several years away. P. Bono said that she intends to make sure we have the correct information from Earth to Air so the relevant information is available for review and incorporation into the next set of regulations. She also stated that the DX community is awaiting answers regarding the fate of DX installations in the New Jersey. F. Sickels stated that he believes that systems that use copper tubing encapsulated in plastic tubing would be less of a risk to groundwater contamination than systems that use cathodic protection systems, which require maintenance. He also expressed concerns with the extreme temperatures to which DX systems subject the grout material and questioned whether a competent grout seal could be expected in such systems.

10. DEP Program Updates

P. Bono informed the Board that since turning on the E-permitting service, the Bureau has received 305 well permit applications, 12 well records and 0 abandonment reports. G. Poppe stated that the process is relatively smooth and quick. He added that there are a few things different in the well record submittal process as compared to how the paper submittals have traditionally been handled. He also said that he has been working with M. Schumacher to resolve some of the glitches he has encountered. There are 11 different companies using the system, according to P. Bono.

P. Bono said that there is a request for the next board meeting from P. Cicalese in regards to pump installer/well driller and master plumber license jurisdiction. G. Poppe states that towns are implementing electrical permits now, which has made the issue even more complex. He stated that he would supply the Board/Bureau with a letter from DCA for discussion at the next Board meeting. It was also suggested that P. Cicalese and J. Pepe be contacted if any further information is required. P. Bono said that she and some other Bureau staff are working on putting out another newsletter to the drilling community, which they hope will be out soon. G. Poppe asked if there is anything going on with enforcement. P. Bono stated there has some recent illegal drilling activity that appropriate action has been taken.

11. Adjournment

A motion to adjourn the meeting was made by G. Poppe, seconded by F. Sickels and unanimously approved at 2:18 PM.

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