

June 27, 2014

The Honorable Eugene A. DePasquale Department of the Auditor General 229 Finance Building Harrisburg, PA 17120-0018

Re: Special Audit of the Pennsylvania Department of Environmental Protection's Performance in Monitoring Potential Impact to Water Quality from Shale Gas Development, 2009-2012

Dear Auditor General DePasquale:

The Department of Environmental Protection (DEP) is in receipt of the Special Audit of DEP's Performance in Monitoring Potential Impact to Water Quality from Shale Gas Development. The Department respects the role the Auditor General's office plays in ensuring state government works efficiently and in the best interests of all Pennsylvanians. It has been a pleasure working with your staff since the entrance conference on March 19, 2013 through our final exit interview on May 23, 2014.

The audit report encompasses the period of January 1, 2009 through December 31, 2012 and focuses largely on DEP's management of electronic data with respect to water supply complaint investigations. To a great extent, the audit report reflects how the Oil and Gas Program formerly operated, not how the program currently functions. Throughout the audit period until the present, DEP's Oil and Gas Program has made great strides improving the effectiveness of its regulatory efforts and its transparency to the public. Additionally, Act 13 of 2012, the first significant amendment to Pennsylvania's oil and gas laws in over 30 years, was enacted towards the end of the audit period. Act 13 introduced comprehensive changes to DEP's regulatory authority over the unconventional ("shale") gas industry. Consequently, many of the recommendations in the audit report have already been implemented by DEP since the Corbett administration took office in 2011 or are currently being considered for implementation.

DEP's response to an Auditor General's special performance audit report is governed by Management Directive 325.10 Amended. ("Review of Auditor General, Treasury, Legislative Budget and Finance Committee, and Other Audit Reports"). According to MD 325.10 Amended, an evaluation of the merits of the contents of this report and, therefore, the nature of any response thereto, is to be conducted by this agency applying the following minimum criteria:

- 1. Findings, conclusions, and recommendations are:
  - a. Based on complete, accurate, and factual data;
  - b. Formulated from facts that are directly applicable to individual situations:
  - c. Not based on isolated facts that may not be representative of the whole;
  - d. Indicative of objective, fair, and independent reporting;
  - e. Cost effective in relation to benefits received;

- f. In conformance with all laws, regulations, and other compliance factors;
- g. Taking into consideration Commonwealth or agency policies, goals, or objectives;
- h. Directly relevant to current conditions; and
- i. Not outdated or inapplicable as a result of the passage of time between the conduct of an audit and the issuance of the audit report.
- 2. Corrective action for a particular condition has not already been taken before the issuance of the report.
- 3. Disclosure is made of strengthening, correcting, or other actions taken subsequent to the audit commencement, but prior to the issuance of the report.

MD 325.10 Amended also states than an agency response shall clearly describe the agency's concurrence or non-concurrence with individual findings and recommendations, and reasons therefore.

Therefore, in accordance with MD 325.10 Amended, the Department's response is attached.

Sincerely,

E. Christopher Abruzzo

Secretary

cc: Jeffrey

Jeffrey M. Logan John Kaschak

## 1. <u>DEP does not concur with Finding One</u>

DEP disagrees with the Auditor General's finding that it did not routinely and consistently issue orders requiring oil and gas operators to restore or replace adversely impacted water supplies as required by law.

The Auditor General's report states that Section 3218(b) of Act 13 directs that DEP "shall issue orders" requiring operators to restore or replace water supplies that have been adversely impacted from oil and gas activities and concludes that DEP must issue an order in every case where it makes a positive determination. The Auditor General's interpretation of Section 3218(b) ignores the full text of that provision. The pertinent portion of Section 3218(b) states that DEP "shall issue orders to the well operator necessary to assure compliance..." [with the operator's obligation to replace or restore the adversely impacted water supply]. (emphasis added.) Accordingly, there is no legal basis for the Auditor General's conclusion that DEP must issue an order every time a water supply is impacted by unconventional gas well activities. The law only requires that DEP issue an order when an operator responsible for adversely impacting a water supply refuses to restore or replace the water supply.

As a regulatory agency, DEP is authorized to exercise discretion with respect to the enforcement of the laws it administers. DEP is best situated to assess whether a regulatory violation has occurred and what method of enforcement is best suited to achieve compliance with the law. Pursuant to this exercise of discretion, DEP often works cooperatively with operators to secure voluntary compliance with respect to restoring or replacing a water supply impacted by oil and gas activities. As a result, many water supply complaints are resolved by operators before DEP completes its investigation, and operators have often agreed to voluntarily restore water supplies that DEP cannot conclusively determine were impacted by oil and gas activities.

Because DEP has declined to automatically issue orders every time a positive water supply determination is made, the Auditor General unfairly concludes that DEP acted inconsistently with respect to unconventional gas well operators who adversely impacted water supplies. DEP's goal is to ensure compliance with the provisions of Act 13 and all related regulations. Although a forceful regulatory approach may be utilized to achieve that end, DEP has found that working with operators to obtain voluntary compliance with the law is often a more effective and expeditious method of restoring water supplies. Additionally, Section 3251(a) of Act 13 provides for conferences between DEP and operators to "discuss and attempt to resolve by mutual agreement a matter under this chapter." (emphasis added.) This statutory provision reflects the General Assembly's intent that DEP be afforded the discretion to seek voluntary compliance from operators with respect to water supply complaints rather than automatically issuing an order. If voluntary compliance cannot be obtained from an operator, DEP is still able to pursue restoration or replacement of an impacted water supply through the issuance of an order.

<sup>&</sup>lt;sup>1</sup>It is a fundamental principal that an administrative agency, such as DEP, is vested with discretion in its enforcement of the laws that it is charged with administering. *Schneiderwind v. Department of Environmental Protection*, 867 A.2d 724, 727 (Pa. Cmwlth 2005); *Commonwealth v. Sanico, Inc.*, 830 A.2d 629 n. 14 (Pa. Cmwlth 2003); *Lerro v. Upper Darby Township*, 798 A.2d 817, 822 n. 13 (Pa. Cmwlth 2002).

The audit report confirms that DEP has successfully protected water supplies adversely impacted by oil and gas activities. The Auditor General reviewed 15 water supply complaint files containing positive determinations that a gas well operator had adversely impacted a water supply. The audit report claims that DEP issued only one order to an operator to restore or replace an impacted water supply and chose instead to seek voluntary compliance from operators with respect to the remaining 14 complaints. Actually, the 15 hard-copy complaint files indicate that three orders were issued to operators by DEP and a fourth order is pending for the replacement or restoration of adversely impacted water supplies. Additionally, 4 of the 15 complaints were not related to unconventional gas drilling activities and were handled by DEP's Mining or Water Programs rather than the Oil and Gas Program. With respect to the 11 complaints actually related to unconventional gas well activities, 10 water supply owners have already received a replacement water supply from the responsible operator, and one operator's plan to permanently replace the complainant's water supply is currently being reviewed for approval by DEP. A positive determination letter was issued by DEP in 9 of the 11 complaints related to unconventional gas well activities and a total of \$848,250.00 in civil penalties was assessed against operators.

Interestingly, the audit report cites a portion of an email exchange between a DEP inspector and an unconventional gas well operator as an example of DEP's "conciliatory" approach towards operators. However, the inspector's approach in this instance was successful as the operator permanently restored the complainant's water supply and DEP ultimately issued a civil penalty of over \$145,000.00.

## DEP does not concur with Recommendation No. 1

DEP disagrees with the Auditor General's recommendation that it must routinely and consistently issue orders to operators whenever it determines that water supplies have been adversely impacted by oil and gas activities to assure restoration or replacement of water supplies.

Contrary to the Auditor General's interpretation of Section 3218 of Act 13, DEP is not legally required to automatically issue orders to unconventional gas well operators to restore or replace adversely impacted water supplies. Consequently, DEP does not agree that it should "routinely and consistently" issue orders to operators for the restoration or replacement of adversely impacted water supplies when operators have already voluntarily complied with the law. However, where liability for a water supply impact is clear, and the responsible operator refuses or unreasonably delays the replacement or restoration of a water supply, DEP exercises its enforcement authority and issues orders as necessary pursuant to Act 13.

Although DEP does not agree that it must routinely issue an order whenever a water supply is impacted by oil and gas activities, DEP will take documented enforcement action (including a Notice of Violation) against any operator that adversely impacts a private or public water supply. The enforcement action will become part of an operator's compliance record and will be available for public review on eFACTS.

### DEP does not concur with Recommendation No. 2

DEP disagrees with the Auditor General's recommendation that it amend its internal policy to clearly indicate that orders must be issued whenever DEP makes a positive determination under Section 3218 of the Act.

Based on the Auditor General's misinterpretation of Section 3218 of Act 13, the audit report recommends that DEP issue an order to a gas well operator even if the operator has already acknowledged responsibility for adversely impacting a water supply and has fully remedied the problem to the satisfaction of the water supply owner and DEP. Simply stated, it makes no sense for DEP to issue an order directing an operator to restore or replace an impacted water supply that the operator has already fixed. Although DEP disagrees with the Auditor General's recommendation, DEP remains committed to issue orders as necessary to obtain compliance with Act 13 and to take documented enforcement action against any operator that adversely impacts a water supply as a result of oil and gas activities.

# 2. <u>DEP does not concur with Finding Two</u>

DEP disagrees with the Auditor General's finding that its communications to complainants regarding potential adverse impacts to their water supplies were neither clear nor timely.

The audit report documents a limited number of instances where DEP failed to clearly and/or timely communicate the results of water supply investigations to complainants. The Auditor General's finding is based on isolated examples and not representative of DEP's overall performance. (See Management Directive 325.10 Amended as referenced above.) Nonetheless, DEP acknowledges that all citizens of the Commonwealth are entitled to and should receive clear and timely responses to their complaints.

Prior to the commencement of the Auditor General's special performance audit, DEP recognized the need to address all water supply complaints in a consistent manner throughout the Commonwealth. DEP also realized that water supply determination letters should be simplified for complainants' ease of understanding. Accordingly, DEP is currently drafting standardized determination letters that will clearly explain the results of a water supply investigation in understandable terminology, provide water sample test results in a simplified fashion, and provide useful information to complainants on how to proceed following the conclusion of an investigation. Currently included with all water supply determination letters is a pamphlet authored by the Pennsylvania State University, a preeminent authority in the oil and gas field, which explains the technical aspects of DEP's water testing analysis and provides guidance to complainants on how to interpret laboratory test results.

Additionally, the audit report properly highlights the importance of conducting water supply investigations in a timely manner. DEP's goal is to respond to water supply complaints within 48 hours of receipt and make conclusive determinations regarding water supply impacts within 45 days. Although DEP strives to resolve all water supply complaints within 45 days, some water supply investigations cannot be concluded within that timeframe. For instance, as the Auditor General's report correctly notes, water supply complaints involving stray gas migration are typically complex and require extensive isotopic testing at private laboratories. Consequently, a 45-day timeframe to complete these types of water supply investigations is unrealistic.

DEP has an obligation to protect public health and safety and to safeguard the environment. Accordingly, DEP is committed to conducting a thorough and complete investigation for all water supply complaints it receives. In those instances when DEP cannot make a conclusive determination within 45 days of receiving a water supply complaint, DEP's policy is to notify the complainant in writing of the status of the investigation, provide a summary of the investigation, and explain that additional time is needed to reach a final determination.

### **DEP concurs with Recommendations No. 3**

DEP agrees with the Auditor General's recommendation that it clearly identify and address all complaints that fall under the provisions of Act 13 within the mandated timeframes, and document the dates accurately for response and determination to support compliance with Act 13.

In October 2013, DEP instituted a policy requiring all water supply complaints that fall under the provisions of Act 13 to be entered into DEP's Complaint Tracking System (CTS) upon receipt, or as soon thereafter as possible. Additionally, DEP has implemented measures to ensure that it responds to all water supply complaints within the statutory timeframe of 10 days and all response and determination dates are accurately documented in CTS.

### **DEP concurs with Recommendation No. 4**

DEP agrees with the Auditor General's recommendation that if it cannot respond to water supply complaints or conclude investigations in a timely manner, it should ensure that the reasons are documented in the pertinent complaint file.

DEP's goal is to respond to all water supply complaints and conclude its investigations in a timely manner. However, in those instances where a conclusive determination regarding a water supply impact cannot be made within 45 days, a letter is sent providing the complainant with the status of DEP's investigation, a summary of the investigation, and notice that additional time is necessary to reach a determination.

# DEP concurs with Recommendation No. 5

DEP agrees with the Auditor General's recommendation that it send determination letters to complainants for all complaints alleging a water supply impact.

DEP agrees it should notify complainants when it makes a determination regarding a water supply complaint. DEP acknowledges a few instances where determination letters were not sent to complainants. Again, these isolated instances are not indicative of the overall performance of the Oil and Gas Program. In most of the cases identified by the Auditor General, the inspector handling the complaint orally communicated the results of DEP's investigation to the complainant, but did not follow up with a letter. DEP recognizes that although an ongoing dialogue with a complainant during the investigative process is beneficial, a formal written response to all water supply complaints is necessary. Accordingly, DEP's current practice is to issue a determination letter (positive or negative) for any complaint alleging a water supply impact as a result of oil and gas activities. DEP is standardizing determination letters to ensure they communicate the results of DEP's investigation in a clear, thorough, and consistent manner.

### DEP concurs in part with Recommendation No. 6

DEP agrees with the Auditor General's recommendation that DEP should develop a water sample test report that is easy to read, but disagrees with the portion of this finding that suggests that DEP should develop its own publications specific to shale gas development to instruct complainants on how to read laboratory results.

DEP has developed a water sample test report that is simple, clear, and easy to read, and has been providing these test reports to complainants for approximately 18 months. However, DEP does not recognize any benefit in developing its own publication to serve as guidance to complainants on interpreting laboratory test results. The current publication provided to complainants along with determination letters was developed by the Pennsylvania State University, a recognized authority in the oil and gas field, and effectively explains how to interpret laboratory test results.

### DEP does not agree or disagree with Recommendation No. 7

DEP has no position with respect to the Auditor General's recommendation that the General Assembly should evaluate whether the 45-day resolution mandate is realistic for cases involving stray gas migration and amend Act 13 to allow for more time to complete an investigation if the current timeframe is deemed unrealistic.

DEP's goal is to conclude all water supply investigations within 45 days. However, some water supply investigations, primarily cases involving stray gas migration, cannot realistically be concluded within 45 days due to the complexity of the laboratory testing process. In those cases, DEP's policy is to notify the complainant in writing that additional time is needed to complete the investigation.

DEP will continue to strive to complete all water supply investigations within 45 days and will ensure that its policies and procedures are consistent with any new standards that may be enacted by the General Assembly.

## 3. <u>DEP does not concur with Finding Three</u>

DEP does not agree with the Auditor General's finding that it utilizes an ineffective complaint tracking system that does not provide management with timely and accurate complaint information related to oil and gas activities.

DEP's Complaint Tracking System (CTS) is an internal complaint management tool developed for the entire Department, rather than just the Oil and Gas Program. With the recent expansion of unconventional oil and gas activities, it became apparent to DEP that CTS lacked some functionality with respect to tracking data specific to the Oil and Gas Program. Accordingly, DEP's Bureau of Information Technology made numerous adjustments to CTS in July 2011 and July 2012 to allow for more precise tracking of information related to water supply complaints. Many of the criticisms contained in Finding Three of the audit report have already been addressed -- DEP currently has the ability to track the following information in CTS:

- Number of individual complaints received
- Number of complaints related to unconventional gas well activities
- Number of complaints alleging water supply impacts

The Auditor General expressed concern over DEP's inconsistent use of text fields to track water supply complaints and the unavailability of a "clickable" data check box in CTS. DEP recognizes that recording and maintaining accurate data with respect to water supply complaints is essential to protecting water quality and assuring transparency to the public. Accordingly, DEP implemented a "Response Management Policy" in October 2013 requiring that staff enter all water supply complaints into CTS upon receipt or as soon thereafter as possible. Additionally, this policy requires that water supply complaints be prioritized upon entry into CTS. Additionally, emphasis has been placed on training DEP staff to ensure the proper entry of data into CTS for all water supply complaints, including use of the "water supply impact" check box which has been available in CTS since 2012.

The Auditor General identified complaints where sparse information was found in CTS, but the hard-copy file contained "hundreds of pages of notes, pictures, lab results, and other documents." DEP is committed to accurately record all significant information regarding water supply complaints in CTS. In October 2013, DEP instituted a policy requiring that inspection findings, complaint and witness statements, photographs, and sample results must be documented and electronic copies of all attached to the appropriate complaint record in CTS. As a result, although CTS is not a substitute for a hard-copy file and cannot be expected to contain every aspect of a water supply complaint investigation, pertinent information regarding a water supply investigation can currently be found in CTS. Additionally, a hard-copy file for each complaint containing *all* investigative information is stored in the regional office where the complaint originated.

The Auditor General is especially critical of a complaint received by DEP alleging that gas well drilling impacted a water supply, rendered the water supply undrinkable, and caused

complainant's animals to become ill. The audit report expressed concern regarding the lack of documentation of this incident in CTS. However, as DEP explained to the audit staff, the complaint in question was immediately identified by the inspector as a water quality issue unrelated to oil and gas activities. Accordingly, the complaint was forwarded to DEP's Bureau of Water Quality for investigation. Information regarding this complaint is readily available in the hard-copy file located in DEP's regional office; however, the auditors chose not to review the file.

The audit report also discusses an individual who expressed concern to the Auditor General about DEP's response to his complaint. The report concludes that the inability to locate this individual's complaint in CTS highlights DEP's failure to properly track water supply complaints. DEP strongly disagrees that this complaint supports the Auditor General's criticism regarding DEP's handling of water supply complaints. The complaint at issue did not allege a water supply impact nor was it related to unconventional gas well activities. Instead, the complainant expressed concerns regarding DEP's inspection policy and the condition of his property following an operator's restoration of a conventional well site. In any event, the complaint was submitted directly to the Secretary of DEP who personally responded to the complainant. The complaint was not entered into CTS because it involved DEP policy and all policy concerns are maintained in the Secretary's log letter system rather than CTS. This tracking system fully meets DEP's operational needs and has no impact on the Department's ability to track.

Finally, the audit report notes that it took an inordinate amount of time for DEP to provide requested electronic data regarding complaints related to water quality. However, the delay in responding to the Auditor General's requests for electronic data resulted primarily from the auditing staff's failure to comprehend DEP's Environment Facility Application Compliance Tracking System (eFACTS) and CTS. The auditors' unfamiliarity with these systems limited their ability to properly formulate requests for information. Nonetheless, DEP staff diligently responded to all requests from audit staff, engaged in over 50 hours of personal meetings, and provided over 2 million bits of unique data covering a four year period.

### **DEP concurs with Recommendation No. 8**

DEP agrees with the Auditor General's recommendation that it develop a viable plan for complaint tracking and response and study its statutory mandates to determine what information must be captured to ensure complaints are entered in the database in a timely manner; what information is needed to facilitate effective responses to complaints; what information must be captured to answer key questions about complaints, responses, and important trends; and what information must be captured to ensure all complaint information is available to inspectors because these Standard Operating Procedures already exist.

DEP has already implemented this recommendation by updating the Standard Operating Procedure (SOP) for Complaint Response Management in October 2013. This SOP provides guidance to all DEP program staff for managing complaint responses and data associated with

complaints. Each individual program area is responsible for determining what information should be captured in CTS. For example, the CTS screen available to an oil and gas inspector is tailored to the specific information needed to be captured when investigating an oil and gas related complaint. This screen can be updated as the program identifies new information needed to be captured, but those changes will only be reflected in data entered into the system after the update has occurred. However, DEP lacks the staff to continuously go back through old data files and update CTS.

## DEP concurs in part with Recommendation No. 9

DEP agrees in part with the Auditor General's recommendation that it should determine the best information technology platform to capture the information needed by DEP to track complaints and facilitate timely responses.

CTS was designed to allow DEP to manage complaints across a wide spectrum of Departmental programs. The system can be updated to segregate information specific to a particular program, but was never intended to provide the type of data collection envisioned by the Auditor General. Nonetheless, DEP agrees that it should continue to update CTS when necessary to maximize the Department's ability to capture information necessary to track complaints.

Contrary to the Auditor General's recommendation, DEP does not rely on CTS to facilitate timely responses to water supply complaints. Once a complaint is received and assigned to an inspector, an investigation is conducted and the pertinent information regarding that investigation is recorded in CTS. However, CTS does not impact an inspector's response time with respect to a complaint.

### **DEP concurs with Recommendation No. 10**

DEP agrees with the Auditor General's recommendation that it ensure that field staff comply with its newly revised policy on complaint handling procedures and provide training to ensure that all pertinent information regarding complaints is captured in the CTS database in a timely manner.

DEP will continue to train staff regarding compliance with its Response Management Policy to ensure all pertinent water supply complaint information is recorded in CTS in a timely manner.

### DEP does not concur with Recommendation No. 11

DEP does not agree with the Auditor General's recommendation that it track complaints on a one-to-one basis or that each complainant should receive a unique CTS complaint identification number.

DEP disagrees with the Auditor General's recommendation that it should track complaints on a one-to-one basis. Under DEP's current complaint tracking system, every complaint received by DEP is assigned a unique complaint number which is specific to the incident at issue. Every

individual notifying DEP of a complaint related to that incident is provided with that unique complaint number. Accordingly, every complaint can have multiple complainants, thus eliminating the need for repetitive entry of the same complaint information. The names and contact information for all complainants are documented under that unique complaint number so that all future correspondence regarding that complaint can be forwarded to the interested parties.

The audit report also notes that DEP staff failed to enter complaints into CTS on a one-to-one basis. Consequently, the report concludes that DEP cannot easily track or aggregate the total number of water supply complaints received. DEP disagrees with the Auditor General's conclusion. DEP's current practice of assigning a unique complaint number to each incident and grouping all complaints received regarding that incident with the unique complaint number is the most effective method of recording water supply complaints in CTS. Multiple complaints regarding the same incident are noted in CTS, but still constitute one water supply incident. Multiple complainants can be linked to one complaint, thus eliminating the need for repetitive entry of the same complaint information into CTS, but still allowing aggregate reporting. DEP believes that assigning separate complaint numbers to multiple complainants with respect to the same incident would be contrary to efficient data management and a misuse of staffing resources.

### 4. DEP does not concur with Finding Four

DEP does not agree with the Auditor General's finding that it could not provide reliable assurance that all active shale gas wells were inspected timely.

The audit report correctly notes that DEP's gas well inspection policy, which was developed over 25 years ago, is outdated in light of the recent expansion of unconventional gas well activities. The inspection policy developed by DEP in 1989 only contemplated conventional oil and gas wells which are typically drilled in a few days, rather than unconventional wells which can require weeks or even months to complete.

DEP acknowledges that an updated well inspection policy is needed to meet the unique concerns of unconventional gas well drilling and is considering alternatives to its current policy. Meanwhile, DEP is committed to inspecting all unconventional gas wells during "critical stages" of the well construction process. The critical stages of well construction are outlined in Section 3211(f)(2) of Act 13 and include cementing of casing strings, conducting pressure tests of the production casing, well stimulation, and abandoning or plugging a well. Pursuant to Act 13, operators are required to notify DEP of the commencement of all critical stages of well construction so that DEP inspectors can monitor well development and plan inspections accordingly. Additionally, DEP will require gas well operators to conduct quarterly inspections of the mechanical integrity of their active wells and self-report this information annually to DEP. This approach will be a valuable supplement to DEP conducted inspections.

The audit report finds that DEP's electronic data cannot be used to measure the timeliness and frequency of DEP's inspections of unconventional gas wells. The report focuses on the difficulty auditors encountered while attempting to gather electronic data they deemed critical to a performance audit from CTS, eFACTS, and Oil and Gas Production Reports. Although the information needed to analyze the timeliness and frequency of DEP inspections is contained in the hard-copy file for every well, the Auditor General attempted to conduct a performance audit based almost exclusively on electronic data. Unfortunately, limitations with respect to the detail and organization of data maintained electronically by DEP during the audit period frustrated the auditors' ability to easily extract the information they sought. DEP acknowledges that the quantity and quality of gas well data captured and maintained electronically was limited in the past. However, as a result of Act 13 notification requirements, as well as changes made internally by DEP to its eFACTS input screens, the electronic data sought by the audit staff is being made more accessible and will be available to the general public to review information related to oil and gas activities.

Finally, the audit report erroneously claims that the timeliness and frequency of gas well inspections is dependent on the reliability of electronic data and that absent accurate electronic records the inspection process will suffer. DEP recognizes that maintaining accurate and reliable electronic information related to gas well inspections is important to both the Department and the general public. However, the management of gas well inspections is not dependent on stored electronic data. Rather, individual inspectors meet regularly with their supervisors to discuss inspection activities and are well aware of what is happening in their zone of responsibility with

respect to gas well development. This "human element" of the inspection process is independent of any electronic data storage system. Although DEP agrees that during the audit period eFACTS was not an ideal platform upon which to base an analysis of gas well inspections, there simply is no factual basis to conclude the limitations of electronic data negatively impacted the timeliness and frequency of gas well inspections.

The difficulty in relying exclusively on electronic data to conduct a performance audit was demonstrated by the Auditor General's failed attempt to analyze the timeliness and frequency of DEP's inspections of gas wells based solely on the "spud date" contained in eFACTS.<sup>2</sup> The auditors utilized eFACTS to identify the spud date for a sample of wells and then calculated the number of days elapsed from spud date until a well inspection was documented in eFACTS. DEP explained to the audit staff that spudding is the first step in the well construction process and is not considered a date which would typically warrant a DEP inspection. DEP also advised the auditors that well drilling and completion dates, which merit inspections and are therefore relevant to evaluating inspection performance, are recorded in the hard-copy files rather than eFACTS. Unfortunately, the auditors declined to review the hard-copy files for the sample wells. Consequently, using the electronic spud date to analyze the timeliness and frequency of inspections, rather than the well drilling and completion dates, frustrated the Auditor General's ability to reach a reliable conclusion with respect to well inspection performance.

### **DEP concurs with Recommendation No. 12**

DEP agrees with the Auditor General's recommendation that it should develop an internal policy that outlines the requirements of timeliness and the frequency of inspections.

As previously discussed, DEP recognizes that its current policy regarding gas well inspections is outdated in light of the rapidly expanding unconventional oil and gas industry. Accordingly, DEP is considering an updated gas well inspection policy that is clear, comprehensive, and practical. In the meantime, DEP continues to schedule unconventional gas well inspections to coincide with the critical stages of well development. In this manner, DEP can ensure that inspector resources are maximized and that public health and safety are fully protected.

#### **DEP concurs in part with Recommendation No. 13**

DEP agrees in part with the Auditor General's recommendation that it should inspect shale gas wells, at a minimum, at least once a year.

DEP's current practice is to inspect unconventional gas wells at all critical stages of well development. These critical stages are typically completed within a one year period, so most new unconventional gas wells are inspected several times during the course of a year. Additionally,

<sup>&</sup>lt;sup>2</sup> Act 13 requires that unconventional gas well operators electronically notify DEP of the spud date for a well. Spud date is defined by the Act as the commencement of drilling activities. This information is maintained electronically in eFACTS.

operators of unconventional gas wells will be required to self-inspect the mechanical integrity of their wells on a quarterly basis and report the inspection results annually to DEP.

#### DEP concurs with Recommendation No. 14

DEP agrees with the Auditor General's recommendation that it should hire additional inspectors to meet the expected demands from shale gas well development.

With the recent implementation of increased permitting fees for unconventional gas wells, DEP expects that additional funding will be available to enable it to augment its Oil and Gas Program complement by at least 25 new employees. It is anticipated that this increased staffing will include a significant number of inspectors.

#### DEP concurs with Recommendation No. 15

DEP agrees with the Auditor General's recommendation that it should verify that drilling dates reported by operators actually correspond to the start of each drilling phase so that DEP can ensure that timely inspections are conducted during each critical phase of the drilling process.

Pursuant to Act 13, operators are required to provide DEP with notice of all critical stages of unconventional gas well development. Consequently, inspectors are able conduct inspections of gas wells consistent with each critical stage of well development.

### DEP concurs with Recommendation No. 16

DEP agrees with the Auditor General's recommendation that it should record and report publically all dates reported by operators of the critical drilling stages. DEP also agrees that electronic records should be used to evaluate its performance with regard to inspections, in aggregate.

Although there is no legal requirement to report publically the critical stage dates of well development, DEP plans to make this information available on its website. Additionally, DEP agrees that using the information posted in eFACTS to evaluate performance with regard to gas well inspections is appropriate.

### 5. **DEP does not concur with Finding Five**

DEP does not agree with the Auditor General's finding that absent a manifest system to track waste, DEP relies upon a disjointed process of utilizing three different reports and self-reporting by operators with no assurances that waste is disposed of properly.

Under DEP's existing waste management system, generators of oil and gas waste must retain records of waste generated, transported, and disposed. Those records must be made available to DEP upon request, which normally occurs during a complaint investigation or regulatory inspection. Each of the six DEP regional offices takes complaints of illegal waste disposal very seriously, thoroughly investigates reported incidents, and aggressively pursues violations when discovered.

Since the expansion of the unconventional oil and gas industry in Pennsylvania, DEP has actively engaged the industry across all program areas to inform and educate gas well operators on the numerous rules and regulations with which they must comply. DEP staff frequently participates in seminars and meetings with industry and routinely engages in informal communications to explain the requirements of the Solid Waste Management Act and applicable rules and regulations. Much of the wastewater generated by the oil and gas industry is recycled and reused during the development of new gas wells. The recycling and reuse of gas well waste water minimizes the need to withdraw fresh water from our streams, preserving the Commonwealth's natural resources and further protecting the public health and safety.

It should be noted that DEP's practice of requiring the oil and gas industry to self-report waste disposal information is consistent with the manner in which waste data is reported to DEP by other industries as well.

#### DEP does not concur with Recommendation No. 17

DEP does not agree with the Auditor General's recommendation that it should implement a manifest system in order to thoroughly track waste and its disposal.

There are no provisions in Act 13, the Solid Waste Management Act, or the regulations promulgated thereunder that require a manifest system for oil and gas waste. Additionally, it is unlikely that a manifest system for oil and gas waste would yield any significant benefits over the current waste management system employed by DEP. From a cost benefit analysis, DEP does not believe the potential benefit derived from a waste manifest system would outweigh the corresponding administrative, staffing, and oversight costs of such a system.

#### DEP concurs with Recommendation No. 18

DEP agrees with the Auditor General's recommendation that it should review and cross check self-reported waste data from drillers, haulers, and disposal facilities so

that DEP can track wastes related to shale gas well drilling to ensure that operators handled waste properly and that the waste was ultimately disposed of properly and in compliance with all pertinent laws.

DEP does not agree that cross checking <u>all</u> self-reported waste data from drillers, haulers, and disposal facilities is the most efficient use of its resources. However, DEP believes that random cross checking of specific self-reported waste data is a valuable regulatory tool and utilizes this approach whenever practical to monitor oil and gas waste management.

### DEP does not concur with Recommendation No. 19

DEP disagrees with the Auditor General's recommendation that it should verify the self-reported waste data it obtains from operators, haulers, and disposal sites for completeness and accuracy before posting the data on its website.

DEP shares the Auditor General's concern about transparency and has addressed that concern by posting self-reported oil and gas waste data on its website. However, verifying the accuracy of all waste data obtained from operators, haulers, and disposal sites prior to posting that information on DEP's website would place an enormous burden on the Department's resources. If DEP becomes aware of inaccurate data on its website, immediate corrective action is taken to ensure the public has access to reliable information.

# 6. <u>DEP does not concur with Finding Six</u>

DEP disagrees with the Auditor General's finding that its website lacks transparency and accountability to the public.

Initially, it must be noted that eFACTS is a database for <u>all</u> DEP programs, not just the Oil and Gas Program. The eFACTS system is designed so that information for any regulated facility in the Commonwealth, not just unconventional gas wells, is available to the public.

DEP offers two Geographic Information System (GIS) maps: (1) eMapPA includes all information from the eFACTS function; and (2) PA Oil and Gas Mapping tool focuses on oil and gas activities. These two systems are purposefully designed so that one map includes all DEP regulated information and the second map focuses on information specific to oil and gas activities. This feature helps narrow the search for individuals looking for just oil and gas related information. To facilitate improved transparency and ease of use of its website, DEP is considering linking eFACTS to the Oil and Gas Mapping application.

Oil and Gas Interactive Reports are a subset of eFACTS data and are grouped to provide frequently requested information related to unconventional gas well activities. These reports were developed to meet the needs of the public, as well as the oil and gas industry, based on the frequently requested DEP data sets. Links to the mapping tools or other reports are feasible and DEP is considering the applicability of that feature.

The Oil and Gas Reporting (OGRE) website is used by the oil and gas industry to self-report production data, waste data, operator information, and well site information. Within the Production Report feature of OGRE, a user can input operator name, operator number, or eFACTS client ID to search for production information for unconventional wells, home use wells, and non-producing wells.

eNOTICE is used by DEP's Office of Environmental Advocate across all DEP programs to alert interested parties about specific "trigger permits" in locations that qualify as Environmental Justice areas. This feature requires the Environmental Advocate to monitor trigger permits statewide and distribute emails with information regarding the permit and project to specific subscribers.

Although DEP's website does not provide the public with the ability to instantly access the information DEP collects and electronically maintains, the Auditor General erroneously concludes that the website lacks transparency and accountability to the public. In fact, any and all information maintained electronically by DEP for specific gas wells is accessible to the public through several website features. The limitations of DEP's website with respect to linking reports does not equate to a lack of transparency or accountability to the public.

Additionally, DEP believes it is unfair to assess the transparency of its regulatory efforts based solely on the accessibility of information made available to the public on its website. It has been DEP's longstanding practice to provide the public with broad access to all non-privileged information in its possession via the file review process. Any individual seeking information

about an unconventional gas well can make arrangements with the appropriate DEP regional office to review the hard-copy file for the well. This file contains everything relevant to a specific well, including information not available on DEP's public website. DEP believes its open file review policy ensures complete transparency and will continue to offer this option to the general public.

DEP disagrees with the Auditor General's finding that it does not provide adequate transparency when there are adverse impacts to private water supplies. The Auditor General's conclusion is based on DEP's failure to make CTS available to the public. However, CTS is used by inspectors, compliance officers, and management staff to internally track ongoing complaint investigations and is not a substitute for the official case files maintained in DEP's regional offices. Although CTS cannot be made available to the general public, DEP appreciates the public's interest in accessing aggregate information regarding water supply complaints. Accordingly, DEP is considering posting information on its website regarding the number of private and public water supply complaints received and number of positive/negative determination letters issued.

While DEP understands the Auditor General's preference for a record storage system that is based strictly on electronic data, the reality is that DEP, like most government agencies, still relies heavily on paper records. DEP is making strides to transition to a completely electronic record storage system, but that conversion process is expensive and time consuming. Nonetheless, DEP's goal is that all records related to unconventional oil and gas activities will eventually be submitted to the Department and maintained in an electronic format that is easily accessible to the general public.

Finally, DEP is augmenting its electronic record retention platform by developing electronic self-reporting systems for industry and transitioning to electronic permit applications. Unfortunately, these efforts have been hampered by large scale layoffs in FY 2009-2010 which resulted in the loss of 183 positions. The majority of these layoffs involved information technology and clerical staff in the central and regional offices. This additional staff could have assisted in meeting DEP's goals long before the audit was conducted.

#### DEP concurs in part with Recommendation No. 20

DEP agrees with the Auditor General's recommendation 20(a) to provide an easy access portal to all of the reports available to the public related to shale gas activities in the state.

DEP's main web page already provides a left-hand navigation link to the Oil and Gas Program page. That page includes links to the Oil and Gas Interactive Reports and all other reports related to oil and gas activities in the Commonwealth. DEP does not believe that adding a specific hyperlink to its main web page to access this information adds any additional transparency.

DEP agrees with the Auditor General's recommendation 20(b) to incorporate a feature that allows users to search eFACTS specific to shale gas activities.

DEP already provides this feature in the Oil and Gas Interactive Reports.

DEP agrees with the Auditor General's recommendation 20(c) to make the name search function consistent on eFACTS so that an operator can be easily identified.

The name search function on eFACTS is already consistent. The business name DEP uses for eFACTS is the name associated with the permitted activity. At this time, key name identifiers are not feasible for eFACTS.

DEP agrees with the Auditor General's recommendation 20(d) to link eFACTS data to the Oil and Gas Compliance Reports inspection data and to the Oil and Gas Production Reports so that production data can easily be tied to other information presented.

To facilitate public access to comprehensive information regarding a specific unconventional gas well, DEP will enhance the functionality of its Oil & Gas Mapping application. This feature will eventually provide production data, copies of permit documents, and other well specific information.

DEP agrees in part with the Auditor General's recommendation 20(e) to eliminate the duplicative mapping features on the website or update the eMapPA application to make it more user-friendly with regard to eFACTS queries.

DEP will continue to use both mapping tools on its website, but will update the eMapPA function to make it more user-friendly as resources and technology become available.

DEP disagrees with the Auditor General's recommendation 20(f) to provide a notification about completed shale gas well inspections with the eNOTICE feature and include a link to the completed inspection report.

Based on the data management requirements implicated by this recommendation, it is neither feasible nor cost effective to utilize the eNOTICE feature to notify the general public of the thousands of gas well inspections conducted annually by DEP. Additionally, since inspection reports are currently not available electronically, DEP does not have the capability to meet this recommendation. Until inspection records are maintained in electronic format, interested individuals are encouraged to review the hard-copy files or utilize eFACTS to view updates to any DEP regulated entity's inspection history.

DEP agrees with the Auditor General's recommendation 20(g) to include on DEP's website complaint information, in the aggregate, such as the number of complaints received, the number of complaints that resulted in an investigation, and the number of water supplies impacted by oil and gas activities.

DEP currently provides information related to water supply enforcement actions on its public website and regularly responds to press inquiries requesting aggregated water supply complaint information. DEP is considering the feasibility of posting aggregated information regarding water supply complaints on its website.

DEP disagrees with the Auditor General's recommendation 20(h) to post determination letters on its website with confidential information reducted.

DEP does not post determination letters on its website in order to protect the privacy of complainants. Additionally, DEP believes that posting redacted determination letters on its website would be of little practical value to the general public. These letters merely indicate whether a water supply was impacted by gas well activities and do not include a complete picture of a water supply investigation. However, all of the information regarding a water supply investigation is contained in a hard-copy file and is available to the public pursuant to Pennsylvania's Right-to-Know Law.

DEP disagrees with the Auditor General's recommendation 20(i) to post information regarding cases of subterranean water supply contamination from any oil and gas related sources whatsoever.

DEP disagrees with the Auditor General's recommendation that it should post on its website all confirmed cases of water supply contamination from any oil and gas related source. To be clear, Section 3218(b.4) of Act 13 requires DEP to publish on its website "lists of confirmed cases of subterranean water supply contamination that result from hydraulic fracturing." DEP does not agree with the Auditor General's interpretation that the term "hydraulic fracturing" was intended by the legislature to refer to the entire well construction process. Hydraulic fracturing is only a part of the well development process. The General Assembly made a conscious decision to single out that specific activity with regard to DEP's obligation to post water supply contamination cases. DEP does not believe the legislature misunderstood the implications of the terms they specifically used in Act 13. DEP has met the standard set forth by the General Assembly and is committed to complying with any enhanced reporting requirements that may be enacted in the future.

# DEP does not agree or disagree with respect to Recommendation No. 21

DEP has no position with respect to the Auditor General's recommendation that the General Assembly should consider amending the provision to require DEP to post information on its website regarding not only definitive confirmed cases, but also any probable cases with credible evidence that oil and gas activities may adversely impact water supplies, whether public or private.

DEP does not have a position with respect to this recommendation, but will comply with any reporting requirements that are mandated by law.

### 7. <u>DEP does not concur with Finding Seven</u>

DEP disagrees with the Auditor General's finding that DEP failed to post online inspection information that is accurate and meets statutory requirements.

DEP has posted all statutorily required inspection information on eFACTS since 2012. Although information regarding operators' responses and remedial actions taken following a violation is not currently available in a format that can be posted electronically, that information is available in the hard-copy files located in DEP's regional offices.

The audit report claims that 25 percent of the inspection reports reviewed contained errors in some of the information posted to eFACTS. DEP acknowledges that errors are likely to occur when manually transferring information from an inspection report to eFACTS. DEP is committed to providing the most accurate information possible on eFACTS and has trained staff regarding the importance of verifying the accuracy of information posted on the website.

The audit report also finds that 76 percent of inspection reports reviewed contained detailed comments that were not posted to eFACTS. This finding is neither unexpected nor problematic. DEP designed eFACTS to be utilized as a tracking system, not as the official record of DEP inspections. The comments recorded in eFACTS are chosen at the discretion of the inspector completing the entry. An inspector will often include voluminous inspection notes in the official hard-copy file, but limit the data entered into eFACTS to only that information which is essential to the case. This is usually a function of an inspector prioritizing the information recorded in eFACTS.

As previously discussed, the complete documentation for any gas well is maintained in a hard-copy file in DEP's regional offices. DEP recognizes the process of reviewing paperwork can be tedious and time consuming, but the files maintained at DEP's regional offices are the official records of DEP's regulatory efforts, not eFACTS. Again, the general public has virtually unfettered access to these records via the file review process.

DEP recognizes that its current paper filing system has limitations. Consequently, DEP has instituted an agency-wide initiative to get all regional and central office filings under the same Records Management System. This system will utilize bar coding so that files can be tracked in the event a file is checked out by staff or misplaced. The conversion process was recently completed in the Northwest and Northcentral Regional Offices and was initiated in October 2013 in the Southwest Regional Office.

It should be noted that the Auditor General's review of water supply complaint files differed from file reviews conducted by the public in that audit staff provided DEP with a list of files they wanted to review upon arrival at a DEP regional office and not in advance, as is required for public file reviews. Because many files involve active cases being utilized by DEP's inspection, legal, and investigative staff, advance notice of a record review provides DEP an opportunity to locate all portions of a file and organize it prior to the review. Nonetheless, DEP staff worked diligently to locate any documents that were not readily available on the day of the auditors'

visit. The fact that a few documents could not ultimately be located is problematic, but full implementation of DEP's Records Management System will eliminate a reoccurrence of this issue.

### **DEP concurs with Recommendation No. 22**

DEP agrees with the Auditor General's recommendation that it should upgrade the information resources available to its inspectors so that inspection reports can be completed electronically and automatically uploaded to DEP's website.

DEP has already provided inspectors with smart phones and laptop computers to facilitate the electronic recording of inspection data in the field, however, internet connectivity and network coverage issues have limited the utility of that equipment. DEP is considering adding a mobile inspection platform that will enable inspectors to upload reports from the field.

#### DEP concurs with Recommendation No. 23

DEP agrees with the Auditor General's recommendation that inspectors complete inspection reports accurately and comprehensively.

DEP believes that although transcription errors have occurred in eFACTS, the hard-copy inspection reports are typically accurate and comprehensive. DEP is committed to providing training and data entry oversight to ensure all information maintained in eFACTS and DEP's files is consistent and reliable.

#### DEP does not concur with Recommendation No. 24

DEP disagrees with the Auditor General's recommendation that inspectors' comments related to inspections be reported on its website so that the public has a complete understanding of conditions at oil and gas facilities during inspections.

DEP inspectors are already required to log inspection comments into eFACTS. DEP strongly disagrees with the Auditor General's opinion that truncated inspection comments in eFACTS are misleading to the public as inspectors' unabridged comments are available to the public via the hard-copy files. Nonetheless, DEP is committed to providing further training to inspectors to ensure that all vital information regarding an investigation is properly recorded in eFACTS.

### **DEP concurs with Recommendation No. 25**

DEP agrees with the Auditor General's recommendation that DEP comply with all online reporting mandates and ensure that it posts the operators' responses and remedial actions taken when violations are noted.

DEP's Oil and Gas Compliance Reports satisfy all reporting requirements of Act 13. Information regarding operators' responses and remedial actions taken following a violation is currently not available in a format conducive to electronic posting, but can be found in the hard-copy files in DEP's regional offices. DEP will post this information on its website when it is available in the proper format.

#### DEP concurs with Recommendation No. 26

DEP agrees with the Auditor General's recommendation that hard-copy inspection reports should be securely maintained.

DEP has implemented a Records Management System in the Central Office as well as the Northcentral and the Northwest Regional Offices, with system implementation initiated in the Southwest Regional Office in October 2013. The Records Management System will ensure that DEP records are securely maintained and provide an increased level of accountability for hard-copy files.

### 8. DEP does not concur with Finding Eight

DEP does not agree with the Auditor General's finding that data collected in eFACTS did not provide DEP with adequate information needed to monitor a growing unconventional oil and gas industry.

This finding focuses on how the Oil and Gas Program was, not how the program is today as a result of changes implemented following a review in 2011 of the technological needs of the program. These changes took time to develop and implement, so they were not necessarily available for the majority of the audit period. The system features the audit staff wanted to utilize, such as a field indicating whether an inspection is related to an impacted water supply, were added in 2012.

DEP agrees with the Auditor General's finding that its user facing data input screens are not as user-friendly as a Microsoft or web-style entry system, but the cost to the Commonwealth to overhaul the entire system is prohibitive. DEP recently implemented the electronic oil and gas well permitting system (eWell) to help convert the permit application and approval process to a completely web-based system. This will assist in making information electronically available to the general public. DEP appreciates the auditors concern that information related to gas wells is not instantly available, but the legacy of a paper-based system is the reality of state government. For the time being, hard-copy files are the best source of information related to permits, inspections, and enforcement actions.

As previously discussed, DEP acknowledges that some of the data maintained in eFACTS has reliability issues due to manual transcription errors. DEP also concedes that eFACTS does not contain all of DEP's inspection information. These issues are inherent in a data system that was never intended as a substitute for a hard-copy file. Consequently, DEP considers eFACTS a starting point for information gathering, not the end point. DEP staff ultimately relies on hard-copy files maintained in the regional offices as those files are the official record of any DEP regulatory action. While DEP's reliance on a paper-based record system made gathering information cumbersome for the audit staff, the system is effectively utilized by trained DEP personnel throughout the Commonwealth.

It should also be mentioned that throughout the Auditor General's review, audit staff was repeatedly warned about the difficulty in attempting to retrieve electronic information with one "push of a button." Despite DEP's proviso, the auditors consistently declined offers to conduct a comprehensive inspection of all relevant hard-copy documents (such as well records) in order to obtain a complete understanding of the Oil and Gas Program. Instead, the auditors insisted on conducting their review based almost exclusively on electronically stored data.

Finally, it is important to note that the limitations of eFACTS have not negatively impacted the Oil and Gas Program's ability to effectively regulate unconventional gas well activities. This conclusion is supported by the fact that nowhere in the Auditor General's 72 page report is there

a single example of DEP's failure to protect a negatively impacted private or public water supply.

### **DEP concurs with Recommendation No. 27**

DEP concurs with the Auditor General's recommendation to determine what information must be captured to ensure compliance with statutes and regulations, ensure operators follow best management practices, and ensure all current inspection and complaint information is available to inspectors in eFACTS. DEP also concurs with the recommendation to identify what data is being captured in external paper reports, spreadsheets, and other informal systems that are not currently captured in eFACTS, and what data is being captured in text fields that should be captured in structured data elements to support trend analysis.

- DEP has already determined what information must be captured to ensure compliance with federal and state statutes and regulations and has consistently captured that data.
- DEP has already determined what information must be captured to ensure operators follow best management practices. This information is available on DEP's public website via a link to Standard Operating Procedures for permits and inspections.
- All current inspection and complaint information is available to inspectors in eFACTS and hard-copy files.
- The external paper reports, spreadsheets, and informal systems referred to in the audit report are often the field notes or personal documents created by inspectors for their own planning purposes, to transfer information once they return to the office from the field, or to track drilling activity in their region. This information is not necessarily relevant to the official inspection report. However, DEP will encourage staff to make sure that all relevant documentation regarding inspections ultimately resides in the hard-copy files.
- DEP already knows what data is being captured in text fields that are needed to support modern data analysis techniques. However, adding fields to the database cannot be accomplished retroactively. Many of the tracking elements the audit staff tried to test DEP data against were implemented subsequent to the audit period. Once again, this recommendation reflects how the Oil and Gas program formerly operated, not how the program operates today.

### DEP does not concur with Recommendation No. 28

DEP does not agree with the Auditor General's recommendation that it develop an entirely new data management system.

DEP will continue to use the eFACTS system, as it delivers all the features the Auditor General recommends. The Department can provide additional training to ensure that eFACTS is being used properly and that all information is input correctly so that the record is robust and reflective of the inspection activities taking place. DEP already provides the type of summary information recommended by the Auditor General in the Oil and Gas Interactive Reports.

### **DEP** concurs with Recommendation No. 29

DEP agrees with the Auditor General's recommendation that it develop policies and procedures and provide the necessary training to ensure that all pertinent information about wells and drilling-related activities is captured in the database in a timely manner.

DEP regularly trains new and existing staff on the use of eFACTS and other electronic data systems. The Oil and Gas Program also holds regular statewide staff meetings and a bi-weekly conference call to discuss issues pertaining to the program, as well as the numerous standard operating procedures that apply to the program. DEP will continue to train staff and update policies as needed to ensure that information regarding oil and gas activities is captured in the database in a timely manner.