



OFFICE OF THE STATE AUDITOR



DIANNE E. RAY, CPA
STATE AUDITOR

August 31, 2020

WATER WELL INSPECTION PROGRAM PERFORMANCE AUDIT – STATUS REPORT

Members of the Legislative Audit Committee:

Attached is the status report from the Department of Natural Resources, Division of Water Resources (Division) on the implementation of recommendations contained in the Office of the State Auditor's (OSA) *Water Well Inspection Program Performance Audit*.

OSA REVIEW OF DOCUMENTATION

As part of the status report process, we requested and received supporting documentation for each recommendation that the Division reported as having been implemented. Specifically, we reviewed the following documentation:

- Board of Examiners of Water Well Construction and Pump Installation Contractors (Board) Policies and the associated Risk Factor spreadsheet created to determine the risk level of water wells.
- Screenshots of database queries for late notice of well construction and pump installation, queries for failure to provide notice, the advance notice data spreadsheet, and the advance notice map used by inspectors.
- The project request form and meeting notes for the Division's request to the Office of Information Technology to create an electronic form for advance notice of well construction and pump installation and calculate an overall risk value.
- Internal emails between Division management and accounting staff.

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Based on our review, the supporting documentation substantiates the Division's reported implementation status. However, we note that there are three recommendations the Division no longer plans to fully implement.

Specifically, Recommendations 1D, 2A, and 2B rely on the Division to obtain advance notice for *all* wells in order to allow inspectors to effectively use a risk-based approach to target the use of its inspectors and to focus inspectors' time on observing key phases of well construction. The Division reports that it has worked with the Board to expand the types of wells for which it requires advance notice of construction and require some information prior to construction from certain contractors. However, the Division does not plan to require advance notice of construction for all wells or to require information from contractors about key phases of well construction, as outlined in the attached status report.

The audit recommended that the Division obtain advance notice of construction for all wells to address problems with how the program was fundamentally designed and operating given that inspectors lacked information to target their inspections. For example, the Division has identified wells being constructed through multiple confining layers as high risk. However, whether a well will be constructed through multiple confining layers is often not known until construction begins. If the Division has not required advance notice of construction for all wells – and has not collected information about key phases of construction for those wells, the Division lacks information to schedule inspections at the correct time. In this case, the Division lacks information to know when the casing and grout are being installed, which are key phases of construction for these high-risk wells. The audit directed its recommendations to the Division rather than to the Board, because the Division, through the State Engineer, has authority to add conditions to permits, including advance notice under Colorado Regulation 6.2.2. However, in its status report, the Division has indicated that the decision to not obtain advance notice for all wells was the Board's decision.



COLORADO

**Department of
Natural Resources**

Executive Director's Office
1313 Sherman Street, Room 718
Denver, CO 80203

August 28, 2020

Dianne E. Ray, CPA
State Auditor
Colorado Office of the State Auditor
1525 Sherman St., 7th Floor
Denver, CO 80203

Dear Auditor Ray:

In response to your request, we have prepared the attached status report on the implementation status of audit recommendations contained in the Water Well Inspection Program Performance Audit. The report provides a brief explanation of the actions taken by the Department of Natural Resources to implement each recommendation.

In parts of the report, you will see that some of the recommendations are identified as "Partially Implemented." The reason for this is that for some recommendations, the Board of Examiners found that through its policies, it could stay true to the intent of the recommendations and effectively implement the recommendations while avoiding a significant impact to well construction costs, which costs would ultimately be passed on to the well owners.

If you have any questions about this status report and the Department of Natural Resource's efforts to implement the audit recommendations, please contact Kevin Rein at 303-866-3581 ext. 8239 or kevin.rein@state.co.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Gibbs", is written over a light blue horizontal line.

Dan Gibbs
Executive Director



AUDIT RECOMMENDATION STATUS REPORT

AUDIT NAME	Water Well Inspection Program Performance Audit
AUDIT NUMBER	1816P
AGENCY	Department of Natural Resources, Division of Water Resources
DATE OF STATUS REPORT	August 11, 2020

SECTION I: SUMMARY

REC. NUMBER	AGENCY'S RESPONSE	ORIGINAL IMPLEMENTATION DATE	CURRENT IMPLEMENTATION STATUS	CURRENT IMPLEMENTATION DATE
1A	Agree	February 2020	Implemented	February 2020
1B	Agree	February 2020	Implemented	February 2020
1C	Agree	February 2020	Partially Implemented	March 2021
1D	Agree	August 2020	Partially Implemented	N/A
1E	Agree	July 2019	Implemented	February 2020
2A	Agree	August 2020	Partially Implemented	N/A
2B	Agree	August 2020	Partially Implemented	N/A
2C	Agree	February 2020	Implemented	February 2020
2D	Agree	August 2019	Implemented	November 2019
3A	Agree	August 2020	Implemented	March 2020
3B	Agree	August 2020	Partially Implemented	March 2021
3C	Agree	August 2020	Partially Implemented	March 2021
3D	Agree	February 2020	Implemented	November 2019
4A	Agree	December 2019	Implemented	July 2019
4B	Agree	July 2019	Implemented	July 2019

SECTION II: NARRATIVE DETAIL

RECOMMENDATION 1A			
<p>The Division of Water Resources should implement a risk-based water well inspection program by defining in a written policy the types of wells considered to be at highest risk of affecting groundwater resources or the public health, safety, and welfare in the event of improper construction or pump installation, and that should be prioritized for inspections. The policy should clarify whether wells constructed by contractors who routinely violate construction rules are considered high risk for the purposes of prioritizing inspections.</p>			
CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	February 2020
AGENCY UPDATE			
<p>Board of Examiners (BOE) Policy 2020-1 defines the types of well construction and pump installations that pose the highest potential risk to Colorado’s groundwater and consumers if not completed properly and prioritizes their inspection. The BOE staff are developing and maintaining a business process that will calculate the overall risk value (ORV) of new wells based on information provided during permit application and advance notice. The Office of Information Technology (OIT) is developing online tools to calculate the ORV and display it on a map for the inspectors. The Division of Water Resources (DWR) has implemented an interim spreadsheet calculation process. The policy specifically excludes consideration of individual contractors for the purpose of determining high-risk wells. The BOE decided it would not be effective to include violating contractors in the ORV, but the Chief Well Inspector may direct inspections of violating contractors based on the inspectors own knowledge and discretion. Board Staff regularly report construction violations to the BOE and together formulate strategies to inspect those who routinely violate construction rules.</p>			

RECOMMENDATION 1B			
<p>The Division of Water Resources should implement a risk-based water well inspection program by implementing a written policy that prioritizes high-risk well inspection, including any wells that fall outside of the water divisions assigned to the field inspectors.</p>			
CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	February 2020
AGENCY UPDATE			
<p>BOE Policy 2020-1 directs inspectors to prioritize inspections of wells that pose a higher risk of adversely affecting groundwater resources and the public health, safety, and welfare. The Chief Well Inspector will establish and communicate a quantitative rate goal for high risk inspections for each upcoming year and include that information on the DWR website. The highest risk wells (based on ORV) will be prioritized for inspections. The policy implements the recommendation to inspect wells in divisions without an assigned inspector by implementing a risk factor for “Time Since Inspection in Division.” Higher risk is also assigned for contractors who have not been inspected recently.</p>			

RECOMMENDATION 1C			
The Division of Water Resources should implement a risk-based water well inspection program by implementing a process of monitoring inspectors' coverage of high-risk wells.			
CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	March 2021
AGENCY UPDATE			
<p>The BOE implemented the risk-based program with BOE Policy 2020-1. DWR is still developing online tools to calculate and maintain a well's risk value. In the interim, DWR is requiring notification for the highest risk wells and assigning them a higher priority for inspection. Well inspections are being recorded in the Well Permit Database and once the ORV is able to be stored in the Well Permit Database, queries will be run to monitor the inspection of high-risk wells. In the interim, higher risk wells are providing advance notice and most inspections will be for higher risk wells. Currently, risk values of advance noticed wells are being reviewed through a spreadsheet tool. Implementation of automated ORV calculation is expected in the first quarter of 2021. Well Inspection Program Guidance 2020-1 directs the Chief Well Inspector to compile data quarterly and compare the wells inspected with the ORV of those wells to ensure high-risk wells are being inspected.</p>			

RECOMMENDATION 1D			
The Division of Water Resources should implement a risk-based water well inspection program by requiring advance notice of all wells through the Division's online notification system and communicating this requirement to all licensed contractors and property owners who construct their own wells.			
CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	N/A
AGENCY UPDATE			
<p>The BOE adopted BOE Policy 2020-2, which outlines a procedure to provide advance notice on any well for consideration in a future Board policy, but requires notice only on high risk wells at this time. Before this recommendation, DWR had been requiring advance notice on many high risk wells, but has implemented an expanded advance notification requirement, which will now also require notice for municipal wells, wells constructed in the confined San Luis Valley aquifer, potential Dakota wells in Division 2, Type A or B Open Source Geothermal wells, and for approximately 50% of wells permitted in Divisions 4, 5, 6, and 7. These are in addition to multiple-confined-aquifer (Type I) wells, Laramie-Fox Hills wells, replacement wells, and wells granted a variance to the Well Construction Rules that previously required advance notification. However, the Policy does not require advance notice for all wells, as required by the Recommendation.</p> <p>The BOE is a five-member "citizen's" board under DWR and created by the General Assembly through section 37-91-103, C.R.S. The State Engineer has no statutory basis to assert authority over the BOE. However, the State Engineer is an ex-officio board member. BOE staff did exercise a significant amount of influence over several meetings with the BOE (11/19, 12/19, 01/20, 02/20, and 08/20) and was unable to get the required three members [see 37-91-103(3)] of the BOE to approve a policy that requires advance notice for all wells. The BOE's position is that advance notice requirements for <u>all</u> new wells does not yield the suggested benefits relative to the impacts to the</p>			

industry, since only a representative sample of wells will be inspected regardless of advance notice. The BOE’s rationale is that the result will unnecessarily increase the cost to contractors due to the resulting “down time,” which cost will be passed on to well owners, again, without a corresponding benefit to the Program. Policy 2020-2 requires the BOE to review the effectiveness of the policy in the first quarter of 2021, at a time when the BOE will be able to consider the inspector and contractor experience with a notification program that includes only high risk wells.

HB20-1069, which had proposed rulemaking to identify high-risk wells and prioritize them for inspection could have been another avenue to address the issue of advance notification for all wells. HB20-1069 was continually laid over in House proceedings and never came to a vote. The Colorado Water Well Contractors Association believes there would be significant financial impacts to consumers associated with advance notice on all wells and a formal rulemaking process would provide for more structured input from stakeholders. The proponents of HB20-1069 have shown an interest in bringing a similar bill in 2021. DWR is uncertain of whether that bill would include a similar rulemaking requirement and be successfully passed.

RECOMMENDATION 1E

The Division of Water Resources should implement a risk-based water well inspection program by expanding processes to monitor contractor compliance with advance notice requirements so that the monitoring identifies contractors who repeatedly fail to provide notice and notify the Board of Examiners of Water Well Construction and Pump Installation Contractors of the results for potential enforcement action.

CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	February 2020
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AGENCY UPDATE

DWR has developed database queries to evaluate when a contractor fails to provide advance notice pursuant to BOE Policy 2020-2 and when work reports are late or missing. DWR is monitoring contractor compliance with advance notice requirements, but the BOE has not yet started to enforce failure to provide notice. The BOE Policy 2019-2 includes a recommended penalty for failure to provide advance notice. Board Staff will present violations for failure to file work reports or failure to provide advance notice to the Board at each quarterly meeting. The Board will review the cases and direct staff to offer stipulated settlements if a violation has occurred.

RECOMMENDATION 2A

The Division of Water Resources should improve the Well Inspection Program’s timing of inspections by implementing a written policy requiring Division staff to include the aquifer type on the permit, and requiring contractors, or property owners as appropriate, to notify the Division during construction if the aquifer type differs from that indicated on the permit.

CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	N/A
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AGENCY UPDATE

Recommendation 2A has not been fully implemented because for some wells, the recommendation cannot be implemented and also as a result of the Board identifying and developing a more effective

approach to accomplishing the intent of the recommendation. DWR has improved the timing of inspections by requiring the person constructing the well to indicate the anticipated aquifer type and aquifer in which the well will be completed on the advance notice form at least one day before starting the well. For some wells, statute (section 37-92-602, C.R.S.) allows the person the latitude to complete the well in any one of multiple aquifers so the aquifer type is not always known at the time of permitting. The person constructing the well must also update the online advance notice form if the aquifer type and/or aquifer changes during drilling. DWR believes calculating a well’s risk value based on the aquifer type provided during notification will better improve the prioritization of well inspections than including the aquifer type on the well permit.

RECOMMENDATION 2B

The Division of Water Resources should improve the Well Inspection Program’s timing of inspections by requiring contractors and property owners, as applicable, to provide advance notice when each key phase will occur on all wells, as part of the advance notice changes in Recommendation 1.

CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	N/A
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AGENCY UPDATE

The BOE partially implemented this recommendation in BOE Policy 2020-1 and BOE Policy 2020-2 through a process that accomplishes the recommendation’s objective but with modifications to make it more effective. While not being fully implemented as recommended, the Board feels that the Policy captures the intended objective of the recommendation. The key phases are defined in Policy 2020-1. Contractors will not provide advance notice for each key phase because the BOE recognized the complexity involved; including rapidly changing schedules, lack of cell/internet service at the well site, and the resulting “down time” costs associated with waiting to perform a key phase until after it’s been properly noticed. Per Policy 2020-2, those wells required to provide advance notice will enter the anticipated start date and end date for the project. This window will allow the Inspector to anticipate when key phases may occur. Once an Inspector initiates communication with a contractor for a specific well to be inspected the contractor must provide the dates and times of key phases. Further, the contractor must notice the Inspector as soon as possible if the date and time of a key phase changes. The BOE decided to not require advance notice when each key phase would occur on all wells because it would be an unnecessary burden to provide notification for a well that will not be inspected.

RECOMMENDATION 2C

The Division of Water Resources should improve the Well Inspection Program’s timing of inspections by implementing a written policy that defines the key phases of well construction for each well type and instructs inspectors to focus their efforts on conducting inspections during the key phases, using the advance notice reporting recommended in part B.

CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	February 2020
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AGENCY UPDATE

The BOE implemented this recommendation in BOE Policy 2020-1 and BOE Policy 2020-2. The key phases are defined in Policy 2020-1. The same policy instructs inspectors to prioritize the inspection

of key phases of well construction. Inspectors will record the key phases observed for any well inspection and track them in the well permitting database. Per Policy 2020-2, if the inspector and contractor have been in communication regarding a key phase and the timing changes, the contractor must update the inspector to provide the opportunity to observe the key phase.

RECOMMENDATION 2D

The Division of Water Resources should improve the Well Inspection Program’s timing of inspections by implementing a written policy that instructs staff to submit a complaint with the Board of Examiners of Water Well Construction and Pump Installation Contractors when contractors or well owners deliberately obstruct the inspection process.

CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	November 2019
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AGENCY UPDATE

The BOE implemented this recommendation in BOE Policy 2019-3. The policy instructs inspectors to keep written records of instances where they feel a licensed contractor, or other has deliberately obstructed a well inspection. If the inspector believes the actions are deliberate, they will submit written documentation of the obstruction(s) to the Board who will review the submitted information and decide if subsequent action is necessary.

RECOMMENDATION 3A

The Division of Water Resources should improve its use of work reports for the Well Inspection Program’s monitoring of compliance with water well construction requirements by modifying the Division’s well database to capture information collected through advance notifications about construction starts and contractors responsible for the work, and evaluating opportunities to maintain electronic records of other key data to allow data matching.

CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	March 2020
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AGENCY UPDATE

DWR captures advance notice information (Date notice received, contractor doing the work, date beginning work) by entering the information into the Well Permit Database. It is currently a manual process but DWR and OIT are developing tools to automate it. The manual process allows DWR to compare when notice was required and if and when it was given, but the electronic process will make this more efficient. The online tools will also capture more information regarding well constructions, pump installations, and abandonments.

RECOMMENDATION 3B

The Division of Water Resources should improve its use of work reports for the Well Inspection Program’s monitoring of compliance with water well construction requirements by implementing a process to run periodic data match reports to identify contractors who began work on a well but did not submit a work report and wells for which construction may not have aligned with permit conditions and construction standards.

CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	March 2021
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AGENCY UPDATE

In response to the first part of this recommendation, DWR developed database queries to compare contractors who did start work on a well, but did not submit the work reports within the post-completion reporting requirement of 60 days. The queries generate a list of violations for the Board to pursue enforcement. For the second part of the recommendation, DWR has identified the well construction information that can be compared with permit conditions, but the tools to accomplish this compare process are still being developed; they are reliant on DWR’s development of online electronic “eForms.”

RECOMMENDATION 3C

The Division of Water Resources should improve its use of work reports for the Well Inspection Program’s monitoring of compliance with water well construction requirements by implementing a written policy for Division staff to refer wells flagged through data analytics implemented in part B to Well Inspection Program staff for further review.

CURRENT IMPLEMENTATION STATUS	Partially Implemented	CURRENT IMPLEMENTATION DATE	March 2021
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AGENCY UPDATE

BOE Staff are running monthly database queries to identify late or missing reports, including advance notice, and are transferring those to the BOE for enforcement. Currently, DWR staff are providing all late reports to BOE Staff for enforcement. DWR is developing “eForms” and data-automated tools that will monitor compliance with well construction requirements as described in Recommendation 3B. The policy will be written after the tools are developed to accurately describe the “flagging” process to Division staff and how the flagged wells should be referred to the Well Inspection Program/BOE.

RECOMMENDATION 3D			
The Division of Water Resources should improve its use of work reports for the Well Inspection Program's monitoring of compliance with water well construction requirements by implementing a written policy to guide staff about work report noncompliance matters, including the types of actions staff should take themselves and which matters should be referred to the Board of Examiners of Water Well Construction and Pump Installation Contractors.			
CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	November 2019
AGENCY UPDATE			
The BOE implemented this recommendation in BOE Policy 2019-2. It establishes which violations BOE Staff can pursue without BOE direction and also those that should be reviewed by the BOE.			

RECOMMENDATION 4A			
The Division of Water Resources should improve financial controls over the Well Inspection Cash Fund by implementing controls for use of the time code used to charge Well Inspection Program staff time to the Well Inspection Cash Fund. This may include restricting use of the well inspection time code, providing written guidance to Division staff on the time code's use, and ensuring that timesheet reviewers review for proper use of the code.			
CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	July 2019
AGENCY UPDATE			
Time codes were changed and access to the codes was restricted to employees of the Well Inspection Program.			

RECOMMENDATION 4B			
The Division of Water Resources should improve financial controls over the Well Inspection Cash Fund by improving the annual process of reviewing Well Inspection Program vehicle costs to ensure that they are charged to the Well Inspection Cash Fund, and to correct any vehicle costs incorrectly charged to the General Fund.			
CURRENT IMPLEMENTATION STATUS	Implemented	CURRENT IMPLEMENTATION DATE	July 2019
AGENCY UPDATE			
In July 2019 DWR commenced monthly and ad-hoc review of State Fleet Management lease and mileage charges to ensure accurate program attribution.			