

1. What wells are regulated under the MIA Program? Must they be drilled, stimulated, and completed? Must they be in production?

The MIA Program applies to all operating wells in Pennsylvania. Exemptions apply to gas storage field wells, wells granted inactive status, and any wells regulated under the EPA's Underground Injection Control (UIC) Program, as these wells must comply with other regulations addressing mechanical integrity. An operating well is any well that has been drilled to the total measured depth.

2. When must the first inspection at an operating well be conducted? What about wells that are drilled to the total measured depth near the end of the quarter – must they still be inspected during that quarter?

The first inspection must be performed during the first full quarter after the well has been drilled to the total measured depth.

3. What does the Department mean when it states that retrofitting wells will not be required to achieve compliance?

Many wells do not have access to certain annular spaces at the surface – these casing strings may be under gravel in well cellars or below grade in wells that are not designed with cellars. In addition, production casing annular spaces or primary/annular production casing may not be equipped with gauges and manometers for measuring pressure and flow, respectively. The Department is not requiring that casing strings below grade be dug out or that wells be equipped with gauges and manometers to complete inspections under the MIA Program. For wells where certain parameters cannot be measured based on the existing surface configuration, only those components of the inspection that can be completed must be completed.

4. If escaping gas is noted from an annular space that is not under the wellhead and a bubble count is performed to quantify the volume of leaking gas, should the number of bubbles counted be provided under cell/box **15. Measurement or Best Estimate of Leaking/Venting Gas Quantity?**

The regulation requires either a "Measurement" or "Best Estimate" of escaping gas in situations such as this and that estimate must be provided in standard cubic feet per day (scfpd). In this case it is recommended that a comment be entered indicating how the estimate was determined. The method used to estimate the gas flow should be applied consistently during each quarterly inspection unless the well is eventually retrofitted to provide a more precise measurement or estimate.

5. If an operator chooses to shut-in the production annulus every quarter and report a pressure, is there a recommended duration for the shut-in test?

There is no recommended shut-in time for wells assessed in this manner. However, the duration of the shut-in test performed on an individual well should remain consistent from quarter-to-quarter.

6. If a well is plugged during a quarter, must the operator still provide inspection data for the quarter during which the well was plugged?

No inspection results are required during the quarter in which an operating well is plugged and abandoned.

7. If a well that previously produced annular gas is modified in such a way that the annulus is no longer tied to production, can you just select the button labeled "No" in cell/box 7.?

For cases such as these, enter '0' in cell/box **13.b. Produced Annular Gas Pressure (psig)** for the remaining inspections during that year and add a comment noting the change in operation. During the following year, use the "RESET" function to set up the well so that it no longer includes annular production. Any cases where a well undergoes a significant modification related to construction or operation (cells/boxes **4.a.** through **10.**) should be handled in a similar manner.

8. What is meant by "profiling" a well inventory?

Some operators, especially those with very large well inventories, may already have software available for conducting routine well inspections. These operators may wish to categorize their inventories by well design, e.g., 3-string gas well, 2-string gas well, single-string oil well, etc. and then use Form A to determine what inspection elements are required for each well category or type. This process is called profiling. Operators can next use their existing software to extract the required inspection elements for the MIA Program and submit them to the Department using Form B or a properly formatted Excel spreadsheet.

9. What is meant by "customizing" Form B?

"Customizing" Form B means that operators may gray-out or shade cells/boxes pertaining to inspection items that are not required for the well design under consideration. For example, if Form A is used to "profile" your well inventory and only three annular spaces must be monitored for escaping gas and flowing liquids, the other annular spaces available on Form B may be shaded as a reminder that no information is needed in those locations on the form. Columns and rows in Form B should NEVER be deleted, as doing so will generate errors in the annular reporting format.

10. What about wells in which gas does not naturally flow, such as wells on a vacuum system that may have negative primary production pressures?

A value of "0" should be entered for the wellhead pressure requirement in cell/box **13.a.** or **b.** It is recommended in this situation that a comment be added to indicate that the gas is produced using a vacuum system.

11. Is it possible to pull information from the production data prior to January 1, 2014 to provide operators with a list of wells where inspections are required and what must be evaluated at each well? Can an XML form or other formats be provided to the operators or used by operators to collect the required well information and inspection data?

In order for the Department to provide operators with lists of wells requiring inspection under the MIA Program and the necessary inspection elements for each well type, well construction information is needed. This information will be assembled during the first full year of the program (2014). The Department's Bureau of Information Technology Department is currently working on methods to streamline the reporting process, but such enhancements will likely not be available until sometime in 2015.

The Department has developed a process flowchart guide that details the logic associated with the computer coding in Form A and also has provided a report template with information on data layout and formatting for operators who prefer to modify their own software to implement this program and ensure that properly formatted data are submitted by the reporting deadline.

12. What is the policy for reporting pressures instead of flow rates for outer casing strings?

The only provision for reporting annular pressures in the current regulation is associated with the production annulus, if it is shut-in. Operators who have outer casing strings under the wellhead and keep them shut-in do not need to report annular pressures. If any gas is escaping (venting or leaking) from outer casing strings, a measurement or best estimate of quantity must be provided in accordance with the regulation.

13. Will reporting extensions be granted to operators due to the final form being unavailable until the last day of the third (3rd) quarter of 2013 and the significant amount of data input necessary on the leading edge of the MIA Program's implementation?

The Department recognizes that it may be difficult to compile well construction information, in particular for older wells. A portion of this information may simply not exist. The Department also recognizes that it may be challenging to complete some inspection elements, especially if the required equipment and supplies are not yet available for well tenders. For these reasons, inspections must start during the fourth (4th) quarter of 2013, but only those inspections conducted during the first (1st) quarter of 2014 and beyond need to be submitted to the Department. All operating wells must be inspected during every quarter of 2014 and the first annular inspection report is not due until February 15, 2015, although the Department is seeking

to work with individual companies prior to that date to assist with development of the reporting website.

To facilitate implementation, the Department strongly recommends that operators begin gathering well construction information as early as possible during the fourth (4th) quarter of 2013. When necessary, well site visits should be completed to enhance what may be available on well records.

During the first full year of the program (2014), operators should dedicate resources, if they are limited, to wells that have the highest likelihood of revealing mechanical integrity or other safety issues, although all wells should continue to be inspected on a quarterly basis. For inspection components that cannot be completed, documentation should be provided in the comments section of the form.

Finally, the Department has added a button in cell/box **4.b.** of Form A that establishes minimal inspection components for the first round of inspections completed during the fourth (4th) quarter of 2013 and the first (1st) quarter of 2014 in situations where well records cannot be acquired and entered in time. Construction details for these wells should be updated, if possible, during inspection year 2014 prior to the February 15, 2015 report submission deadline.

14. Is certification necessary or are there any other requirements for individuals performing well inspections under the MIA Program?

There are no statutory or regulatory requirements necessitating certification, nor are there any plans to require certification in the future. Individuals inspecting wells should be qualified based on their experience in oil and gas field operations.

15. Almost all oil wells produce some gas and many gas wells produce some oil. What process should operators use to properly classify their wells as either oil, gas, or combination (combo) wells?

Operators should first consider what the well was permitted as – either an oil, gas, or combination (combo) well. If the proper classification is still not clear, the definition of *Hydrocarbon Production* in the Form A instructions should next be consulted. Wells that produce minor amounts of a secondary hydrocarbon (either oil or gas) in addition to the primary hydrocarbon that is produced, in particular when the minor component is either disposed of, vented, or sold infrequently, i.e., once every several years; should NOT be categorized as combination (combo) wells. Finally, wells that produce condensate, i.e., natural gas liquids, in addition to a lighter gas fraction, should be classified as gas wells.

16. What if the production annulus supplies house gas to a line with a very low pressure (2 oz. line pressure) but is not equipped to measure the flowing pressure associated with the producing formation?

The operator should provide a best estimate of the flowing pressure in this circumstance using available information. It might be possible to base this estimate on initial formation testing.

The operator is not required to retrofit the production annulus with a pressure gauge in this situation.

17. Can the average pumping time between quarterly inspections in cell/box **13.f.** instead be reported in barrels if an operator tracks produced fluid volumes?

If the operator normally tracks produced fluid in barrels, it is acceptable to report it this way on the form.

18. Is the data summary sheet what will be submitted to Department to meet the annual reporting requirements of the regulation?

The data summary sheet is currently the established method for reporting well integrity data to the Department by the reporting deadline. In the future, the Department's Bureau of Information Technology may develop alternative/enhanced reporting methods, but there is currently no plan to change the type of information collected.

19. How should coalbed methane access holes be handled? What about gob wells?

Coalbed methane and gob wells should both be classified as gas wells. Access hole inspections are not required under the MIA Program, but any integrity concerns associated with the access hole should be addressed by the operator.

20. How should wells without API numbers be handled?

All wells requiring inspections under the MIA Program have assigned API numbers.

21. How should wells equipped with two "tubing" strings be handled? For example, some older gas wells have 4-3/4" surface casing installed to around 1,000 feet, 3" tubing installed to around 1,600 feet on a packer, and 2" tubing installed to around 2,000 feet, which may or may not be set on a packer.

The MIA Program does not contemplate tubing pressures. For this particular design, the 3" tubing would actually be considered production casing and the primary production gas pressure under cell/box **13.a.** should be measured inside of the 3" tubing and outside of the 2" tubing. If the produced zone is not isolated with a packer, the measured pressure may be similar to the pressure inside of the 2" tubing. If the produced zone is isolated with a packer, the measured pressure should be zero unless the production string is in communication with a shallower zone above the packer or the packer or 2" tubing has failed.

22. How should single-string gas wells with tubing set on a packer at the same depth as the water string be handled, in particular if the water string is not equipped with a pressure gauge?

The MIA Program does not contemplate tubing pressures. For this particular design, the primary production pressure cannot be measured inside of the water string and should be reported as "0," but the well should still be inspected for escaping gas from inside of the water string and outside of the water string and conductor pipe. A comment should be provided indicating that the primary production string is not equipped with a pressure gauge.

23. How should single-string gas wells with tubing cemented in place be handled?

The MIA Program does not contemplate tubing pressures. For this particular design, the primary production gas pressure under cell/box **13.a.** should be measured inside of the water string and outside of the tubing. Since the produced zone is isolated, this pressure should be zero unless the water string is in communication with a shallower zone above the cement top or the cement or tubing has failed.

24. How should gas vented inside of the primary production casing string at oil wells be handled? This is a common practice that permits oil to flow into the wellbore at older oil wells.

Any venting gas inside of a primary production string should be recorded by placing a "Y" in cell/box **15.m.** of Form A.

25. How should operators efficiently consolidate annual report information for submittal to the Department? Some operators would like to dedicate a single "Form A" to each well pad, but for operators that have hundreds of well pads, this either means taking the time to merge all of the data from each pad into one spreadsheet or submitting 100+ reports each year.

The Department's Bureau of Information Technology is currently working on ways to enhance reporting and data management, although this process is expected to take some time. The Department encourages operators interested in assimilating the MIA Program requirements into their own processes electronically to discuss the details of the program with their information technology staff in order to develop the most efficient solutions for collecting, reporting, and managing data in house. There are computer codes that can be constructed in Visual Basic to combine data from multiple spreadsheets into a single spreadsheet automatically, although some of this coding may take time to develop and often relies on the use of consistent naming conventions for individual spreadsheets. For this reason, it is important to plan long term data management as early on in the process as possible. Finally, the Department has developed a process flowchart guide detailing the computer coding used in Form A. This guide may be useful for operators who want to develop their own mechanisms for collecting, reporting, and managing data.