



Environmental
Protection Agency

Division of Materials and Waste Management

Response to Comments

C&DD Ground Water Program - Priority Criteria

Agency Contact for this Package

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Ohio EPA held a public comment period from April 26, 2011 to May 31, 2011 regarding the development of the Construction and Demolition Debris (C&DD) Ground Water Monitoring Program, as authorized by Section 3714.071 of the Ohio Revised Code (ORC). Ohio EPA developed a draft numerical evaluation system to prioritize the expenditure of ORC Section 3714.071 funds collected for ground water monitoring at Ohio's C&DD facilities. Once finalized, the priority criteria will be used to prioritize facilities for ground water monitoring to be conducted by the director at C&DD facilities in accordance with ORC Section 3714.071. This document summarizes the comments and questions received during the comment period pertaining to this program and associated priority criteria.

Ohio EPA reviewed and considered all comments pertaining to the priority criteria and C&DD Ground Water Monitoring Program received during the public comment period. In an effort to help you review this document, the comments are grouped by priority criteria number or category and organized in a consistent format. The name of the commenter follows the comment in parentheses.

PRIORITY CRITERIA COMMENTS:

Criteria 1C: Public Health Criteria – Distance of the facility from a private water supply well.

Comment: The existing regulations refer to a criteria for groundwater monitoring of greater than 1,500 feet, but the draft priority criteria speak to only 1,000- and 500 feet to be utilized for scoring. Could you explain this difference and why it was selected? (Michael Stepic, URS Corporation)

Response: The relevant law provides as follows:

OAC Rule 3745-400-09(B)(7) which, in part, requires a ground water monitoring system unless “the limits of debris placement are not within one thousand feet of any water supply well or developed spring.”

ORC Rule 3714.03(B)(3)(a) which, in part, prohibits a C&DD landfill from being sited “within five hundred feet of a residential or public water supply well.”

Criteria 4: Conditions Conducive to Ground Water Contamination

Comments: Saturated zones beneath facilities are different than the Uppermost Aquifer. This should be further clarified and defined. (Michael Stepic, URS Corporation)

The reference to “saturated zone” should be removed. There is no requirement in the solid waste rules or the C&DD rules for separation distance from a “saturated zone” only the uppermost aquifer system; therefore, this should not be an evaluation criterion. In “Details Regarding the C&DD Facility Ground-Water Evaluation – Priority Criteria”, Criteria #4, the first sentence contains a reference to both “aquifer/saturated zone” and “aquifer”. It is unclear what Ohio EPA is referring to with the term “aquifer/saturated zone”. An uppermost aquifer system/aquifer system and a significant zone of saturation are clearly defined in the rules (both solid waste and C&DD) as two distinct terms. (Shay Beanland, Eagon & Associates, Inc.)

In this example, it appears that there would be equal “point” treatment if the separation distance is the same between the debris and “aquifer” and a “saturated zone”. Yet, the “aquifer” and “saturated zone” are significantly different and should not receive the same assessment and points. (Michael Cyphert, Walter & Haverfield LLP)

Response: The Priority Criteria have been revised to provide clarification in criterion 4. The existing C&DD ground water monitoring regulations (OAC Rule 3745-400-10) require monitoring of the “first continuous zone of saturation” beneath the C&DD facility. Because previous Site Characterization reports completed by owners/operators use the terms “aquifer” and “significant zone of saturation,” both terms were included in the Priority Criteria. The intent is to determine the separation distance between the debris and the first continuous zone of saturation beneath the facility. Therefore, the Priority Criteria will be changed to replace the terms “saturated zone” and “aquifer” with “first continuous zone of saturation (CZS).”

Criteria 6: Ground Water Monitoring

Comments: For Part C.6 – considering the existing regulations do not speak to statistical evaluations, some description on how the Ohio EPA plans on applying this would be extremely helpful since this could become a significant issue. (Michael Stepic, URS Corporation)

With respect to Part C.6, how will the Agency gauge whether there is an “indication” of a release to groundwater? Will a statistical analysis be used? Will there be a comparison of up gradient and down gradient factors? (Michael Cyphert, Walter & Haverfield, LLP)

It is unclear what would constitute “an indication of a release to ground water”. . . The criteria should be clear on what Ohio EPA considers to be “an indication of a release to ground water”. (Shay Beanland, Eagon &

Associates, Inc.)

Response: The criteria for determining “indication of a release to ground water” are detailed in the revised *DDAGW report Hydrogeologic Evaluation of 99 Construction & Demolition Debris Facilities in Ohio* (2011) and include, but were not restricted to, the following:

- The presence of volatile organic compounds (VOCs) in a downgradient well,
- The presence of an increasing trend in a constituent at a downgradient well,
- Elevated concentrations (e.g. order of magnitude) in a downgradient monitoring well,
- Ammonia concentrations exceeding three milligrams per liter in downgradient monitoring well but not in upgradient well.

Language summarizing these points will be added to the narrative portion of the Priority Criteria. It should be noted that an “indication” of impact to ground water is not the same as confirmation of impact to ground water. A ground water quality assessment would need to be completed to confirm impact to ground water.

Comment: If a facility wasn't required to have a groundwater monitoring system via the regulations that were developed, reviewed, promulgated and approved in 1996, and the reviewed and updated in 2002, what new information may have been developed that may penalize that facility now? (Michael Stepic, URS Corporation)

Response: In accordance with ORC Sections 3714.071 and 3714.072, the board of health or the director, as applicable, shall conduct ground water monitoring at a construction and demolition debris facility operating before April 15, 2005, whether a facility has not had ground water monitoring wells installed and operating before that date pursuant to ORC Section 3714.071(B)(1), or whether a facility has had one or more wells installed and operating before that date pursuant to section (B)(2). Therefore, Criterion 6B remains unchanged.

Comment: Furthermore, the measuring criteria cannot be “hazardous” or “non-hazardous” constituents, but must be Primary Drinking Water Quality Standards only. Parameters developed for Brownfield evaluation and clean up are not appropriate here, since Primary Drinking Water Quality Standards have driven water treatment throughout the State of Ohio since the passage of the first Clean Water Act in the early 1970's. (Steve Chandler, Minerva Enterprises, LLC, David Gubanc, Springfield Landfill, LLC)

Response: Drinking Water Quality Standards are not referenced or used in ORC Chapter 3714 or OAC Chapter 3745-400 for C&DD facilities. Pursuant to OAC Rule 3745-400-10(D), the director or the licensing authority may order a facility into ground water assessment if the director or the licensing authority determines that

“the facility may be affecting ground water quality.” The C&DD and solid waste landfill rules (see OAC Rules 3745-27-10 and 3745-30-08) for evaluating whether ground water has been impacted are consistent in that neither require a comparison to drinking water standards.

In nearly all cases, hazardous constituents present a more immediate threat to human health and the environment than non-hazardous constituents. Therefore, Criterion 6A remains unchanged.

Adjustments

Comment: Regarding the “Adjustments” section - the draft narrative provided with the score sheet is very ambiguous. (Michael Stepic, URS Corporation)

Statements such as:

- **“Debris placement in a coal mining area where underground mines function as an aquifer system” – How the word “function” defined?**

Response: No definition of “function” is deemed necessary here. However, one example of an underground mine functioning as an aquifer is the town of Wellston where the south village wellfield draws water from extensive, unfilled room and pillar mines and mine adits that can be similar to karst carbonate aquifers in Ohio.

- **“Relatively large debris fill acreage and/or volume” – What is considered relatively large?**

Response: No points have been assigned to this adjusted score factor. Rather, this adjustment factor would be solely for the purpose of “tie-breaking,” and thus would be determined based on the comparable range of debris fill acreage/volume as between the Ohio C&DD landfills with a tied raw score, which are subject to the “tie-breaking” criterion in order to adjust the raw score to prioritize the tied facilities

- **Debris emplaced under water – is this groundwater level, or leachate that may be held in a grandfathered portion of the site because no leachate collection system was/is required?**

Response: “Water” is referring to the potentiometric ground water surface.

- **“Management/operational practices” – how does this pertain to potential to contaminate groundwater? This should be clarified to only those activities that may have potential to cause an impact to groundwater.**

Response: “Management/operational practices” refers to all practices involved in the construction, maintenance, operations and management of a C&DD facility. Existing violations regarding ground water monitoring requirements and other requirements that may affect ground water will be evaluated. ORC Section 3714.071(B) provides in relevant part: A board of health or the director, as

applicable, shall not pay any costs under this section for the installation of ground water monitoring wells, ground water sampling, or the laboratory analysis of ground water samples incurred by a construction and demolition debris facility to comply with rules adopted under section 3714.02 of the Revised Code or a permit to install issued under section 3714.051 of the Revised Code. .

Comments: There are no bonus points, or conversely the reduction in points as assigned in the current draft criteria, for such items as:

- Larger time of travels,
- Further setback distances to wells,
- No public water supply wells,
- Public water provided in area,
- Existing groundwater monitoring system

Good site selection depends on the comparison of beneficial and adverse characteristics. The scoring system used should accurately reflect beneficial conditions in its ranking system. (Michael Stepic, URS Corporation)

The criteria for “adjustments” is ambiguous. There should be specific recognized criteria that proved a reduction in total points regarding sites that are located, for example, in favorable geologic settings or where existing groundwater monitoring data is robust and does not indicate and impact to groundwater. (Michael Cyphert, Walter & Haverfield, LLP)

There should be a mechanism to provided positive scoring (reduction in total points) to sites located in favorable geologic settings (i.e., no UAS within 150 feet of base of debris, no ground-water use within the vicinity, and/or low permeability separation distance material), and for sites with existing ground-water monitoring data that does not indicate an impact to ground water. (Shay Beanland, Eagon & Associates, Inc.)

Response: The purpose of the Priority Criteria is so that the director may objectively prioritize purchases for ground water monitoring to be conducted by Ohio EPA at C&DD facilities under ORC Section 3714.071. Facilities that do not exhibit the conditions listed in the Priority Criteria do not receive points, and those facilities receiving the least overall points would be prioritized lower than facilities receiving more overall points. The concept of subtracting points for a criterion would potentially discredit the points of an unrelated condition, thereby biasing the evaluation system. The point system includes an impact to public health component, wherein points are assigned based upon the location of the C&DD facility. Therefore, subtracting points for a criterion already included in the raw score would have the effect of inflating points already assigned to a particular criterion, resulting in an artificial inflation of some raw scores. The same result would occur by adding bonus points. Points have already been assigned to each criterion based upon the director’s determination of the potential threat to public health posed by that particular criterion. A straight point system is a simple, reasonable, and transparent way for the director to objectively prioritize facilities for use of the R.C. 3714.071 fund. Where two or more C&DD facilities have tied

raw scores, Ohio EPA may consider site-specific factors not already captured in the priority criteria used to develop the raw score, and then adjust the score accordingly to break the prioritization tie, which would result in the adjusted score.

GENERAL PRIORITY CRITERIA COMMENTS:

Comments: We would request a more clear explanation of the scoring system and the rationale or mathematical model used to create the priority criteria and assigned points. (Michael Cyphert, Walter & Haverfield, LLP)

Lastly, the points for different categories don't seem to match (i.e. 75 points for one criterion, as compared to 40 points for another criterion). This appears to be subjective and could end up with very skewed results. A clear explanation of the development of the scoring system provided, and a clear reference to the source and the mathematical model needs to be provided for further understanding. (Michael Stepic, URS Corporation)

From a review of the information presented in the WebEx, the scoring appears to be somewhat arbitrary and the threshold for obtaining funds is not well defined. (William Petruzzi, Hull & Associates, Inc.)

Response: Please refer to the previous response.

There is no threshold point value for the use of ORC 3714.071 funds. Please see the accompanying document to the Priority Criteria titled "Details regarding the C&DD Facility Ground Water Evaluation – Priority Criteria," which includes detail regarding how and why the Priority Criteria were chosen and relatively rated. The mathematical model is simple in that a specific number of points are assigned to specific objective criteria which the director will use as a tool to prioritize ground water monitoring to be conducted by the director as applicable at C&DD facilities under ORC 3714.071. The rating of each criterion is relative to the director's determination of the potential threat to public health posed by that particular criterion. A set value is assigned to each criterion included in the raw score.

Please refer to the C&DD Facility Ground Water Evaluation – Priority Criteria form. All points are added together for a total raw score. If new information becomes available, then a raw score may be re-adjusted at that time, and that would produce a revised raw score.

The point system is not arbitrary. The director has assigned points to specific criterion based upon the potential threat to public health posed by that particular criterion. Ohio EPA will apply the Priority Criteria to each C&DD facility prioritized in accordance with ORC 3714.071(D), and add the points, and the sum of the criterion points will equal a total raw score.

The director has selected an objective and reasonable model to prioritize C&DD facilities for the expenditure of funds for ground water monitoring pursuant to ORC Section 3714.071.

Comment: The only acceptable indicator for adverse impact is when water quality down gradient of the landfill is worse than the quality of the up gradient ground water... Therefore, the draft criteria must be changed to assure that adverse impact of down gradient groundwater from the target C&DD landfill is a precondition to any other priority or ranking scheme the agency develops... To reiterate, adverse impact on ground water by the C&DD landfill is the only criteria that can justify the expenditure of public funds on ground water monitoring wells outside the landfill. Only after that precondition is met should the agency engage in prioritizing the targets. (David Grubanc, Springfield Landfill, LLC, Steve Chandler, Minerva Enterprises, LLC)

Response: The commenter appears to confuse the prioritization of sites to conduct ground water monitoring to detect impacts to ground water quality with the detection of an impact to ground water quality. Public health criteria regarding the location of the facility provide objective criteria for the director to prioritize facilities to conduct ground water monitoring under ORC Sections 3714.071 and 3714.072 to detect negative impacts to ground water quality.

Notably, ORC Section 3714.071(B)(1) provides for expenditure of such funds to monitor ground water as follows:

“If the facility is operating before April 15, 2005, and the facility has not had ground water monitoring wells installed and operating before that date, the board of health or director, as applicable, shall pay the cost of the installation of one or more ground water monitoring wells and the annual sampling and laboratory analysis of the ground water at the facility.”

The commenter’s premise that “adverse impact on ground water by the C&DD landfill is the only criteria that can justify the expenditure of public funds on ground water monitoring wells outside the landfill” is flawed. The purpose of the fund is to enable the director to conduct ground water monitoring in accordance with ORC section 3714.071 and 3714.072 to detect negative impacts to ground water quality.

Comments: The proposed evaluation is decidedly biased toward geographic location, and needs revision. (Al Borderlon)

When taken together, the criteria appear biased in favor of geographic location without regard to the facility’s engineering controls. (Michael Cyphert, Walter & Haverfield, LLP)

Response: As discussed in the previous comment, the purpose of establishing the Priority Criteria is to determine the priority for ground water monitoring at construction and demolition debris facilities to detect negative impacts to ground water quality pursuant to ORC 3714.071 and 3714.072. The location of a facility in Sensitive Settings/SWAP areas/Sole Source Aquifer areas presents a greater risk of impact to ground water compared to other settings in Ohio, and poses a threat to public health or the environment. The director has weighted the point value for the public health criteria to consider the likelihood of negative impacts to public health or the environment that may occur based upon the location of the facility.

Criterion number 5 provides for points for the lack of engineering controls. Therefore, the C&DD facility that has a liner and leachate collection system under the entire debris disposal area would receive 0 points, and the facility without such engineering controls would receive 40 points.

Comment: Where a facility has an existing groundwater monitoring system and that system has repeatedly indicated no groundwater impact, the resulting score should fall below the threshold for state funded additional groundwater monitoring. (Michael Cyphert, Walter & Haverfield, LLP)

Response: R.C. 3714.071 does not provide a specific threshold for funding as suggested by the commenter. If Ohio EPA concludes that a facility has a substantially complete data set including ground water monitoring data, and if Ohio EPA finds no indication of impact to ground water based upon that complete data set, Ohio EPA does not intend to give high priority to such facilities for the expenditure of ORC Section 3714.071 funds.

Comment: A comprehensive database of scores and scoring for all of the C&DD sites should be developed and made available to all interested parties. (William Petruzzi, Hull & Associates, Inc.)

Response: Ohio EPA will be updating its scoring of C&DD facilities continuously. Owners and operators are encouraged to submit updated data and other information to Ohio EPA, which will be reviewed and added to the facility's file on an ongoing basis. The database is a "living" document that will be continually updated; therefore, Ohio EPA has no plan to create such a database on its website.

Comment: A significant amount of resources were expended by interested parties in the past (2006 in particular) providing comments on the draft C&DD rules – especially providing comment on the reports that Ohio EPA cited to justify applying a new multi-rule program to C&DD landfills (i.e. susceptibility studies, ground water/leachate study, etc.) A review of these documents led to our comments stating that these reports were not developed using good engineering and scientific principles. This may present a problem if Ohio moves forward with scoring susceptibility (and funding) for sites based on this information. (William Petruzzi, Hull & Associates, Inc.)

Response: Ohio EPA relies upon sound engineering and scientific principles. As noted in a prior comment, owners and operators are encouraged to submit data and other information to Ohio EPA which will be reviewed as appropriate.

Comments: First and most important, we believe that Ohio EPA should not be the party responsible for implementing any groundwater monitoring well system design, installation or sampling and analysis. We feel that this would not be a good use of tax-payers money and that the money would be better spent towards reimbursing owners/operators for any work that Ohio EPA requests at specific sites. We believe that spending money to train Ohio EPA personnel to do work that the private sector does well is not a good idea. Also, Ohio EPA leading such work activities could pose significant liability on the State of Ohio in the event of an accident or if unfavorable

conditions result from your work. Additionally, we believe that owner/operators will want to control and select who is doing work at their facilities. (William Petruzzi, Hull & Associates, Inc.)

Will the OEPA work with the facility to conduct the additional testing and well installation by paying the facility to perform such tasks, as an option to the OEPA performing the work with OEPA staff? (Michael Dinneen, Agg Rok Material Co.)

Response: Ohio EPA respectfully disagrees with the commenter's premise. Ohio EPA retains well-educated, experienced and highly trained personnel in diverse areas of technical expertise.

ORC Section 3714.071(B) provides in relevant part:

"(B) A board of health or the director, as applicable, shall conduct ground water monitoring at construction and demolition debris facilities in accordance with this section. In order to conduct the monitoring, the board or director, as applicable, shall pay for the installation of ground water monitoring wells, ground water sampling, and the laboratory analysis of the ground water samples at a construction and demolition debris facility"

Ohio EPA will make reasonable efforts to provide prior notice to the owner or operator regarding ground water monitoring activities to be conducted by Ohio EPA.

Comments: Funds should be available to the landfill owner/operator (O/O) to pay for oversight of the well/soil boring installation. In other words, if the O/O desires to supply a private consultant to oversee the OEPA drilling program on their facility, this cost should be reimbursable to the O/O from the existing fund. (David Crayne, Civil & Environmental Consultants, Inc.)

Response: ORC Sections 3714.071 and 3714.072 do not provide for the expenditure of funds to be used for oversight by the owner and operator. If the owner or operator wishes to have a private consultant on-site during Ohio EPA drilling or sampling activities, the owner or operator may do so at its own expense, but Ohio EPA will not reimburse the owner or operator for such expenses.

MONITORING WELL AND GROUND WATER SAMPLING COMMENTS:

Comment: Prior to the start of any investigation, the OEPA should provide a detailed site investigation plan to the respective O/O. The plan should include Standard Operating Procedures (SOPs) for drilling, soil logging, and groundwater sampling. The plan should also include a detailed Health and Safety Plan and document that the Ohio EPA will be responsible for post field work clean up. (David Crayne, Civil & Environmental Consultants, Inc.)

Response: Ohio EPA will make reasonable efforts to provide prior notice to the owner or operator regarding ground water monitoring activities to be conducted by Ohio EPA.

Comment: Sampling should be clearly coordinated and split sampling should be allowed if requested by the facility, (Michael Stepic, URS Corporation)

Response: Field activities will be coordinated between Ohio EPA, the local health department when appropriate, and the facility's owner or operator. Upon request, Ohio EPA will allow the owner or operator to split sample at the owner or operator's cost.

Comments: Through the two meetings, that have included this subject as a topic of discussion, many questions have been asked about the mechanics of the program after the point system has used to prioritize facilities. These questions in some cases have been answered but other had not been answered internal at the time. Also through the meeting the time line that was presented did not seem to all for time to discuss these questions prior to the implementation of the program. A few of these questions would include:

- How and/or who will conduct closure of any additional wells?
- If the OEPA installs wells, with the OEPA provide a construction certification report on the installation of ground water monitoring wells?
- Who will be responsible for the maintenance of any additional wells?

(Michael Dinneen, Agg Rok Material Co.)

Additionally, all boring logs, groundwater sampling results, and any pertinent information obtained from the site investigation should be provided to the O/O in a timely fashion. A copy of the well keys should also be given to the O/O. (David Crayne, Civil & Environmental Consultants, Inc.)

Response: Ohio EPA intends to offer the owner or operator the right to take ownership of any monitoring wells installed at their facility after Ohio EPA has concluded its investigation. If the owner or operator declines to take ownership of any of the wells installed by Ohio EPA, Ohio EPA will conduct proper abandonment of the wells.

Ohio EPA will provide well construction reports and applicable information to the Ohio Department of Natural Resources (ODNR).

Copies of well logs, analytical reports, and relevant reports will be provided to the owner or operator.

Ohio EPA will be responsible for well maintenance as long as the investigation is going on and the owner or operator has not taken possession. If the owner or operator wishes to have the well opened, Ohio EPA or the board of health may be contacted.

End of Response to Comments