

Responsiveness Summary

On April 17, 2012, the Kansas Department of Health and Environment (KDHE) held a public hearing in the Azure Conference Room of the Curtis State Office Building, Topeka, Kansas to consider the proposed adoption of amendments to K.A.R 29-29-300 concerning definition of terms used in the construction and demolition landfill regulations and the proposed adoption of new regulations K.A.R. 28-29-330 through 28-29-336 concerning control of hazardous and explosive gases at C&D landfills.

The comment period began with the publication of the Notice of Hearing on Proposed Administrative Regulations in the *Kansas Register* on February 9, 2012 and ended on April 19, 2012. The organizations and people that submitted comments during the public comment period are summarized in the following table.

Organization	Name	Format	Date Received
Joint Committee on Administrative Rules and Regulations	Raney L. Gilliland	letter	2/17/2012
Derby Recycling and Transfer Station (C & D Landfill)	Russell L. Mills	letter	3/27/2012
Neosho County	Charles Morse	e-mail	3/28/2012
National Solid Waste Management Association, Kansas Chapter	Patrick Vogelsberg	letter	4/9/2012
Cloud County Transfer Station and Recycling Center	Justin Murdock	letter	4/10/2012
Allen County Public Works	William King	letter	4/10/2012
Buzzi Unicem USA	Tom Rader	letter	4/16/2012
Kansas Association of Counties	Norm Bowers	letter	4/17/2012
Deffenbaugh	Jim Murray	oral, at hearing	4/17/2012
Deffenbaugh	Darryl Basham	oral, at hearing	4/17/2012
Clay County Landfill-Weed-Recycling-HHW Departments	Debbie Charest	e-mail	4/18/2012
Kansas Landfill Association	Morgan B. Koon	letter	4/18/2012
Butler County	Darryl C. Lutz	letter	4/19/2012
Deffenbaugh	Darryl Basham	letter	4/19/2012

Copies of the comments can be found as an attachment to the Report of the Hearing Officer. The comments received and KDHE's responses follow:

- **The Joint Committee on Administrative Rules and Regulations** considered the proposed amended regulation at its meeting on February 10, 2012.

Comment: KAR. 28-29-300. The Committee suggests the agency clarify the buildings are habitable by humans.

Response: The regulations have been revised based on public comments received and the term “habitable structure” is no longer used in the regulations.

▪ **Russell L. Mills**

Comment: Please accept this letter as my written public comments on the proposed amendments to the K.A.R. 28-29-300 through 28-29-336. The proposed amendments as written will have a devastating effect on our family. The Derby Recycling and Transfer Station (C & D Landfill) operated only from April of 1997 to I believe July of 2003. It then was required to close, and a closure and post closure plan was developed and approved. This was done at great expense to my father, but somehow he was able to financially survive.

Now with regulations that could cost up to sixty thousand dollars (\$60,000.00) to install the gas monitoring systems and up to twelve thousand dollars (\$12,000.00) per year to monitor at today's rates, the net effect would be three-hundred, forty eight thousand (\$348,000.00). We all know the cost for this monitoring will increase over time not decrease. Therefore it is very likely that these requirements would have a financial impact of over four-hundred thousand dollars (\$400,000.00) to the business. This would be greatly in excess of the income that was ever generated off of the C & D Landfill.

Therefore the regulatory impact of these regulations would be devastating.

It is my position that when the K.D.H.E approves the closure and post closure plans, this was an agreement that provided for the safe closure of this facility. When this C & D Landfill was open it did so, pursuant to Kansas Law, which defines C & D material to include drywall. No gas monitoring detection system was required in our solid waste plan or in any other solid waste closure plan that I am aware of. The definition of construction and demolition waste to this day still includes drywall.

Had we known that additional requirements could be placed upon us for solid waste that was lawfully placed in the C&D Landfill; we would probably have never entered into this business. Therefore we really relied upon the representations of the K.D.H.E that these items could be placed into a C & D Landfill with no harm to the environment Now, because we have relied upon the K.D.H.E we are now in jeopardy of having new regulations imposed that will, in fact, amount to a taking of our money without due process of law.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

Just as concerning, is the cost that will be incurred by C & D Landfills in the eastern part of the state. These landfills will be required to incur these expenses while the Landfills on the western part of the state will not. This will cause landfills in the western part of the state to have

a financial advantage over those in the eastern part of the state, and new landfills will be much more difficult to site on the eastern part of the state, than the western part of the state. This will cause the expense of disposal construction and demolition materials at C & D Landfills in the eastern part of the state to skyrocket as the landfills will be required to pass the cost of compliance with these regulations on down to their customers. In my opinion, the common person cannot continue to take financial hits imposed upon them through governmental action. The cost of C & D material and landfill controlled by cities and counties in Kansas will likewise substantially increase. The economic impact to the people of the state of Kansas will be substantial.

Response: To be protective of human health and safety, certain landfills in the eastern part of the state need to comply with additional design and operating requirements which will minimize the potential for generation of hazardous and explosive gases. However, based on comments received, KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive. KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

Action: No change will be made to the regulations based on this comment.

Further, it appears that the only basis for a claim that these regulations are necessary, appears to be measurements from a Minnesota C & D Landfill, and one Kansas C & D Landfill that has Hydrogen-Sulfide and Methane detections substantially less than the Minnesota Landfill. The question then becomes, does the cost risk analysis justify the expenditures that will be placed upon C & D Landfills, and therefore ultimately to the people of Kansas. Another question might be in the history of the State of Kansas, has there ever been an event where any person was injured as a result of Methane gas or hydrogen sulfide admitted from a C & D Landfill. From a legal standpoint the question becomes, are the actions of K.D.H.E now, given the impact of the proposed regulations, amounting to a taking of the property? The Kansas Supreme Court dealt with this issue in *Frick v. City of Salina, KS* opinion number 101335, a 2010 opinion. In that opinion, the Kansas Supreme Court ruled: "Two types of regulatory action constitutes categorical or per se takings: (1) where the government requires a land owner to suffer a permanent physical invasion of the land owner's property, however minor, and (2) where regulations completely deprive a land owner of all economically beneficial use of the owner's property."

It certainly can be argued that a permanent physical invasion is being imposed upon our property without any evidence of the need for it at this location. The gas monitoring requirements would be imposed for at least 24 years, at great expense to our family, and no expense to the State of Kansas. This would be true even though the State of Kansas, by statute, allowed the materials that supposedly caused the gas problems to be placed within C & D Landfills legally. The question becomes, does a landfill owner have the right to rely upon Kansas Law, or can Kansas Law through the regulatory process be changed to allow this taking that would not have been otherwise done, but for the status of the law that existed when the landfill closed?

The regulations that have been imposed upon the C&D Landfill have completely deprived our family of all economically beneficial use of the property. The property sits next to a sewer treatment plant, and its highest and best use would be for a C & D Landfill or other commercial or industrial use. The property is not able to be used for agriculture purposes or for residential purposes. This further impacts the ability to use the property to pay for the additional cost associated with the closure, as proposed in these regulations. Therefore the taking of other income, or other financial resources would be necessary to meet these new requirements that we had no reason to believe would be imposed upon us at the time of the closure and post closure agreements being entered into, or for that matter, when this C & D Landfill was first purchased.

The court, in *the Frick v. City of Salina, KS* opinion further held that: If the facts of a governmental takings case were not per se taking, then the takings claim must be analyzed under the catch-all standard promulgated in *Penn Central Transpo. Co. v. New York City*, 438 U.S. 104, 124, 57L. Ed. 2d 631, 98 S. Ct. 2646 (1978) the factors established in Penn Central for determining whether justice and fairness require that an economic injury caused by public action be compensated by the government are: (1) the economic impact of the regulation on the claimant, (2) the extent by which the regulation is interfered for distinct, investment-backed expectations, and (3) the character of the governmental action. Regarding the third factor, a taking may more readily be found when the interference with the property can be characterized as a physical invasion by the government, than when the interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good.

As it relates to our property the taking is the taking of money, not just the taking of the use of the property and its economic value.

Under K.S.A. 26-513, just compensation must be provided for private property damaged for public use, although consequential or tangential damages are not compensable. For damage to real estate to become compensable under K.S.A. 26-513, that damage must be substantial and must be the planned or inevitable result of government action taken for public benefit. This is the situation that exists as it relates to our property as the government has told us that it was lawful to do one thing, and now is telling us that the health, safety, or general welfare would be promoted by imposing these regulations. If this were a criminal case it would be known as entrapment.

We are only asking that the K.D.H.E look to the facts as it applies to our property and determine whether justice and fairness require that the proposed public action not be implemented against the property. It is respectfully submitted that if all factors are looked at, the K.D.H.E would agree that justice and fairness require that the same criteria should not be applied to a closed landfill that has no ability to earn income and an open landfill that does. Hopefully our concerns and comments will be a certain benefit to the K.D.H.E when dealing with the proposed regulations.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

▪ **Charles Morse**
Neosho County

Comment: At this time We at NEOSHO COUNTY are opposed to any new rules or regulations that would apply to C & D landfills. It already cost our tax payers enough to maintain what we have now and with the economy the way it is we fell that this would be an undo burden for them to bare.

Response: To be protective of human health and safety, certain landfills in the eastern part of the state need to comply with additional design and operating requirements which will minimize the potential for generation of hazardous and explosive gases. However, based on comments received, KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

▪ **Patrick Vogelsberg**
National Solid Waste Management Association, Kansas Chapter

Comment: The Kansas Chapter of NSWMA has members both large and small that provide collection, transportation, processing and disposal of municipal solid waste and constructions and demolition waste. As operators of Landfills we support the Kansas Department of Health's (KDHE) initiative to strengthen the regulations of C&D landfills. We agree that KDHE should apply increased monitoring to active landfills. We also believe that KDHE may wish to consider exempting facilities that have formally closed in accordance with their permit requirements unless KDHE determines that a given site is posing an active threat to the environment.

Upon closure of the landfill the operator may no longer has the means to collect revenues that would pay for the additional cost associated with these regulations. Facilities accrue for post closure care cost during the operating life of a landfill based on conditions that are associated with the State issued permit.

While we support KDHE's general approach to this issue we feel that a more comprehensive evaluation of the C&D regulations should be considered. NSWMA would like to meet with the Department and further discuss areas for improvement.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

▪ **Justin Murdock**
Cloud County Transfer Station and Recycling Center

Comment: I believe that our current construction/demolition landfill, our capped C & D cells, as well as our closed MSW pose no threat of explosive gasses. Although our closed MSW has never been checked for hazardous gasses, we put up hay on it every year, the vegetation is good, and no problems have ever arose.

Our C & D cells have been designed so that rainwater/contact waste, and storm water gravity feeds out of the cell. Our contact water flows into a retention pond, and the storm water flows out and around a retention pond. Our facility does not get a large amount of sheetrock. When we do receive sheetrock, we try to place it higher on the working face so it does not generate hazardous gasses. This prevents water from being in contact with the sheetrock for long period of time.

Please consider the circumstances when deciding what landfills will have to comply with these regulations.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

▪ **William King**
Allen County Public Works

Comment:

General Comment #1

The proposed regulations use several variations of the term "disposal unit," which appears unintentional. It is recommended that term "C&D disposal unit" be used consistently throughout the articles.

Response: KDHE agrees that in the originally proposed regulations "disposal unit" was used interchangeably with "C&D disposal unit." Use of the term "C&D landfill" is intentional, because in some cases the criteria/requirements apply to the landfill as a whole, in other instances the criteria/requirements apply to an individual disposal unit.

Action: In the revised regulations the term "disposal unit" is used in place of "C&D disposal unit."

General Comment #2

The regulation does not address previously closed C&D units, we suggest that the KDHE include an exclusionary clause such as: "Each C&D disposal unit that does not receive waste after the effective date of this regulation or after to July 1, 2013, whichever is later, shall be exempt from KAR 28-29-330". This approach is consistent with KDHE and federal rulemaking policy for landfills and the current KDHE and federal rules for municipal solid waste landfills in 40 CFR, Part 258 (Specifically KAR 28-29-100(a) and 40 CFR § 258.1(c)).

Requiring closed C&D Landfills to adhere to the proposed regulations will cause an additional cost burden for sites that have no means of recovering these additional costs. Additionally, requiring C&D Landfills with existing closed C&D disposal units to adhere to the proposed regulations will disproportionately increase the costs associated with current and future operations, as capital improvements and post-closure allocations may be required for areas that are no longer in operation. We believe that C&D Landfills, and C&D disposal units in particular, should be given the option to close prior to potentially becoming affected by this regulation.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected. Open landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit.

General Comment #3

The proposed regulations prematurely assume that if the conditions put forth in KAR 29-330(a)(1) through (3) are met, then a problem must exist and countermeasures are required per KAR 28-29-333. We suggest that in an effort to reduce economic impact, only monitoring should be required as a first step. Countermeasures should be conditional upon monitoring revelations that a problem exists.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

Proposed KAR 28-29-330(b)

"C&D disposal unit" should be revised to "each C&D disposal unit that is located in a C&D Landfill."

Reason: Clerical Change.

Response: KAR 28-29-330(b) has been combined with KAR 28-29-330(a) in the revised regulations, so this change does not apply to the revised regulation.

Action: No change is required in response to this comment.

Proposed KAR 28-29-330(c)

"C&D Landfill" should be revised to "each C&D disposal unit that is located in a C&D Landfill"

Reason: This proposed modification is consistent with other references within the regulation and appropriately limits the intent of the regulation and the focus of the regulation those portions of the C&D Landfill that have the potential to create hazardous and explosive gases, per the proposed KAR 28-29-330(a)(1) through (3).

Proposed KAR 28-29-330(c)(1)

"C&D Landfill" should be revised to "each C&D disposal unit that is located in a C&D Landfill"

Reason: This proposed modification is consistent with other references within the regulation and appropriately limits the intent of the regulation and the focus of the regulation those portions of the C&D Landfill that have the potential to create hazardous and explosive gases, per the proposed KAR 28-29-330(a)(1) through (3).

Proposed KAR 28-29-330(c)(2)

Recommended change: More than 50,000 tons of waste have been placed in the C&D landfill and contiguous areas since July 1, 1998. (Change to) More than 250,000 tons of C&D waste have been placed in an active C&D disposal unit that is located at a C&D landfill since July 1, 2013.

Reason #1: 50,000 tons appears arbitrary in nature and is very low when compared to the State's annual C&D Waste Generation of 900,000 tons (less than 10 percent). For example, the footprint of a conceptual C&D landfill with 50,000 tons and 4H:1V slopes is only 400 feet by 400 feet (or less than 4 acres in overall size) at an assumed waste density of approximately 1,000 lb/cy. Note that 250,000 tons also arbitrary, but we suggest it may be appropriately higher. Using the above methodology, this would represent a landfill that is approximately 10 acres in size. The 10-acre footprint threshold seems reasonable for a commercial C&D operation.

Reason #2: Contiguous areas that are not regulated as a C&D Landfill or a C&D disposal unit should bear no impact on this regulation.

Reason #3: July 1, 1998 appears arbitrary. There are no references to this date in the KDHE or federal regulations. Perhaps July 1, 2013 is a better date to use, since it is referenced in other locations

Response: KAR 28-29-330(c) in the originally proposed regulations described the conditions under which a C&D landfill would be subject to gas monitoring requirements, however this provision has been removed from the revised regulations. Gas monitoring will not be required unless there are indications that gas is being released from the landfill.

Action: No changes are required in response to these comments.

Proposed KAR 28-29-332(a)(5)

We suggest that gravity drainage should be an option as well.

Proposed KAR 28-29-333(a)

We suggest that the proposed frequency of cover requirements be set at every 30 days. This is four times more frequent than the current regulation.

Response: KDHE agrees that the originally proposed regulation was overly prescriptive.

Action: The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

Proposed KAR 28-29-334 (second sentence)

Recommended change: "The owner or operator of each C&D landfill disposal unit that meets..."

Proposed KAR 28-29-334(a)(1)(A)

Recommended change: "On the facility property or within the facility property boundary;"

Proposed KAR 28-29-334(a)(1)(B)

It would make sense to allow owners to place probes in closer proximity to affected C&D disposal units. Tightening the radius around an affected C&D disposal unit will allow for better monitoring, reduce the number of initial probes required, and reduce the cost burden to affected owners.

Response: Based on comments received, proposed KAR 28-29-334 has been removed from the proposed regulations. Landfills will not be subject to gas monitoring requirements unless a problem is detected. If a gas management system is required as part of a remediation project, the owner of the landfill will submit a proposed design to the department.

Action: No changes are required in response to these comments.

▪ **Tom Rader**
Buzzi Unicem USA

Comment:

Comment on K.A.R. 28-29-330

The proposed regulations do not provide any exemption if the landfill meets the criteria of location, capacity, and hydrogeology even if the material in the C&D landfill contains materials that have little or no probability of forming hazardous or explosive gases. If the landfill contains no putrescible materials, only small amounts of lumber, wall board and other building

materials, it is not warranted to require exorbitant monitoring and testing expenses along with additional onerous management requirements.

H₂S can be detected by the human nose at less than .01 ppm by the “rotten egg” odor. If there are insignificant amounts of materials in the landfill that are likely to form H₂S and no odor exists or has existed there would be no compelling reason to perform extensive monitoring.

There should be some mechanism to exempt certain landfills from the extra monitoring and management practices if they have low potential for forming hazardous or explosive gases even if they meet the location and hydrogeology criteria.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Although the revised regulations do not provided any exemption based on the typed of waste placed in the landfill, if a new unit meets the applicability criteria, the revised regulations simply state that “The owner or operator shall design, construct, and operate the disposal unit to prevent contact water from accumulating in the waste.” Gas monitoring will not be required at new units unless a problem is detected.

Comment on K.A.R. 28-29-333 (b) (C)

If the intended purpose of the proposed regulation is related to hazardous and explosive gases in a C&D landfill, what is the purpose for testing all of the listed analytes? Most of the analytes listed are unrelated to the formation of hazardous and explosive gases. Only those analytes that can be attributed to the formation of hazardous and explosive gases in a landfill should be tested.

Response: The originally proposed regulations required pumping contact water out of new units that met the applicability criteria. The purpose of testing the water was after it was pumped out of the landfill.

Based on comments received, the originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that the landfill be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

Action: Since pumping is not necessarily required under the revised regulations, the testing requirement has also been removed. However if pumping is necessary to prevent water from accumulating in the waste, testing may also be required to determine management options for the water.

- **Norm Bowers**
Kansas Association of Counties in cooperation with the
Kansas County Highway Association

Comment:

Scope of the Regulations: We understand that there have been some fairly rare problems with gas from C & D landfills. We are concerned that the proposed regulations are unduly broad, detailed and expensive based on the scope of the problem. In general we would like to see the regulations applied only to new landfills and sites with identified problems.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

Closed Landfills: We believe the requirement that closed landfills are subject to this regulation is not justified by any facts. Subjecting closed landfills to additional regulations where there is no identified problem creates a large unanticipated financial burden with no benefit to the public or the environment. Additionally, there is no revenue from closed landfills to pay for the additional requirements, and is in fact changing the rules when there is only a potential for a problem that may never occur. Gas generation should decrease with time rather than increase, so while there is some risk, this risk is a decreasing risk that does not warrant expensive monitoring where there is no known problem. The known problems only justify closed landfill be subject to gas monitoring if there is related issue that develops.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

Closure of existing landfills: Some landfills may want to close rather than complying with the new regulations. Allowance should be made to close in accordance with existing regulations within a specified period if there are no known problems.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

Applicability: 28-29-330 (a) (3)

(A) A portion of the C&D landfill could be in the 100 year flood plain, and the disposal units above the flood plain. For this reason we ask that the words “disposal units” are inserted, and the sentence reads: “The C&D landfill disposal units are located in the 100 year flood plain.”

Response: KDHE agrees with this comment.

Action: The revised regulation reads: “The disposal unit is located within a 100-year floodplain.”

(B) It should be clear that the groundwater elevation below the disposal units is the controlling factor. For this reason we ask that the “words “disposal units” are inserted, and the sentence reads: “The highest predicted groundwater elevation of the C&D landfill disposal units is less than five feet below the lowest point of the C&D landfill disposal unit.

Response: The proposed regulations have been revised so the new design and operating criteria only apply to new units at landfills. Since KAR 28-29-302(g) requires the base of each new unit to be at least 5 feet above the highest predicted groundwater elevation, the groundwater elevation criterion has been removed from KAR 28-29-330.

Action: No change is required in response to this comment.

(C) It should be clear that the water exiting the landfill by gravity is referring to the disposal units, and not the entire landfill site.

Response: KDHE agrees with this comment.

Action: This section of the regulation has been revised to refer to the disposal unit rather than the landfill as a whole.

Applicability: 28-29-330 (b) It is not clear that this section applies only to proposed permitted disposal units that have not yet been authorized. We would suggest clarifying this matter.

Response: Since there can be multiple interpretations of what an “authorized” unit is, KDHE believes the date that construction begins is a less ambiguous criterion.

Action: Based on comments received, proposed KAR 28-29-330 has been revised so the additional design and operating requirements apply to new units based in the date that construction begins. The construction must be in accordance with a construction quality assurance plan that has been approved by KDHE.

Applicability: 28-29-330 (c) (2) We are unsure why the word “contiguous area” was included and what that means. There is no way for the land fill operator to know what has been disposed of off his property. We would suggest that contiguous area be defined or deleted.

Response: Based on comments received, KDHE has removed the requirement to determine the amount of waste placed in disposal areas contiguous to the landfill.

Action: No change is required based on this comment.

Applicability: 28-29-330 (e) This section concerns corrective action applicability and states each C&D landfill. Since only certain landfills are even required to have gas monitoring we wonder how this requirement could be discovered by those landfills without gas monitoring.

Response: KDHE agrees that exact gas concentrations would not be known without monitoring.

Action: KAR 28-29-333 (previously KAR 28-29-336) has been revised to start the investigative process if “the owner or operator observes or is informed of any indication of a release of landfill gas.” This could include odors, stressed vegetation, or air monitoring by KDHE inspectors.

Applicability for gas control: 28-29-331 (a) (3) Again the word contiguous area is used. The word should be deleted or properly defined. It is doubtful any landfill operator can determine how much waste was placed on property not under his control.

Schedule of documentation: 28-29-331 (b) (4) Again the word contiguous area is used. The word should be deleted or properly defined. It is doubtful any landfill operator can determine how much waste was placed on property not under his control.

Response: Based on comments received, KDHE has removed the requirement to determine the amount of waste placed in disposal areas contiguous to the landfill.

Action: No change is required based on these comments.

Design requirements: 28-29-332 This section could be interpreted to apply to all landfills that meet certain applicability rather than new disposal units. It should be made clear that the design requirements apply only to disposal units which have not yet been authorized for construction.

Response: In the originally proposed regulations, KAR 28-29-330(b)(2) based the applicability of this KAR 28-29-332 on the date the design plan was submitted to the department.

Action: Based on comments received, proposed KAR 28-29-330 has been revised so the additional design and operating requirements apply to new units based in the date that construction begins. The construction must be in accordance with a construction quality assurance plan that has been approved by KDHE.

Design requirements: 28-29-332 (a) (2) This section is a performance specification while the

remainder of the specifications state what and how the landfill unit is to be constructed. It is not reasonable to specify performance then specify specific design elements that may or may not meet the performance specification. We would suggest that this sentence be deleted and perhaps a sentence before (a) that the intent of the drainage layer and other design requirement is to prevent gas from migrating off site.

Additional operating requirements: 28-29-333 (a) Additional cover requirements will greatly increase the amount of dirt needed, which may not have been anticipated in the design of the disposal unit and may not be readily available. A reasonable time needs to be allowed to change this operating requirement, raise disposal rates, or allow closure of the landfill.

Additional operating requirements: 28-29-333 (b) We think this requirement applies to new units that are constructed to the additional design requirements, if not, ample time needs to be allowed to install all the equipment and facilities needed to meet this requirement, adjust disposal rates, or allow closure of the landfill.

Response: Based on comments received, KDHE believes that the originally proposed regulation was overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

Control of gases: 28-29-334 We did not find any implementation time table for installing the gas monitoring facilities. Ample time needs to be allowed to install all the equipment and facilities needed to meet this requirement, adjust disposal rates, or allow closure of the landfill.

Gas monitoring: 28-29-335 We did not find any implementation time table for implementation of the gas monitoring requirements. Ample time needs to be allowed to install all the equipment and facilities needed to meet this requirement, adjust disposal rates, or allow closure of the landfill.

Gas monitoring: 28-29-335 (a) (2) (A) We realize that exposure of on-site personnel is an important item. However, site personnel move around the site, and we do not think there is technology that can track exposure for individual employees. We would suggest that this item be deleted from the monitoring section and gas concentrations which each employee may be exposed to. Some sites may have locations where gas can concentrate, and perhaps alarms at that location or worn by employees that enter those areas would sound when gas levels are at a specified level. An alarm is different than monitoring personnel, which we think is basically

impossible at this time.

Gas monitoring record keeping and reporting: 28-29-335 (b) (2) (F) It is unreasonable to specify “all” evidence and a better word would be “observed”.

Gas monitoring operations plan: 28-29-335 (c) (6) This section concerns gas concentrations for which on site personnel are exposed. We mentioned earlier the lack of technology to track specific exposure. We would suggest the following as being practical: “the methods used to warn on-site personnel of harmful or dangerous concentrations of gases in work areas.”

Response: Based on comments received, proposed KAR 28-29-334 and 28-29-335 have been removed from the proposed regulations. Landfills will not be subject to gas monitoring requirements unless a problem is detected. If a gas management system is required as part of a remediation project, the owner of the landfill will submit a proposed design to the department.

Action: No changes are required in response to these comments.

Control of gases: 28-29-336 (a) (2) (A) This section concerns exposure limits of hydrogen sulfide of 1 ppm for on-site personnel. We would presume that there would be some type of alarm system either mobile or placed where gas could concentrate. It does not appear that all the items in the response and assessment monitoring are appropriate for 1 ppm alarm where there was momentary exposure.

Response: If a gas release is detected or suspected at a landfill, on-site personnel should have personal H₂S monitoring devices to assure that they are protected from elevated concentrations that pose a risk to their health or life.

Action: No changed is required based on this comment.

▪ **Jim Murray**
Deffenbaugh Industries

Comment: I am Jim Murray with Deffenbaugh Industries in Kansas City, KS. First I would like to have the agency think about the request for an exemption for the closed C&D sites in Kansas. I kind of feel that if a site does not present any gas or odors at the boundary facilities or no complaints from neighborhoods organizations or the community, but there would not be a need to automatically look for any type of monitoring at these sites that we would have to be put in place.

I know we have a facility that has closed for more than five years and number one we have not had any complaints from surrounding neighbors or businesses as it relates to gas odors or any kind of other odors. This landfill was put in under the conditions that existed at the time. We feel that going back to the closed sites which number one, there are no income streams to support any compliance expenses. We get no revenue off this site at all and to think that we can go back in and place wells, do monitoring with no revenue to offset those expenses. That is an undue burden to the businesses that are in the state.

Alternately, I would also suggest that if it couldn't be just total exempt from this regulation that we may do something alternatively. Such as look at two years of ambient air monitoring at the perimeter of the site. Whether we do that quarterly or semi-annually and pick a time from whether that is two years or three years out and if we have no detect that the site would be total exempt from the regulations. Also would like the agency to consider a request for possibly a tiered gas monitoring approach to the existing facilities. We feel that if we did ambient air monitoring on existing sites for a time, for whatever that may be, or possibility just probe monitoring if the ambient air suggest that there is a problem, that this would also help businesses that are actuality in the C&D sites here in the state of Kansas.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

▪ **Darryl Basham**
Deffenbaugh Industries

Comment: My name is Darryl Basham. I am an engineering manager at the Deffenbaugh Industries and I just wanted to follow up, mention some additional items that Jim did not mention. He kind of talked about some issues for closed facilities, I am going to take it to the next step and talk about existing facilities. We own both in Johnson County.

I would like to have the department consider granting existing facilities the option of closing to avoid the new requirements. Seems like to do otherwise, would undermine the owner's ability to reasonable in further managing their risk.

Response: KDHE agrees with this comment.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit.

On the cost front, I think the state's estimated cost were generally low. Based on our actual cost experience, C&D landfills and MSW landfills to just give some kind of give some examples. Our closed facility in Olathe, after looking through the regulations and look at our historical cost information, for our 27 acre closed facility, it has now been closed for 5 years, as Jim has mentioned there is no indications of odor problems at that location and have been there monitoring at the property boundaries does not indicate any present of methane.

These regulations on the other side will require us to spend around \$32,000 in capital. Possible as high as \$2 million. That is a very large range, I understand, but that is because there are so many conditions to this regulations. We would have to put in a gas system, we have to put

in contact water collection systems, and we have to put in a possible a cap. The base perimeter unit is so low; we can't construct that out of earth materials. So those costs add up very quickly for a closed site. We also got annual cost going forward after those capital costs are spent anywhere from once aging a large range here \$4,000 up to \$120,000 dollars a year. Depending on which of these systems actually are required.

Then we also have for existing facility, located right across the street, that facility has about 40 acres under waste at this time. So capital cost for that facility on the low end would be \$400,000 if we build out the remaining 30 acres in our permit, that cost could approach \$6.4 million dollars. Annual cost for that facility would be \$85,000 on the low end per year, of course, up to \$200,000 per year once this site reaches capacity.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected. The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

One of the problems that I see with the state's impact statement was that it seems to, me anyway, to ignore the 30 year post closure care requirements that are imposed on facilities that currently don't have to do any kind of post closure care. That is because the current regulations for post closure care don't kick in unless you have to do some kind of monitoring. Which we presently we don't have to do this on C&D sites. So that is a big cost. We are talking about 30 years of post closure care, to provide some kind of a financial insurance instrument to cover those costs. We are looking at once again for my closed site, a range that is very large, \$2,500 a year to \$50,000, depending on what systems need to be monitored and maintained. For our existing facility, there again a huge range, these are annual cost just to pay for a bond for instance, \$30,000 per year up to \$90,000 per year.

Response: KDHE agrees with this comment.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. There will not be any gas monitoring required, so financial assurance will only be required if new units are constructed that will have to have pumping continue after the landfill closes.

A point of less significance, I think in section 28-29-330(b)(2), we use a term called design plan. I am not sure if this the permit plan or if this is a construction plan. It is going to be subject to KDHE approval, but I didn't find the definition in section 300 and I think that it should be added for clearly for all involved. I am not a very big design plan requirement at this time. That is important because there is a date link to that with regards the applicability for existing sites. So, for instance, our site in Olathe, we got permit plans that were turned in years ago. I think this design is something in addition to that, but I am just not sure.

Response: KDHE agree with this comment and believes the date that construction begins is a less ambiguous date.

Action: KAR 28-29-330 has been revised so the additional design and operating requirements apply to new units based in the date that construction begins. The construction must be in accordance with a construction quality assurance plan that has been approved by KDHE.

Next point, I think we should allow a MSW compliance drainage system in the unit's in lieu of the proposed minimum 3-feet thick drainage layer. The reason for that is I think a 3-feet thick layer is executive, expensive and needless consumes value disposal of capacity in the cell. There may be some sites that have some junk rock or something to use for that layer, but not all sites are going to have that. So if we built system that is similar to what is required for MSW's with a good grade on it to some a pump, we should keep the waste dry during that for less cost.

Response: KDHE agrees that the regulations as proposed were overly prescriptive.

Action: The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that the landfill be designed an operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

In my final point, I would like, this is not huge deal, but I do think it might make since to just elevate the annual reporting requirement for gas monitoring results in copy, keep records that information in the operation file. That is currently allowed under the MSW regulation for perimeter gas monitoring. I think that should be acceptable for C&D's as well. There is of course to obligation to notify KDHE if gas is detected in the probes that levels are concerned. This would eliminate the report preparation and review tasks and associated cost for the owner frankly for KDHE office staff as well. Of course those records would be available for review during KDHE normal regular inspections of the facility. That completes my comments.

Response: Based on comments received, proposed KAR 28-29-334 and 28-29-335 have been removed from the proposed regulations. Landfills will not be subject to gas monitoring requirements unless a problem is detected. If a gas management system is required as part of

a remediation project, the owner of the landfill will submit a proposed corrective action plan to the department.

Action: No change is required in response to this comment.

▪ **Debbie Charest**
Clay County Landfill-Weed-Recycling-HHW Departments

Comment: At the hearing yesterday, I heard comment that we could get our tonnage totals since July, 1998 from you guys (KDHE). This would save a lot of time on my end to determine the 50,000 ton limit of waste placed since 1998. According to my quick calculations, we fall considerably lower than this limit. I will also have to ask our engineers to determine our total capacity limits or capability of the design and permit area. Our location is not located in the 100 year flood plain. Our groundwater is at least 10 feet below the bottom of the landfill, and our C&D site, because of design, drains naturally to the east. We do fall into the location of precipitation of more than 25 inches per year. I will say, that a county of our size and volume can not afford the expense that this regulation purposes if we would qualify for the mandates proposed by this regulation. When I first heard of this issue at one of the conferences I attended, I informed my commissioners that we would no longer accept sheetrock at our C&D site because of the hydrogen sulfide. Our policy now is to only allow gypsum containing materials in our Sub-title D landfill.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

▪ **Morgan B. Koon**
Kansas Landfill Association

Comment: KLA believes the requirement in the proposed regulations that closed landfills are subject to gas monitoring, based solely on their location, is overly burdensome, not necessary for the protection of the environment and public health, and creates an unnecessary and cataclysmic economic burden on the owner/operator. These results outweigh the benefits the State of Kansas and the public receives as a result of this monitoring. KLA further believes this provision undermines

the permitting integrity that KDHE has so diligently maintained.

Initially, KLA approached this response from a cost analysis versus benefit approach and then segued into an integrity viewpoint. Kansas enacted regulations governing construction and demolition (C&D) landfills in 2004. At that time, the issue of gas generation and migration was not addressed within the regulations. Since 2004, C&D landfills have closed in the area of the state that would require gas monitoring. Prior to the regulations in 2004, the 150 foot setback requirement did not exist. With this proposed regulation, an owner/operator could potentially be required to monitor these gases at the property boundary. If waste is placed at the property boundary, evidence suggests this gas will migrate the limited distance to the probes. At that point, the owner/operator will then be required to mitigate this gas at the property boundary, thus incurring substantial costs. All of this while the C&D landfill is closed and not capable of generating income to offset these costs. Furthermore, the owner/operator, having not known of this regulation at the time of operation, was not and is not able to charge fees accordingly.

Once a landfill is closed, the owner/operator has no means to offset any costs associated with this gas monitoring. For closed landfills, this regulation serves to be a penalty merely because the landfill is closed. To KLA's knowledge, no closed C&D Landfill exists where the public is complaining of gas migration, either subsurface or in the ambient air. KLA understands the intent of this regulation is to monitor subsurface gas migration, however, with the gas generation life cycle, KLA also believes the closed landfills that would be subject to this regulation are not in their major gas generation life cycle. The gas generation life cycle of a landfill is at its maximum generation point generally in the first three years after waste is placed. KDHE is requesting closed landfills spend a large sum of money on an issue that may not and has not been reported to be problematic. KDHE fails to disclose the amount of money that would be spent to mitigate gas discovery at the property boundary of a landfill. If gas is discovered at the property boundary, passive vents will cost between \$2,500.00 and \$4,000.00 per vent. Monitoring of the probes and vents costs approximately \$200.00 to \$500.00 per monitoring event. If gas is detected, monitoring will occur daily for at least two weeks and then once a mitigation action plan is permitted, monitoring will occur at least weekly. If a passive vent mitigation plan fails to mitigate the gas at the property boundary, depending on the gas production at a particular facility, other mitigation actions will need to be taken, up to and including an active gas collection facility. With an active gas collection facility, the collected gas could be sold, if it is the correct composition of gas, and there is a market for the gas. An instance could arise where an active collection system is all that will mitigate the gas at the property boundary but there is no market for this captured gas. At this point, millions of dollars could be spent and there is little if any likelihood that the subsurface migration of this gas is occurring.

Alternatively, KDHE risks the integrity of its permits with this regulation as it pertains to closed landfills. These closed landfills operated from a permit issued by KDHE during their lives and closure. These landfill permits had no mention of monitoring landfill gas. Now KDHE wants to retroactively require these landfills to monitor subsurface gas migration. This act undermines the integrity of the permit. KDHE is effectively stating that it does not care what its permits say, it can create regulations at any time and force landfills to comply with the regulations, even after closure.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

▪ **Darryl C. Lutz**
Butler County Department of Public Works

Comment: In general, Butler County as a municipal entity has great concern with the current language in the drafted regulations. Butler County as with many municipal entities operates public facilities such as landfills to provide low cost service to its citizens. These facilities generally are operated at cost and do not have funds accumulated or readily available to cover the cost of adding gas monitoring and long term post-closure care costs. The regulations as drafted appear somewhat ambiguous due to terminology, but, would appear to require Butler County to implement gas monitoring for a relatively small operation with some areas already closed for several years.

Butler County with technical review and input from its consultant is providing comments that are intended to remove ambiguity in terminology and to modify arbitrary volume thresholds and dates that would be particularly burdensome to the County. Butler County does not intend to dismiss environmental issues occurring at other facilities. But in the face of the regulations currently proposed, the unit cost of operating and long term maintenance of our C&D facility are nearing and may actually exceed the unit cost of operating our subtitle D MSW facility. On this basis the County would have never started segregating C&D waste materials for disposal into a separate facility. Our volumes are very low and the resulting increased costs on top of our near current operating deficit, the County would like to have the option to consider closing our facility under the current regulations in consideration of co-mingling C&D waste with MSW.

Thank you for the opportunity to comment. Butler County urges KDHE to proceed with caution. The regulations, if enacted in its current text will create additional financial hardship on local units of government that are already struggling.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected.

The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements).

This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

General Comment #1

The proposed regulations use several variations of the term "disposal unit," which appears unintentional. It is recommended that term "C&D disposal unit" be used consistently throughout the articles.

Response: KDHE agrees that in the originally proposed regulations "disposal unit" was used interchangeably with "C&D disposal unit." Use of the term "C&D landfill" is intentional, because in some cases the criteria/requirements apply to the landfill as a whole, in other instances the criteria/requirements apply to an individual disposal unit.

Action: In the revised regulations the term "disposal unit" is used in place of "C&D disposal unit."

General Comment #2

The regulation does not address previously closed C&D units, we suggest that the KDHE include an exclusionary clause such as: "Each C&D disposal unit that does not receive waste after the effective date of this regulation or after to July 1, 2013, whichever is later, shall be exempt from KAR 28-29-330". This approach is consistent with **KDHE and federal** rulemaking policy for landfills and the current **KDHE and federal** rules for municipal solid waste landfills in 40 CFR, Part 258 (Specifically KAR 28-29-100(a) and 40 CFR § 258.1(c)).

Requiring closed C&D Landfills to adhere to the proposed regulations will cause an additional cost burden for sites that have no means of recovering these additional costs. Additionally, requiring C&D Landfills with existing closed C&D disposal units to adhere to the proposed regulations will disproportionately increase the costs associated with current and future operations, as capital improvements and post-closure allocations may be required for areas that are no longer in operation. We believe that C&D Landfills, and C&D disposal units in particular, should be given the option to close prior to potentially becoming affected by this regulation.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected. Open landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit.

Proposed KAR 28-29-330(b)

"C&D disposal unit" should be revised to "each C&D disposal unit that is located in a C&D Landfill."

Reason: Clerical Change.

Response: KAR 28-29-330(b) has been combined with KAR 28-29-330(a) in the revised regulations, so this change does not apply to the revised regulation.

Action: No change is required in response to this comment.

Proposed KAR 28-29-330(c)

"C&D Landfill" should be revised to "each C&D disposal unit that is located in a C&D Landfill"

Reason: This proposed modification is consistent with other references within the regulation and appropriately limits the intent of the regulation and the focus of the regulation those portions of the C&D Landfill that have the potential to create hazardous and explosive gases, per the proposed KAR 28-29-330(a)(1) through (3).

Proposed KAR 28-29-330(c)(1)

"C&D Landfill" should be revised to "each C&D disposal unit that is located in a C&D Landfill"

Reason: This proposed modification is consistent with other references within the regulation and appropriately limits the intent of the regulation and the focus of the regulation those portions of the C&D Landfill that have the potential to create hazardous and explosive gases, per the proposed KAR 28-29-330(a)(1) through (3).

Proposed KAR 28-29-330(c)(2)

Recommended change: ~~More than 50,000 tons of waste have been placed in the C&D landfill and contiguous areas since July 1, 1998.~~ More than 250,000 tons of C&D waste have been placed in an active C&D disposal unit that is located at a C&D landfill since July 1, 2013.

Reason #1: 50,000 tons appears arbitrary in nature and is very low when compared to the State's annual C&D Waste Generation of 900,000 tons (less than 10 percent). For example, the footprint of a conceptual C&D landfill with 50,000 tons and 4H:1V slopes is only 400 feet by 400 feet (or less than 4 acres in overall size) at an assumed waste density of approximately 1,000 lb/cy. Note that 250,000 tons also arbitrary, but we suggest it may be appropriately higher. Using the above methodology, this would represent a landfill that is approximately 10 acres in size. The 10-acre footprint threshold seems reasonable for a commercial C&D operation.

Reason #2: Contiguous areas that are not regulated as a C&D Landfill or a C&D disposal unit should bear no impact on this regulation.

Reason #3: July 1, 1998 appears arbitrary. There are no references to this date in the KDHE or federal regulations. Perhaps July 1, 2013 is a better date to use, since it is referenced in other locations and conforms to historical rulemaking procedure in the State of Kansas.

Response: KAR 28-29-330(c) in the originally proposed regulations described the conditions under which a C&D landfill would be subject to gas monitoring requirements, however this provision has been removed from the revised regulations. Gas monitoring will not be required unless there are indications that gas is being released from the landfill.

Action: No changes are required in response to these comments.

Proposed KAR 28-29-332(a)(5)

We suggest that gravity drainage should be an option as well.

Proposed KAR 28-29-333(a)

We suggest that the proposed frequency of cover requirements be set at every 30 days. This is four times more frequent than the current regulation.

Response: KDHE agrees that the originally proposed regulation was overly prescriptive.

Action: The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

Proposed KAR 28-29-334 (second sentence)

Recommended change: "The owner or operator of each C&D landfill disposal unit that meets..."

Proposed KAR 28-29-334(a)(1)(A)

Recommended change: "On the facility property or within the facility property boundary;"

Proposed KAR 28-29-334(a)(1)(B)

It would make sense to allow owners to place probes in closer proximity to affected C&D disposal units. Tightening the radius around an affected C&D disposal unit will allow for better monitoring, reduce the number of initial probes required, and reduce the cost burden to affected owners.

Response: Based on comments received, proposed KAR 28-29-334 has been removed from the proposed regulations. Landfills will not be subject to gas monitoring requirements unless a problem is detected. If a gas management system is required as part of a remediation project, the owner of the landfill will submit a proposed design to the department.

Action: No changes are required in response to these comments.

▪ **Darryl Basham**
Deffenbaugh Industries

Comment: Closed Facility Exemption Requested

We think an exemption from the gas monitoring requirements should be granted for closed facilities. This seems reasonable based upon our own observations and monitoring at our

closed facility in Olathe (KDHE Permit 589). The site was closed in 2005 under the terms of the permit and regulations in effect at the time. It does not have odors or gas present in the ambient air at the facility boundary. To impose costly monitoring on a closed facility that does not have a gas or odor problem 5 years after closure seems unwarranted.

As an alternative to a complete exemption for closed facilities it might be reasonable to allow a tiered gas monitoring approach. Tier 1 imposing ambient air monitoring at the facility perimeter on a quarterly or semi-annual basis. If gas were detected at levels of concern Tier 2 requirements could be imposed and include installing and monitoring permanent perimeter probes. After 2-years of Tier 1 monitoring without a gas reading of concern the facility would be exempt from further monitoring. A tiered gas monitoring approach would also make sense for existing and future facilities as well.

Response: KDHE agrees that closed landfills should not be subject the gas monitoring requirements if no problem has been detected.

Action: The originally proposed regulations have been revised. Closed landfills will not be subject to gas monitoring requirements unless a problem is detected.

Grant existing facilities the option of closing to avoid the new requirements.

Similar to what was done when the federal landfill regulations were imposed on municipal solid waste facilities in the 1990's we think existing facilities should be granted the opportunity to close if they want to avoid these new costly requirements. To do otherwise seems to undermine the owner's ability to reasonably and fairly manage risk.

Response: KDHE agrees with this comment.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit.

Estimated costs are generally low, based on our actual cost experience

We understand cost alone will not necessarily override the need for more stringent controls. However, our actual cost experience for the systems and monitoring required in these regulations indicates the impact statement costs are unrealistically low for many requirements. In addition, we did not see where the State's estimate included the cost of 30-years of post-closure care and the cost of funding a financial assurance instrument for that care. The following provides a broad range of costs for our actual closed and operating facilities for consideration. Support for these estimates can be provided upon request.

27-Acre Closed Facility Estimated Costs

- Capital Costs: \$32,000 - \$2,000,000
- Annual Cost: \$4,000- \$120,000 per year
- 30-year PCC FAI Cost: \$2,500 - \$50,000 per year

Existing Facility Estimated Costs (40 acres existing, 30 acres unconstructed)

- Capital Costs: \$400,000 - \$6,400,000
- Annual Cost: \$85,000 - \$200,000 per year
- 30-year PCC FAI Cost: \$30,000 - \$90,000 per year

Response: KDHE agrees with this comment.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. There will not be any gas monitoring required, so financial assurance will only be required if new units are constructed that will have to have pumping continue after the landfill closes.

Revisit the cost effect of these proposed regulations in the impact statement.

Additional costs incurred with the implementation and management of these new requirements will most certainly be passed along to the consumer in terms of increased tipping fees. Similarly, there must be additional cost incurred by the government in terms of permit review, operational oversight, and report review.

Response: KDHE agrees that the regulations as proposed were too broad in scope and overly prescriptive.

Action: KDHE has revised the originally proposed regulations so existing landfills will not need to comply with these regulations unless they choose to construct a new unit or a problem is detected in an existing unit. Gas monitoring will not be required at new units unless a problem is detected. The originally proposed versions of KAR 28-29-332 (additional design requirements) and 28-29-333 (additional operating requirements) have been simplified and consolidated into one regulation, KAR 28-29-332 (additional design, operating, and postclosure requirements). This regulation requires that that new units that meet the applicability criteria be designed and operated to prevent water from accumulating in the waste and to provide financial assurance if pumping will be required after the landfill closes.

Define the term "Design Plan" used in KAR 28-29-330(b)(2).

This term is critical in making an applicability determination for design requirements and contact water management at existing facilities. It is not clear if this is referring to permit plan(s), construction plan(s), or some other plan.

Response: KDHE agree with this comment and believes the date that construction begins is a less ambiguous date.

Action: KAR 28-29-330 has been revised so the additional design and operating requirements apply to new units based in the date that construction begins. The construction must be in accordance with a construction quality assurance plan that has been approved by KDHE.

Alleviate the annual reporting requirement for gas monitoring results in K.A.R. 28-29-335

Make this a recordkeeping only requirement, consistent with the perimeter gas probe monitoring at MSW facilities. That requirement uses an obligation to notify KDHE if gas is detected above levels of concern and makes records available for review during regular KDHE inspections. This would eliminate or reduce the report preparation burden on owners and review by KDHE staff.

Response: Based on comments received, proposed KAR 28-29-334 and 28-29-335 have been removed from the proposed regulations. Landfills will not be subject to gas monitoring requirements unless a problem is detected. If a gas management system is required as part of a remediation project, the owner of the landfill will submit a proposed corrective action plan to the department.

Action: No change is required in response to this comment.