

Questions and Answers from Public Meeting on Reno Construction and Demolition Landfill

The information presented below represents questions and responses from the public meeting held Monday, September 19, 2005 at the Pleasant Ridge Middle School regarding hydrogen sulfide gas emissions from the APAC-Reno construction and demolition landfill. The meeting was not recorded and there is no formal transcript of the proceedings. Meeting notes were taken by staff from the Johnson County Environmental Department (JCED), Kansas Department of Health and Environment (KDHE) and the Agency for Toxic Substance and Disease Registry (ATSDR). The agency providing the response is shown following each question.

Responses provided during the meeting are summarized following each question. Additional explanatory information is provided to expand or clarify some answers. This additional information is provided in text boxes to inform the reader that the particular content was not presented at the public meeting.

1. *What actions are being taken to correct the odor problem? KDHE*

Since the hydrogen sulfide odor is produced by microbial decomposition of gypsum (calcium sulfate) in the presence of moisture and absence of oxygen, some corrective actions focus on preventing additional water from entering the waste and aerating ponds that have emitted odors. Other corrective actions require treating ponds to remove dissolved hydrogen sulfide; monitoring hydrogen sulfide levels; and preparing plans for a gas collection system to remove hydrogen sulfide from the landfill and prevent its release to the environment.

2. *Why wasn't something done sooner? KDHE*

In June, when the first odor complaints were received, it was not immediately apparent what the source of odors was or that it would be a long-term problem. According to Johnson County Environmental Department (JCED), this site has a history of temporary odors due to ponds "turning over" at certain times of the year (when temperature changes occur and cause oxygen depleted water from the pond bottoms to rise to the surface). Initially, JCED staff thought this might be another incidence of those fleeting odors. Also, since hydrogen sulfide odors are sometimes produced in sewer systems, Johnson County Wastewater Department checked to see if that was the case.

When it became clearer that the odors were emanating from liquid flowing out of the waste, Johnson County advised the landfill owner to apply ferrous chloride to the flows emanating from the landfill. Ferrous chloride converts hydrogen sulfide to another compound and prevents its release to the air. Ponds were also aerated in an attempt to control the odors.

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

Complaints increased at the end of July, prompting increased attention from JCED and KDHE. Staff from both agencies visited the landfill and have been very busy throughout August and September in gathering information about the problem, directing the landfill owner on required corrective actions, coordinating with the federal Agency for Toxic Substances and Disease Registry (ATSDR) on health concerns, and providing information to the public.

3. *If the amount of waste going to the landfill has decreased over the past several years, why did the odor problem happen this year? KDHE*

The odor problem seems to have resulted from abnormally large volumes of water entering the landfill this summer, in combination with abnormally large volumes of sheetrock (gypsum wallboard) that have been disposed in this landfill. The large volumes of water entering the waste came from asphalt plant process water flowing into the landfill, the higher rainfall amounts this summer, and the large areas draining into the waste disposal area. The fact that some bulk quantities of shredded sheetrock were disposed into this landfill may also have contributed to the increase in hydrogen sulfide gas generation.

4. *Have violations been issued? KDHE*

Yes, KDHE has issued Reno Construction two violations. One is for inadequate cover and the other is for failure to provide adequate stormwater controls. Both were cited in the August 22, 2005 Letter of Warning.

5. *Explain the distinction between the level at which H₂S odors can be detected and the level at which health impacts occur? ATSDR*

Most people will not smell hydrogen sulfide if it is less than 0.1 ppm for 1 hour. There are no definite levels for residential levels of health concern. Most symptoms and health impacts are based on animal and worker studies. ATSDR's Minimum Risk Level (MRL) for acute exposure (that is exposure lasting for up to 14 days) is 70 ppb and 30 ppb for chronic exposure (longer than 365 days). Other factors in considering health effects are duration of exposure, age and preexisting health issues.

One ppm or <i>parts per million</i> H ₂ S is one part hydrogen sulfide per one million parts air by volume. One ppb or <i>parts per billion</i> is equal to 0.001 ppm.

6. *Is the public meeting being tape-recorded? If not, this is a waste of time. KDHE*

The public meeting is not being tape recorded. KDHE staff are taking notes of the questions and answers during the meeting. The main objective of the meeting is to hear the questions, comments and concerns. Your questions and comments will help us direct our on-going efforts. Therefore, we believe it is a valuable use of time.

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

7. *How can a person get their concerns entered into the official record? KDHE, JCED*

KDHE: You can submit any written questions or comments you have to either Betsy Betros or Julie Coleman at the following addresses.

Julie Coleman
District Environmental Administrator
Kansas Dept. of Health and Environment
Northeast District Office
800 West 24th Street
Lawrence, Kansas 66046
785-842-4600
jcoleman@kdhe.state.ks.us

Betsy Betros
Pollution Control Director
Johnson County Environmental Dept.
11180 Thompson Ave.
Lenexa, Kansas 66219
913-492-0402
Betsy.Betros@jocogov.org

JCED: Concerned neighbors can contact ATSDR (913-551-1310). JCED maintains records of specific complaints and follow up actions taken. Neighbors may also contact the Board of County Commissioners to register their concerns at 913-715-0430.

8. *What follow up will be provided so that we know about any recommendations the ATSDR makes and whether those actions are implemented? ATSDR*

I'd like to answer this since it asks specifically how ATSDR will release its conclusions and recommendations. ATSDR is currently reviewing sampling data from the KDHE and JCED, as well as on site sampling done by Reno/APAC. When ATSDR finalizes its review, the agency will make available a Health Consultation which will indicate whether ATSDR recommends any additional actions.

After considering comments presented at the meeting, it was decided that follow up to the public meeting would be provided in two ways. First, Johnson County developed this web site so that information from the public meeting would be easily accessible by all interested parties. Second, a follow up public meeting will be scheduled. The meeting will be scheduled after ATSDR, KDHE and JCED have had an opportunity to discuss ATSDR's recommendations based upon their review of available air monitoring data. By that time, APAC-Reno also should have made considerable progress implementing corrective actions directed by KDHE, and a progress report can be provided.

9. *ATSDR mentioned several actions they can take, such as a health advisory, health consultation, and exposure investigation. What final action is ATSDR taking now? ATSDR*

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

Until all of the available data is reviewed, it's premature to say what action ATSDR will take. Again, ATSDR will do a Health Consultation that reflects our review and comments on the currently available data. This process has already begun. A Health Advisory would only be used if there were an imminent and substantial endangerment. An Exposure Investigation may be done if there is not enough data to determine if residents are currently being exposed at levels of health concern.

10. *Has the Reno CDL been issued any violations? KDHE*

Yes, KDHE has issued Reno Construction two violations.

see question #4

11. *What enforcement actions have been taken? KDHE*

KDHE has issued a Letter of Warning (LOW) to the facility with violations and required corrective actions. Other corrective actions have also been subsequently required in other correspondence.

The following is a summary of corrective actions KDHE has required of APAC-Reno Construction:

Retain a qualified engineering consultant to provide technical assistance to correct the hydrogen sulfide emissions and other landfill-related problems.

Initiate a hydrogen sulfide monitoring program at key locations within the facility and property boundaries both upwind and downwind. Record levels at least three times a day. Notify KDHE and JCED if levels above 10 ppm are detected at the property boundary or offsite. Notify emergency response personnel of levels at or above 100 ppm.

Mix appropriate amounts of ferrous chloride or other appropriate agents to all contact water seeps as necessary to neutralize hydrogen sulfide odors.

Cover all waste disposal areas with at least 12 inches of compacted, low permeability soil including the current active waste disposal area.

Construct run-on controls and diversion channels to prevent water from entering waste disposal areas. Grade the surface of intermediate landfill cover with a minimum 2% slope to drain water away from waste.

Install and monitor gas probes in the waste disposal area.

Install and operate an active gas collection and destruction system designed by a licensed engineer and approved by KDHE.

After chemical and biological treatment of retention ponds, install and operate an aeration system designed by a licensed engineer to restore aerobic conditions.

Operate the landfill in a manner which minimizes the working area of exposed waste and avoids water contact with loads containing a high concentration of sheetrock.

Conduct a hydrogeologic investigation to characterize the geology of the site and determine the elevation and flow of groundwater under and adjacent to the landfill property.

Design and operate a system to remove water from within the waste disposal area. Treat the wastewater collected to remove hydrogen sulfide and dispose of the effluent in an approved manner to protect human health and the environment.

12. *When will the RCRA cap be installed on the CDL? KDHE*

RCRA is the Resource Conservation and Recovery Act which establishes federal regulations for solid waste landfills. CDL is an abbreviation for construction demolition landfill.

State regulations require the final cover, or cap, to be constructed within six months from the last receipt of waste. Normally this is six months from when a landfill reaches full capacity. KDHE is requiring the landfill owner to provide better information for the State to make a determination as to whether any permitted capacity remains in this landfill. If the permitted capacity has been filled the landfill owner will be required to proceed in constructing the final cover unless a permit modification is approved.

13. *What is the projected closure date of the landfill? KDHE*

As noted in the previous response, there is currently some uncertainty about when this landfill will close. The deadline for the landfill owner to submit additional information to KDHE on this subject is November 14, 2005. Following a review of that information, KDHE will decide whether the landfill must be closed immediately or if it will be allowed to remain in operation for some time.

14. *Why are they allowed to continue accepting wallboard? KDHE*

The definition of Construction and Demolition Waste in the solid waste statutes allows wallboard to be disposed in this type of facility.

15. *Why is the landfill allowed to take biodegradable material? KDHE*

State law (K.S.A. 65-3402(u)) allows the following waste materials to be disposed in C&D landfills:

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

“...solid waste resulting from the construction, remodeling, repair and demolition of structures, roads, sidewalks and utilities; untreated wood and untreated sawdust from any source; treated wood from construction or demolition projects; small amounts of municipal solid waste generated by the consumption of food and drinks at construction or demolition sites, including, but not limited to, cups, bags and bottles; furniture and appliances from which ozone depleting chlorofluorocarbons have been removed in accordance with the provisions of the federal clean air act; solid waste consisting of motor vehicle window glass; and solid waste consisting of vegetation from land clearing and grubbing, utility maintenance, and seasonal or storm-related cleanup. Such wastes include, but are not limited to, bricks, concrete and other masonry materials, roofing materials, soil, rock, wood, wood products, wall or floor coverings, plaster, drywall, plumbing fixtures, electrical wiring, electrical components containing no hazardous materials, nonasbestos insulation and construction related packaging.”

While these wastes include some biodegradable materials, they are generally not of the same consistency and quantities as biodegradable waste disposed in municipal solid waste landfills, which includes household and commercial trash. For the most part, biodegradable wastes allowed in C&D landfills are non-putrescible (that is, they do not rot like food waste) and the percentage of organic waste is much lower.

16. *Why was the landfill allowed to be built in proximity to homes? KDHE*

State law (K.S.A. 65-3407(m)) dictates that county or city governments have responsibility for zoning and land use issues associated with landfills. Prior to this landfill permit being issued in 1986, the Johnson County Planning Director certified that it was acceptable with regard to zoning or land use. Such a determination would presumably take into account the zoning or land use of adjoining areas, and future development.

When the landfill permit was issued in 1986, regulations did not specify a required buffer distance from homes. The site plans submitted in 1986 did not show the vicinity outside of the property, so it is unknown if homes were nearby. Based on maps from that time period there were significantly less homes in the area than there are today.

Regulations enacted in 2004 require new landfills to provide a minimum buffer distance of 500 feet from occupied homes, unless a homeowner consents in writing to a reduced buffer zone. Based on current maps of the landfill vicinity, it appears that there may be some homes within 500 feet of the waste disposal areas.

The landfill plans submitted in 1986 showed buffers of 100 feet to 250 feet from the waste disposal areas to the property lines. Regulations enacted in 2004 require a 150-foot buffer distance from the waste disposal area to the property line for new landfills.

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

17. *Why can't additional monitoring be done by a private consultant rather than having APAC monitor the problem? ATSDR, JCED*

With equipment and expertise from the Johnson County Wastewater Department, JCED has been conducting their own H₂S monitoring all summer and continues to monitor for H₂S levels at two locations along the perimeter of the landfill. This is in addition to the monitoring that KDHE is requiring APAC-Reno to perform. Once ATSDR reviews available monitoring data, they may recommend additional monitoring to better evaluate potential public health risks. This monitoring would not be performed by Reno-APAC.

18. *Why don't we shut the landfill down? KDHE*

Shutting the landfill down will not stop the odors. The odor is not from waste currently being disposed in the cell, it is from waste disposed in the past. The hydrogen sulfide will continue to be generated until the corrective actions become effective.

19. *Why isn't the landfill being required to do something now? KDHE*

We have directed the landfill to conduct corrective actions for two violations that have been cited. We have also instructed them to conduct several other investigations and permit revisions and other corrective actions.

See question 11

20. *Why aren't they being required to install a gas collection system now? KDHE*

KDHE has required the landfill owner to install a gas collection system. Our August 22, 2005 Letter of Warning required them to install a gas collection system by September 2, 2005. However, APAC/Reno Construction and their consultant did not meet that deadline. They tried to convince KDHE that other measures would adequately correct the problem. Nevertheless, based on knowledge of hydrogen sulfide characteristics and information from other states where landfills have emitted hydrogen sulfide, KDHE remains convinced that a gas collection system is necessary. Therefore, KDHE has required APAC to submit plans for sampling hydrogen sulfide levels within the landfill and for the gas collection system design. These are the initial steps toward installing a gas collection system. The deadlines for APAC to complete these steps are September 26 and October 3, 2005, respectively.

21. *Do we or do we not have a health issue, with complete certainty? ATSDR*

We do not currently have air data in the community, outside of data collected within the landfill perimeter and at the property fence line. Until we know if hydrogen sulfide is in the ambient air near homes and schools, we cannot say with any certainty whether or not there is exposure or if exposure is occurring at levels of public health

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

concern. Odors can be detected at levels that do not cause any permanent long-term health problems.

22. *What about the potential exposure of children in nearby schools? Isn't there a heightened sense of urgency from the potential health threat to those children?*
ATSDR

Children are always considered a sensitive population. Hydrogen sulfide is heavier than air. This means children are potentially exposed to higher levels since they are breathing air from a lower height. Few studies, though, have been done on children with exposure to hydrogen sulfide. Still you would expect similar health effects as adults.

23. *Will there be sampling done in the residential areas?* ATSDR

The only way to answer the question of whether or not the community, employees of businesses near the landfill, residents and school children, are being exposed to harmful levels of hydrogen sulfide is to do air monitoring in these areas. ATSDR's Health Consultation, currently underway, will recommend whether such monitoring is warranted.

24. *How do we know if the measures the landfill is taking are effective?* KDHE

Knowledge of hydrogen sulfide characteristics and the experiences of other states in dealing with landfills that emitted hydrogen sulfide tell us that reducing water flow into the waste will decrease the amount of hydrogen sulfide gas generated, and collecting the gas that is generated should prevent offsite releases. As time goes by, monitoring hydrogen sulfide levels in the air and in the waste disposal area will show whether concentrations are increasing, remaining constant, or decreasing. The frequency and severity of odor complaints are also expected to decrease as corrective measures are implemented and sustained, further indicating whether the measures are effective.

25. *Is APAC being cooperative?* KDHE

Yes, APAC/Reno Construction has met all deadlines that KDHE has set and to date they have been responsive to all requests we have made.

Note: some deadlines with APAC/Reno have been renegotiated by agreement of the parties.

26. *Are they willing to shut down to resolve the problem?* KDHE

At this time, shutting down the landfill will not resolve the problem.

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

27. *Are they still grinding wallboard? KDHE*

KDHE staff asked APAC representatives this question during a site visit on August 30, 2005; their answer was “no”. No evidence of sheetrock grinding was observed during the site visit or subsequent inspections.

28. *How many parts per million of H2S will cause an asthmatic to have a reaction? ATSDR*

Each individual reacts differently, so there’s no definite answer. In one study, 10 asthmatics were exposed to 2 ppm of hydrogen sulfide for thirty minutes. Two of these individuals experienced bronchial constriction and 3 complained of headaches. In another series of studies, young healthy volunteers were exposed to levels of hydrogen sulfide of 5-10 ppm while exercising; half experienced decreased ability of muscles to use oxygen. Children, the elderly and individuals with preexisting respiratory problems would probably experience fatigue at levels much lower than 5 ppm. Another study recently found an association between exposure to levels over 30 ppb and asthma-related hospital visits.

29. *There is another quarry owned by Reno 2-3 miles down the road to the south. Is there going to be an odor problem there? KDHE*

Since there is no construction and demolition landfill at that quarry, no H2S emissions are anticipated.

The quarry referred to is the APAC-Reno quarry, called the West Quarry, and is located at 167th and Antioch Rd. This quarry is not permitted to accept construction /demolition debris and there has been no evidence of any construction/demolition disposal. It does accept clean rock and dirt which is placed at the east side of the quarry. The quarry has no record of complaints of H2S gas odors and it is not possible for clean rock and dirt to generate H2S gas.

30. *We moved to this neighborhood to get away from odors from the wastewater treatment plant. Are we going to have to move again? KDHE*

No, you will not have to move to escape the odors from this landfill. KDHE, JCED, and ATSDR are working diligently to require APAC to promptly implement all appropriate corrective actions. KDHE has statutory authority to require odors to be reduced below nuisance levels. If the current set of corrective actions do not prove successful (we think they will, when fully implemented), then KDHE can and will require additional measures to solve the problem.

31. *Is Reno quarrying more material and creating more area that will be used to expand the landfill? KDHE*

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

KDHE's understanding is that quarrying is no longer occurring at the landfill site. During our site visits we did not observe any evidence of continued quarrying there.

32. *Will KDHE please check the current capacity of the landfill to determine how much more space it has? KDHE*

KDHE has required APAC to submit updated site plans and other information to show whether there is any remaining permitted capacity in this landfill. When we stood onsite and looked at the landfill it appeared to have some remaining capacity, but based on the amount of time the landfill has been operating it should be at or nearly at full capacity. Updated drawings with topographic contours and delineated waste disposal areas are needed so we can compare those with what was originally approved and make a determination. The deadline for APAC to submit the required information is November 14, 2005. KDHE will proceed promptly to address the question of remaining capacity, but eliminating hydrogen sulfide emissions from the landfill will be our highest priority.

33. *How frequently is the landfill required to place cover material? KDHE*

Once per week in accordance with JCED requirements.

<p>JCED modified APAC-Reno's soil coverage requirement from once per week in 2003 to every 2,000 tons to be consistent with the new KDHE C/D regulations adopted in January 2004. APAC-Reno averages 2,000 tons every 1 ½ to 2 weeks. Due to the H₂S concerns, JCED will require a more stringent coverage schedule for the 2006 permit.</p>

34. *Why aren't they required to cover daily? KDHE*

Municipal solid waste landfills (where residential and commercial trash is disposed) accept putrescible waste (such as rotting food), which emits foul odors and attracts flies and rodents, and large quantities of lightweight waste (such as paper and plastic bags), which can easily be spread by wind and cause litter. C&D landfills do not normally have these problems, as the bulk of the waste in those facilities is construction materials. Cover soil is still needed to reduce the risk of fire, reduce the use of the landfill as shelter by rodents and other animals, prevent litter from packaging material, and so on. However, policy makers decided that "intermediate" cover rather than "daily" cover should be the standard requirement for C&D landfills. State regulations require intermediate cover (at least 12 inches of soil) over exposed waste every 2,000 tons disposed or every 120 days, whichever comes first. Johnson County has a stricter requirement for intermediate cover at least once per week, and that is the requirement at this landfill. If fires, litter, or other problems occurred that could be corrected or prevented by more frequent cover application, the state could require cover on a more frequent basis, perhaps daily. However, at this time the

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

hydrogen sulfide emissions at this landfill do not seem to be directly linked to intermediate cover frequency.

35. *Have the ponds been tested for seepage? KDHE*

To our knowledge they have not. The ponds were originally designed and used for storm water and process water holding basins. Water from those sources would not normally pose a significant risk to groundwater quality. However, since the ponds are also used for holding water that runs out of the waste disposal areas, including water that has recently had dissolved hydrogen sulfide and other compounds in it, KDHE will look into this matter in the near future.

36. *There is an air law that prohibits air pollution and the unreasonable interference with the enjoyment of life and property. Why can't this law be applied? KDHE*

We will have to consult with the KDHE Bureau of Air and Radiation on statutes and regulations.

Following the meeting, the KDHE Bureau of Waste Management coordinated with the Bureau of Air and Radiation on the applicability of air statutes and regulations to this situation. Staff from the two bureaus concluded that while there is a Kansas statute (K.S.A. 65-3002) and regulation (K.A.R. 28-19-13) that make general reference to protecting enjoyment of life and property, the language in both is very general. Also, since there is no specific standard for hydrogen sulfide gas, applicability of this law and regulation is not clear. It is believed the corrective actions that the Bureau of Waste Management is currently taking under their authority are appropriate and adequate to eliminate the sources of the odor problems. The Bureau of Air and Radiation has determined that no additional benefit would be result from applying their regulation to this situation.

37. *Would we get quicker action filing a lawsuit than waiting for the state to take enforcement action? KDHE*

No one on the panel is an attorney, so no one here would be qualified to answer that question. KDHE has found that when a facility is being cooperative, as in this case, then it is faster and more efficient to continue to work with the facility as we have been doing, to correct the problem. If at some time in the future the facility would stop cooperating and/or an immediate threat to human health or the environment was found to exist, then KDHE might find it necessary to issue Administrative Orders with directives for specific actions, and/or to seek an injunction against the facility.

38. *Several years ago Al Reno proposed to donate the landfill to Johnson County for a ballpark to be completed by 2004. What is the status of that proposal? JCED*

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

Hal Reno and APAC-Reno proposed to “donate” the landfill site for public use in 2000, but several factors led APAC-Reno to decide against the idea. Those factors included questions related to Overland Park’s annexation of the site, commercial development along Metcalf, potential problems associated with public use of the site, and uncertainty over permitting another C/D landfill in the area.

39. *What is the level of the groundwater (static water level) under the landfill? JCED*

No hydrogeologic investigation has been made at the landfill to our knowledge. KDHE and JCED do not require this type investigation for existing permitted C/D landfills. However, KDHE requires applications for new C/D landfills to include groundwater data, and a minimum vertical separation of five feet from the waste and groundwater aquifer is required.

Quarrying at the APAC-Reno landfill has mined some of the Farley Limestone and all of the Argentine Limestone which is 40 foot thick. Neither of these limestones are associated with groundwater aquifers. However, some water seeps from the rock ledge and the limestone-shale contacts can occur after heavy rain events. A thick shale layer lies under the Argentine Limestone, which would also provide separation to a lower groundwater table.

40. *Is groundwater infiltrating the landfill and contributing to the generation of odors? KDHE*

When this landfill was permitted in 1986 applicants were not routinely required to present groundwater elevations in the plans. KDHE staff may have used some available information to consider groundwater elevations with regard to the proposed landfill, but we have not found records to document that information. Since groundwater infiltration could contribute to the generation of hydrogen sulfide gas, KDHE will look into this matter in the near future.

41. *Is there groundwater pollution risk? Could stock watering ponds and private wells be impacted from groundwater contaminants from the landfill? KDHE*

KDHE will evaluate this concern and provide an answer when more information becomes available. Based on past analyses of C&D contact water at this landfill, it would not present a significant groundwater pollution risk.

42. *Will there be an on-going discharge from the pond? KDHE*

The pond at the northwest corner is permitted to discharge as long as it meets limits and conditions in the permit.

43. *We’ve seen discharges or possible seeps from the east pond. Is this pond discharging? KDHE*

Questions and Answers from
Public Meeting on Reno Construction and Demolition Landfill
Monday, September 19, 2005

KDHE: This pond is not permitted and can not discharge. If a discharge is observed, contact JCED or KDHE immediately.

44. *If off gassing is such a problem and installing a gas collection system will help, then why weren't they required to install it from day one? KDHE*

At present there are approximately 115 active C&D landfills in Kansas. This is the only one we know of that is emitting noticeable quantities of hydrogen sulfide gas. C&D landfills are not regularly required to have gas collection systems because other measures, such as storm water controls and intermediate cover, plus the fact that they do not normally receive bulk loads of sheetrock, would prevent hydrogen sulfide formation. As previously explained, the gas problem was not expected, and it resulted from unusual circumstances. However, since this problem has developed we may need to look at other approaches to reduce the risk of hydrogen sulfide generation at this and other C&D landfills in the future.

45. Can the Clean Air Act be used to help address the odor? KDHE

There is no national ambient air standard for hydrogen sulfide gas.

46. *Can we have another meeting to discuss the health impacts and also have Reno attend to explain what they are doing to address the problem? KDHE*

A follow up public meeting will be scheduled in response to several requests received during the meeting on September 19. The meeting will be scheduled after ATSDR, KDHE and JCED have had an opportunity to discuss ATSDR's recommendations based upon their review of available air monitoring data. By that time, APAC-Reno should also have made considerable progress implementing corrective actions directed by KDHE, and a progress report can be provided.

47. *When APAC was quarrying, they had to pump water out of the pits so there must be groundwater coming into the landfill. KDHE*

It is unknown whether the water you described was from storm water runoff that had flowed into the pits or from some other source besides groundwater. KDHE will be looking into the question of groundwater infiltration in the near future.

48. *I have observed, and Reno employees have told me, they bring in wallboard by the truckload. Why aren't they prohibited from taking sheet rock? KDHE*

Again, the definition of Construction and Demolition waste in the solid waste statutes allows wallboard.