

Response to Public Comments
RE: Cedar Ridge Class I Landfill – Proposed Expansion (Phase 7)

Comment #1:

Cedar Ridge Landfill. (Marshall County Tennessee.)

My understanding

20+ years, of up to 480 tons of waste a day, from all over middle Tennessee,

@ a mile from MC schools

Supposedly Mr.Clark was the TDEC environmentalist who spent about a decade monitoring the landfill conditions.

I believe he recommended it to not be expanded.

Was it said in the newspaper he was possible pressured; to paint a new picture in a different light?

Did the courts say he could testify who pressured him then another court said he couldn't.

Meanwhile Marshall County representatives claim they can not represent or speak out because they signed away our representation by signing a contract that said they would not take action against a WM application.

Some believe our Representatives have no authority to sign away the right of representation of the people they represent.

A five million dollar road was put in that appears to service primarily the land fill.; completing to coincied with the WM application approval.

Meanwhile our local government takes in large amounts of money from the waste operation as it does pay for our county waste drop off.

It also pays for many things above and beyond that of our waste service.

County Funding dependence, corporate power and financil crises forces us to continue to accept the posion to support our own county far beyond the ability of the environment to support it..

We need a favorable decision to say enough is enough and deny or limit serverly any expansion.

Response: The decision to reverse the denial of the permit was based on information presented by the Waste Management, Inc. (Applicant), not because of pressure from the outside.

Comment #2:

8-22-11

Attn: Mr. Apple

I am writing to ask you not to approve a vote for the expansion of Cedar Ridge Landfill.

I live about 1 1/2 miles north on old Columbia Rd. I am real concerned for myself & others around. I feel it is bad for our town & County. We have had it long enough.

I appreciate what you can do for us.

I plan to be at the meeting Aug. 29th.

No response is applicable.

Comment #3:

Dear Mr. Apple,

Thank you for inviting public comment. I would like to appear before the Board and present oral comments concerning the proposed Agreed Order and permit modification at the meeting on August 29, 2011 at 10:00am.

Due to off-site problems that have occurred during recent years at CRLF, Lewisburg, Tennessee, WE OPPOSE THE CURRENT PROPOSED EXPANSION.

The concerns that we have regarding the proposed agreed order are as follows:

1. Tennessee Department of Environment and Conservation. (TDEC) entered into an agreement with CRLF after TDEC on April 13, 2010 issued the final notice of permit denial.
2. TDEC entered into Memorandum of Understanding (MOU). We believe this circumvents the appeals process as we understood from TDEC during the 2010 comment period. This MOU was done without any public notice, public participation, or public comment.
3. We are concerned as per the August 17, 2011 public notice that TDEC and CRLF are jointly presenting this proposed order to the Solid Waste Disposal Control Board. TDEC is a regulatory board charged with regulatory responsibilities by state and federal law. The wording of this notice tends to imply that TDEC is pro- CRLF expansion.
4. TDEC recently made efforts in the on-going federal litigation to quash the public information relating to this matter. (order filed in federal court)
This position is an indicator that the public's interest and safety is a secondary priority on TDEC's agenda. We feel the public and neighboring land owners protection has been compromised. CHILDREN PLAY IN VICKERY CREEK.

Comment #3 (cont'd)

The invited comments that we have as per the August 17, 2011 notice are as follows:

Since CRLF is requesting expansion beyond issued permits, we believe TDEC should require CRLF to expand by purchase its existing perimeter of the land fill area before any expansion permit is granted..

Expanded perimeter area should include the existing springs, drain flows and creeks adjacent to CRLF. This area would include the off-site problem areas that CRLF, TDEC and neighbors are currently having to deal with. These acquisition could be compared to the recent 373 Hwy expansion.

This is a small area with a small cost when compared to the additional volume of garbage that will be received at CRLF. These acquired areas could be managed as environmental green spaces. Although, this acquisition would be small, it's economic impact to the Lewisburg area would be large.

Although, we oppose the proposed expansion efforts, as presented in August 17, 2011 notice, we do respect the WM/CRLF request. They are in the disposal business. We can even respect joint support from state and local employment and industrial groups.

Past events regarding off-site problems as documented by TDEC is reason enough for us to respectfully request that SWDCB reject this request for CRLF expansion.

Response: TDEC has prepared an Agreed Order and Proposed Permit for the expansion of the Cedar Ridge Class I Landfill. Because this is an appeal, it must be decided upon by the State Solid Waste Disposal Control Board. The Proposed Permit does meet buffer requirements of Tennessee Rule 1200-1-7 Solid Waste Processing and Disposal.

Comment #4:

I am a resident of north Marshall County and support keeping Cedar Ridge Landfill open. Closing Cedar Ridge would be too costly to the residents of Marshall County. Our unemployment is very high and it would be difficult to find alternative ways to pay for disposing of our own garbage without taxing or implementing higher fees on the residents. Thank you for your time.

No response is applicable.

Comment #5:

When the first idea of a landfill in Marshall County, came up, years before Cedar Ridge bought the property, as with most citizens anywhere I was not for it. However, as the years progressed and the landfill became a property run by professional, and duly regulated by the State of Tennessee, I began to see the facility in a different light. The many dollars of funding generated for local waste disposal and the community contribution provided by Waste management for activities and educational scholarships helped me realize that the value of this operation to our community could and should not be overlooked.

In the process for state approval of the continuation of this business in Marshall County all of the local governmental entities have studied the proposition and given their approval.

Marshall County Board of County Commissioners approved Cedar Ridge expansion request on April 23, 2007.

Marshall/Maury County Solid Waste Regional Planning Board approved Cedar Ridge expansion request on November 27, 2007.

City of Lewisburg City Council approved Cedar Ridge expansion request on November 18, 2008.

In addition, the added monetary value for our community, contingent on the permitting of Phase 7 is desperately needed in the current economy- Marshall County has over 16% unemployment and any and all industry is needed to employ our workforce and to contribute financially to businesses and industries currently still in operation in Lewisburg and Marshall County. Financial benefits include:

Paid to Marshall County
\$46,573 Property Taxes

Comment #5 (cont'd)

\$350,000 Host Fee (Average when fully operational)

Community Involvement

\$30,000 contributed annually for scholarships, charitable contributions, and community benefits

Free Disposal to County Residents

\$125,000 Value/year

Proposed Free Disposal to City of Lewisburg Residents

\$130,000 Value/year (As the mayor of Lewisburg I can tell you our budget is dipping into reserves to pay our solid waste disposal fees)

Convenience Center Operation

\$500,000 Value (equipment, hauling, maintenance, and labor)

Total Annual Direct Cedar Ridge Economic Impact: \$1,181,573

Additional Benefits

Cedar Ridge employs 37 people at its facility with an individual average annual wage of more than \$55,000.00, plus benefits. In contrast, Marshall County's average annual income is \$20,473.00 per capita, and the unemployment rate is at approximately 17%.

Without free convenience center operations, illegal dump sites will spring up with additional costs to the County to clean them up.

Cedar Ridge provides for a competitive disposal cost environment in the Southern Middle Tennessee area. Without Cedar, there will be only one disposal option, likely increasing collection and disposal rates for all communities and businesses.

In summary, the overall design of Phase 7 will enhance the environmental protection of the landfill.

I admit I asked and received these figures from Waste Management, but having taken time to reconfirm the information and figures, I can tell you we, the City of Lewisburg, need the continuation of Waste Management's operation in Lewisburg and would like to respectfully request that you approve the permit that will allow them to continue

Comment #5 (cont'd)

to provide this vital service and industry to our community.

The several very vocal people against the use of cell 7 do not fairly

represent the silent majority of the 12,000 people in Lewisburg and the 28,000 in Marshall County. At our city public hearing on this issue a number of local industries spoke and expressed the need for and their support for Cedar Ridge to allow them to continue to be able to operate and employ the workers of Marshall County.

Again, I ask you permit the Phase 7 of the Cedar Ridge Landfill for the benefit of all the citizens of Marshall County.

No response is applicable.

Comment #6:

Cedar Ridge Landfill, Marshall county Tennessee
20+ years of toxic stew.

Located about a mile from Major county schools and daycare centers. Surrounded by nearby residential areas. (Planners we were not)

In an emergency, I thought I could depend on globe creek as a water source; now its polluted. The fish are gone.

I thought I might become independant ,drill a well; I don't think you would drink the water.

I look at the landfill from high atop a hill and see the off color haze on the surrounding trees; I see it in the air.

The prevailing winds blow across the landfill then across the schools and adjacent city and populace.

The geology in the landfill area is a labrynth of limestone caves, caverns and sink holes where liquids disappear to who knows where.

There is a sinkhole in my yard and at least 2 know caves near-by the landfill.

The old part of landfill reminds me of a dirt damn. It does and will continue to leak.

The sheer volumn of toxins there scares me. Was it at times up to 485 tons a day? 20 years?

I claim there is a sense inherit to man that tells him when the land is unhealthy; he would not build a home there on an ominous feeling that something wasn't right.

The amount of toxins there give me that feeling and the land that look.

Our County is a poor county 15-20% unemployment for years; always 1st or 2nd in the state in unemployment

Comment #6 (cont'd)

Landfill origins and locations may be interweaved with local politicians and personal properties.

Our County Government is ever dependant on the Tipping Fees.

Our County representatives reported they would not take action against Waste Mangement because they signed a contract stateing such.

I and many believe it is not within the power of a Representative to sign away a citizens representation.

Waste management offered to provide the labor and equipment for convience pick up centers for free WHILE a permit was pursued.

Was that entirely ethical?

The city Mayor was pictured in a golf outing with Waste Management in the last few weeks.

A new five million dollar widening of the road to the landfill but does not connect to existing retail and industry truck traffic?

Coiencidently finishing completion relatively close to expansion permit time.

Loud trucks blowing off color dust, bringing us more poison, is NOT what we want.

We Served our time.

We would probably not fare well with a collapse or other calamity .

In time and through natural decomposition the toxic mass will naturally spread for miles and miles.

I know the TDEC board does not have all the answers of clean efficient disposal; but until we do enjoy those future technologies,

this part of mother nature is bursting at the seams, unrecoverably DONE.

As we cannot save ourselves, caught between poverty, politics and Corporate Power;

We ask that you save us and DENY any expansion.

Response: Results from additional investigations submitted by Waste Management, Inc. (Applicant) has demonstrated compliance with landfill development in karst areas. TDEC acknowledges that karst geology has contributed to severity of past releases.

Comment #7:

Please strongly consider allowing the expansion of Cedar Ridge Landfill and keeping it open. I would hate to lose the convenience centers where we can recycle. Without them, recyclable items will be put into the trash and into a landfill somewhere. This is my grandson's earth we are ruining.

The economic impact of losing the landfill on Marshall County would be huge. Cedar Ridge provides free disposal to county residents. If the landfill is closed, the residents will have to absorb these costs. Waste Management contributes to our local scholarship funds and other community charities.

Comment #7 (cont'd)

Cedar Ridge is a well maintained and clean site. Their entrance is attractive and isn't a blight on the landscape, like some landfills such as the one in Murfreesboro. Thank you for your consideration on this very important issue.

No response is applicable.

Comment #8:

Being a Citizen of Marshall County and understanding the tremendous pressures that we are facing with regards to waste disposal within Middle Tennessee and our entire country. I would like to let you know of my support for the expansion of Cedar Ridge Landfill here in Marshall County. Waste Management has been a responsible corporate citizen to our community. Our county and state needs this expansion.

No response is applicable.

Comment #9:

The landfill is an asset to our community and I would love to see it stay open to fulfill it's capacity. Everyone wants the landfill to be somewhere else! This one is already here and with a few exceptions, has been a good thing for the county. As long as it is monitored and any issues that crop up are addressed quickly and competently, I see no problem with it remaining open. thank you for your consideration.

Comment #10:

I am writing to express our support for the expansion of Waste Management's Cedar Ridge Landfill. The Cedar Ridge Landfill has provided a valuable service to both industrial and residential customers for years. It is our opinion that the requested expansion is essential to industrial and residential growth in the Middle Tennessee area.

Cost-effective and accessible disposal services are important considerations in commercial and industrial development plans. Disposal services are required to support local industries, and local industries will provide jobs for the region's growing population.

Our company is committed to recycling and recovery programs, but land disposal presently remains a key factor in our operation. Land disposal costs and accessibility directly affect the success of our operation. I would like to thank you in advance for your consideration. Please feel free to call me at [REDACTED] if you have any questions

No response is applicable.

Comment #11:

I would like for you to hear the from myself, a County Commissioner, that has the ear of the "silent majority" of Marshall County.

To be short and to the point, our county simply cannot afford Waste management leaving our county. They are our number one asset. Thae are seen all over nation as the "Green" company. I know that they will do whatever is demanded of them to do and do it right.

I know there is a SMALL "group" of people that have an agenda of some sort that wants to close the landfill permanently. I feel this group does have a right to voice their opinion, but at the same timewe can agree to disagree,

Therefore, I urge you to allow Waste Management to open Cell 7 and save our citizens over \$1,500,000 per year. It is a matter of economics. Isn't it ironic that, typically, as elected or appointed officials, we hear the most from the small groups with agendas and they want to use their forms of communications as an argument of what we have heard from the people on the other side (the silent majority in this case). I can assre you that closing cell 7 is NOT in the best interest of Marshall County.

Please do what I feel is the right thing to do. I serve on the County Consolidated Waste Committee and I am well aware of thsi situation.

No response is applicable.

Comment #12:

I am writing in support of the Phase 7 expansion of Cedar Ridge Landfill. The approval of this expansion is very important and will have an extremely positive economic impact on our community, including improvement of the unemployment rate in Marshall County. It will provide free disposal to county and City of Lewisburg residents. It will also provide for a competitive disposal rate environment in the Southern Middle TN area; without Cedar Ridge, there will be only one disposal option, likely increasing disposal rates for all communities and businesses.

All local entities with jurisdiction have approved the expansion including the Marshall County Board of County Commissioners, Marshall/Maury County Solid Waste Regional Planning Board and the City of Lewisburg City Council.

I am asking for your support in approving the Phase 7 expansion of Cedar Ridge landfill. This request is not only for me but also on behalf of my friends, colleagues, customers and the residents of Southern middle TN.

Thank you for your support.

No response is applicable.

Comment #13:

I think the county has jepordized the assistance of Waste Manangement. I as a former County commissioner and former School Board member understand the pros and cons of Waste Managements role in Marshall County I only wish I could do more to keep the convience centers open to the public at a no cost fee as per the current contract. The only thing I can do is provide my voice from miles away.

No response is applicable.

Comment #14:

As a citizen of Marshall County, I strongly support the reopening of Cedar Ridge Landfill. I have closely followed the developments/discussions concerning this matter and can fully support the efforts demonstrated by Waste Management throughout this process. The total commitment and services rendered by Waste Management have both a professional and an economic blessing to Marshall County.

The "facts" are on the table. WM has completed all requirements set forth by TDEC. Have met all local requirements with endorsements from the Marshall County Board of Commissioners, the Marshall County/Maury County Solid Waste Regional Planning Board and the approval from the City of Lewisburg.

Three (3) major factors that should be considered/result from upon approval are: (1) technology has made landfills much more manageable/safer (2) county-wide convenience centers remain available (3) the economic impact that is shared in Marshall County.

Thank you for your consideration in approving this request. The Citizens of Marshall County thank you.

No response is applicable.

Comment #15:

I am writing in regards to Cedar Ridge Landfill in Lewisburg, as a life long resident of Marshall County and a member of the County Commission, I want to add my support of the landfill remaining here. Waste Management has been a good community partner, helping many schools and civic organizations to thrive. Their commitment to sustaining the local environment is evident in the appearance of the grounds and fulfilling all State laws pertaining to the construction and maintenance of a landfill. In these economic times, Marshall County, having one of the highest unemployment rates in the State of Tennessee, would greatly suffer if Cedar Ridge was to close. Also, my mother and

Comment #15 (cont'd)

brother live right over the hill from Cedar Ridge and have never had a complaint about the landfill.

No response is applicable.

Comment #16:

I operate a business in Pulaski Tennessee, and we have relied heavily on the Cedar Ridge landfill to accept our waste. It has been extremely expensive for us to take this material to alternate sites during the effective closure of Cedar Ridge while the expansion was under consideration. Those added costs have made us less competitive in the market.

We strongly support approval of the expansion of this landfill, which we believe Waste Management has always operated in an environmentally responsible manner.

Thanks for your consideration of our opinion.

No response is applicable.

Comment #17:

This community would definitely benefit from the reopening of the Cedar Ridge Landfill. The economic impact alone for industry plus the Host community funds would enhance the area, and don't forget jobs.

I am for the reopening of Cedar Ridg Landfill.

No response is applicable.

Comment #18:

As a close neighbor of Cedar Ridge, and as a citizen of Lewisburg, I would like to express my desire to permit the expansion and reopen the Landfill. I have researched both the pros and cons and found that precautions have been put in place to keep the water supply safe and the economic impact, such as the Host fees to the City of Lewisburg and free garbage collection will go a long way during this recession or economic down turn as the media calls it. Please vote for the expansion on my behalf.

No response is applicable.

Comment #19:

RECOMMENDED ACTION---REJECT. Close this landfill, which has severe Karst geology problems and very bad pollution problems

IMPACT---Applicant seeks to expand an eight-acre parcel within the landfill to a 1,150 foot [382 yard] high trash mountain

Cedar Ridge Landfill is an example of the worst of many bad Tennessee landfills. A history of terrible pollution, water problems, and also sited in a very bad geological formation of karst terrain with cracks, fissures, and caves. This expansion only meets the need of the corporate owner for money. This same proposal was long rejected by TDEC.

A property owner Scott Dennis said that a leachate pipe rupture in 2009 overwhelmed Vickery Creek which runs through his property "It was a bright bluish-gray color and had an awful smell—like sewage" he said, "It clears up and then, on occasion, will seep at odd intervals." (Tennessean, 9 July 2011)

In an earlier report by *Globally Green Consulting*, authorized by BURNT as part of solid waste reform, a state solid waste geologist James Clark was quoted

"According to Mr. James Clark, chief geologist for the TDEC Division of Solid Waste Management, the karst conditions at Cedar Ridge preclude the site from meeting basic site suitability, and monitoring standards. TDEC concluded in June 2005 "...the Site is not monitorable inside the permitted compliance boundary line. At this time, it is obvious that groundwater that has been impacted from Cedar Ridge Landfill is moving off site before it can be detected under the current monitoring system". Recently, even with this determination, Waste Management applied for a major expansion. Since the initial permit was issued, sinkhole collapses in the disposal cell areas have occurred, an significant cave system was

identified beneath the landfill, and springs have been contaminated by landfill leachate." *Globally Green Consulting*, pg. 4, 21 July 2008, prepared for the Solid waste Advisory committee and solid waste reform

This Board has not examined glaring needs of TDEC , Tennessee landfills, and solid waste.

---It is very germane that we are still reeling from the \$2 billion failure of the Kingston Coal Ash Pond, permitted and regulated by TDEC.

---Why is Tennessee the only state which counts land filled construction waste as recycled?

Comment #19 (cont'd)

---Why does Tennessee allow aluminum dross waste to be landfilled in our state insist on alternate technology which eliminates this threat?

---Why did Tennessee go through four (4) years of solid waste reform under Public Chapter 462 (year 2007, pg. 3-4) and neither TDEC or this Board insisted on examining composting food waste (12% of waste) and unrecycled paper (25%) which is a prime source of methane in landfills.

---Above all, the thousands and thousands of tons of "special waste" accepted by Cedar Ridge Landfill [and all landfills] must preclude this expansion of a landfill with acute water problems. These special wastes are accepted with no analysis of other waste and likely interaction of these wastes with each other and also water.

We appreciate the Solid Waste Control Board efforts. We believe rejecting this very political proposal will serve notice on the State that we can no longer spend \$1.2 BILLION (\$1,200,000,000) annually to create polluting, health threatening landfills. Solid waste landfilled now can be the raw material for business and jobs.

Response: Results from additional investigations submitted by Waste Management, Inc. (Applicant) has demonstrated compliance with landfill development in karst areas. TDEC acknowledges that karst geology has contributed to severity of past releases.



July 21, 2008

To: Members of the Municipal Solid Waste Advisory Committee

Solid waste reform is under consideration by the Advisory Committee and the Solid Waste Reduction Task Force. When developing your reform recommendations, I encourage you to consider that solid waste is also a water issue because landfills can and routinely do leak. The impacts from leaking landfills can affect our water resources for decades. Reform of Tennessee solid waste policy must consider the past results of our landfills and the impact on groundwater and surface waters.

This letter summarizes key points that illustrate examples of how the Tennessee Department of Environment and Conservation (TDEC) procedures for permitting and monitoring landfills sometimes fall short of protecting our groundwater and surface water resources. Groundwater and surface water impacts are important considerations when determining needed actions associated with long-range solid waste planning and waste reduction goals.

The public is becoming increasingly aware of the importance of clean surface water and groundwater. As drought conditions worsen, our groundwater is again being relied upon more by the public and municipal users for such purposes as drinking water and irrigation. Our surface waters too are at risk because shallow groundwater typically discharges into streams.

General Conclusion

To-date, TDEC's data show that landfills have and routinely contaminate our groundwater. Further, landfill permits are being issued at sites that TDEC determined to be unsuitable for land disposal. These conclusions are based on a review of TDEC files for representative middle Tennessee landfills and from actual conclusions made by TDEC staff.

Widespread Landfill Effects on Groundwater

A database provided by the TDEC Division of Solid Waste Management that shows the status of all permitted landfill groundwater monitoring programs indicates that landfills are leaking in all regions of Tennessee. Leaking landfills include municipal solid waste landfills, industrial landfills, and those used for disposal of such materials as construction / demolition debris. Even some landfills with state-of-art liners have evidence of leakage.

Of the 221 closed and active landfills in Tennessee with required groundwater monitoring programs as of January 1, 2008, 74 (or 34 percent) have groundwater contamination in at least one well. Of those, approximately 30 percent of active municipal solid waste landfills have groundwater contamination high enough to require corrective action according to TDEC and U.S. EPA rules. Of those landfills required to initiate a corrective action, the action rarely

includes any real efforts to cleanup the groundwater – just restrictions on its use and providing potable water to the affected residents (at a cost to the resident). A landfill owner / operator therefore has plenty of reason to be confident that no restoration of groundwater to usable conditions will be required by TDEC in the foreseeable future based on the past regulatory actions.

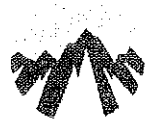
Delaying cleaning up contaminated groundwater when it is first identified runs the risk of putting that burden on the public in the future. One case in point is the Dickson County Landfill. Contaminated groundwater has been present for decades and most of the responsible parties have now filed for bankruptcy protection. Recently, the Natural Resources Defense Council (NRDC) filed a lawsuit against the City of Dickson and Dickson County to force a proper investigation and cleanup of the contamination. Had the responsible parties that disposed of the wastes been held accountable by TDEC before filing for bankruptcy, public entities and funds would have never been put at risk to clean up someone else's contamination.

Landfills Commonly Located Next to Sensitive Waterways

Landfills are commonly located immediately adjacent to waterways – even some that are used for public drinking water. Allied Waste's Middle Point Landfill in Rutherford County is located along the floodplain of the Stones River, which is used for drinking water by Smyrna, Murfreesboro, and Consolidated Utilities of Rutherford County. The Smith County Landfill is located along the floodplain of the Cumberland River. Waste Management's Cedar Ridge Landfill is located adjacent to the East Fork Globe Creek. In each case above, there has been a release of landfill leachate to the groundwater that eventually discharges to springs that feed those surface waterways.

Public Water Testing is Not Reflective of Risks from Landfills

The TDEC Division of Water Supply only requires that treated water be tested once per year for contaminants that are typical of landfill leachate – even though landfills are located upstream and along rivers with public water intakes. Sampling of groundwater monitoring wells (and springs) at landfills is only required once every 6 months. Therefore, contaminated water could be provided to consumers in the event of a landfill release without the public or the water utility even knowing about it. Most water treatment plants have no ability whatsoever to remove volatile or semi-volatile organic compounds. An example of this problem is the Dickson County Landfill. Trichloroethene was found in the *treated* water sent to tens of thousands of Dickson County residents during routine end-of-the-year sampling. Also, the former Rutherford County Landfill (with no liner) is located immediately across the Stones River from the Murfreesboro intake and upgradient from intakes owned by Consolidated Utilities and Smyrna.



Landfills Are Sometimes Un-Monitored for Contamination

The list of 221 permitted landfills provided by TDEC does not include old former dumps that never received a permit and still do not to this day have a groundwater monitoring system. History and common sense say that these too are leaking because they have no constructed liner. These old dumps too would be expected to contain industrial chemicals and therefore represent substantial, unrecognized, and undetermined risks.

Even though permitted landfills may have groundwater monitoring program, their monitoring programs may not always include analytical tests that can even detect the expected wastes that were disposed in the landfill. For example, even though thousands of tons of low-level radioactive wastes were disposed of for years in Class I landfills, those landfills never had to monitor the groundwater for radioactive isotopes. For example, the Allied Waste Middle Point Landfill located along the Stones River in Rutherford County received such waste and never had to monitor radioactivity of groundwater or the Stones River. Further, the Waste Management Southern Services Class III / IV landfill in Davidson County does not have to monitor for volatile organic or semi-volatile organic compounds even though industrial wastes are routinely disposed of as "special wastes". Industrial wastes disposed of at the Southern Services Class III / IV landfill (by definition, these landfill categories should not include industrial waste) includes thousands of tons of industrial wastes such as uncured rubber (semi-volatile organic compounds), refractory bricks (that commonly have high levels of heavy metals), fiberglass (adhesives and resins), and asbestos.

Some currently permitted landfills do not even have a groundwater monitoring program, even though the wastes present a risk, the landfill is located adjacent to an important waterway, and the landfill has no liner. The Central Pike Class IV construction / demolition debris landfill located along the Stones River in Hermitage has no monitoring wells or groundwater monitoring program at all. TDEC concluded in 1998 during the permit application that they "*do not believe that groundwater beneath this site can be effectively monitored, by TDWM regulations, using monitoring wells ...*", yet the permit was issued anyway. In fact, TDEC approved a vertical expansion of the landfill in 2003 that allowed for longer-term waste disposal at the site.

The U.S. EPA has determined that construction / demolition debris is not "inert" and presents significant hazards. However, no such groundwater monitoring testing requirements for volatile and semi-volatile organic compounds exist for the Southern Services Class III / IV landfill located along the Cumberland River nor the Central Pike Class IV demolition debris landfill adjacent to the Stones River. The U.S EPA identified these problematic components in construction / demolition waste: 1.) Containers with excess liquids such as adhesives, coatings, solvents, paints, and pesticides, 2.) Machinery lubricants and fuel, 3.) Inseparable bulk items such as asbestos and formaldehyde in carpet, 4.) Pressure treated wood, 5.) Roofing tar, 6.) Sulfates in drywall, 7.) Paints and coatings on wood, 8.) Arsenic, chromium, and creosote wood preservatives, 9.) Naphthalene, 10.) PCBs in transformers and capacitors, and 11.) Mercury in light switches and bulbs.



Landfills are Commonly Permitted in Extreme Karst Conditions

Karst geologic conditions of sinkholes, sinking streams, and shallow bedrock conduit flow are commonly found in middle and eastern Tennessee. Even though such conditions exist, TDEC's minimum landfill design standards still apply as they would for any other landfill located in a more stable geologic environment. Recent conclusions at the Cedar Ridge Landfill near Lewisburg, as an example, suggest that more stringent standards are needed in karst environments.

According to Mr. James Clark, chief geologist for the TDEC Division of Solid Waste Management, the karst conditions at the Cedar Ridge preclude the site from meeting basic site suitability and monitoring standards. TDEC concluded in June 2005 "*... the Site is not monitorable inside the permitted compliance boundary. At this time, it is obvious that groundwater that has been impacted from Cedar Ridge Landfill is moving offsite before it can be detected under the current monitoring system*". Recently, even with this determination, Waste Management applied for a major expansion. Since the initial permit was issued, sinkhole collapses in the disposal cell areas have occurred, a significant cave system was identified beneath the landfill, and springs have been contaminated by landfill leachate.

TDEC often allows use of springs as an early warning detection system in lieu of wells. As an example, only one (1) groundwater monitoring well even exists at the Cedar Ridge Landfill, and that well is an upgradient well. All other downgradient monitoring points are springs that represent no early warning detection system whatsoever. Once contamination is detected in a spring, the surface water off-site has already been impaired, and there is no time to correct the problem before it migrates further downstream. As problematic as this policy is, landfill owners and operators continue to use springs as a main, and sometimes sole component of an early warning detection system. These example middle Tennessee landfills rely on spring monitoring: Cedar Ridge Landfill, Middle Point Landfill, Williamson County Landfill, and the Smith County Landfill.

Problem Wastes Require Better Design Standards and Disposal Alternatives

Current TDEC rules require liners for industrial waste landfills to meet the same technical standards as municipal solid waste landfills. Sometimes, the waste characteristics should require that TDEC implement more stringent standards. For example, Mr. James Clark of TDEC concluded in May 2002 that aluminum smelter waste from Tennessee Aluminum Processors facility in Maury County contaminated groundwater in "*all facilities in our region where this type of waste has been accepted, analytical results show higher than background concentrations for chlorides in the groundwater, even in new lined landfills*". Therefore, even landfills lined with state-of-art composite liners that received this waste can and often do leak.



Landfill Gas Mitigation Requires More Aggressive Approach

Hazards associated with landfill gas migration include the obvious explosive hazard, but it also serves as a way to contaminate groundwater when the gas comes into contact with wells and the groundwater table. Any landfill that receives organic wastes is subject to the formation of landfill gas, which includes methane and sometimes volatile organic compounds. Although TDEC rules require an active gas recovery system to remove the gas when unsafe levels reach the explosive limit, that requirement is not always met and substantial dangers can persist. As an example, two (2) occupancies adjacent to the Dickson County Landfill inexplicably burned to the ground. Explosive concentrations of methane gas are commonly found along the perimeter of the Dickson County landfill yet no active gas recovery system has ever been required by TDEC.

Class III / IV Landfills are Used to Meet Waste Reduction Goals

Landfills that are used for the disposal of landscaping, yard wastes, and construction / demolition debris landfills are commonly used to divert wastes from Class I municipal solid waste landfills in order to achieve the 25 percent waste reduction goal. While such disposal diverts waste from Class I landfills, the procedure results in no real waste reduction at all – just the creation of more landfills that are less protective to hold the waste that was diverted from Class I landfills. Class III / IV landfills operate with less stringent design and operational standards, have no liners to protect groundwater, and have less stringent monitoring requirements – yet they represent significant hazards to the environment.

I encourage the Solid Waste Advisory Committee to consider these facts when considering waste reduction goals in the future. Wastes that are placed in the ground can represent decades of threats to our water supply. Once in the groundwater, the problems cannot be easily fixed and can persist for decades. The goal should be to prevent the contamination in the first place. I ask that the Committee consider taking an aggressive stance developing meaningful waste reduction goals and rules, to enact rules that further protect our water resources, and to act now before the problem worsens.

Mark Quarles, P.G.¹

¹ Over 20 years experience in landfill siting, design, and monitoring systems. A former member of Tennessee Association of Business environment committees. Licensed Professional Geologist in Tennessee. Key member in developing the Professional Geologist Registration Act of 2007.

1. The public notice in this matter was inadequate and did not provide a public hearing as required by state statute. The Division of Solid Waste has apparently combined the opportunity for the public to be heard with the final hearing, all of which will occur on August 29, 2011. This is an unprecedented procedure. Leading up to this hearing and the notice, TDEC refused to make their own internal records regarding their discussions with Waste Management available to the public. TDEC refused a federal subpoena to turn over documents from Waste Management intended to persuade TDEC to issue the previously denied permit. The public has not had an adequate explanation of what TDEC is planning to do, why, or how this meeting on the 29th will be conducted.

On July 27, 2011, notice of the August 29, 2011 Solid Waste Disposal Control Board meeting and the fact that the Cedar Ridge Permit was an agenda item was “sunshine” noticed in the same manner as all other Solid Waste Disposal Control Board meetings. In addition, a public notice of the board hearing and a proposed agreed order recommending that the proposed Cedar Ridge landfill permit be issued was published in the main news section of the Marshall County Tribune on Wednesday August 17, 2011. Copy attached. This notice was not required by any law or regulation but was an additional effort to keep the public informed. Finally, there have been numerous news stories concerning this board meeting. Attached is an example of one such story published in the Tennessean.

It is not clear what public hearing the commenter alleges to be required that has not occurred. The commenter seems confused as to the procedural stage of this permitting action. The Commissioner issued a final decision to deny the Cedar Ridge Permit expansion. Following that denial the applicant appealed to the Solid Waste Disposal Control Board. At that point a “Contested Case” was commenced. The procedure for the conduct of a Contested Case is governed by the *Uniform Rules of Procedures For Hearing Contested Cases Before State Administrative Agencies*. See Rule 1360-04-01-05(1)

TDEC has not refused to make any public record available to the public. TDEC did object to the Commenter, in a third party law suit, questioning one of our employees about the settlement negotiations that took place between Waste Management and TDEC. The objection was based upon Rule 408 of the Tennessee Rules of Evidence, which states:

Evidence of (1) furnishing or offering to furnish or (2) accepting or offering to accept a valuable consideration in compromising or attempting to compromise a claim, whether in the present litigation or related litigation, which claim was disputed or was reasonably expected to be disputed as to either validity or amount, is not admissible to prove liability for or invalidity of a civil claim or its amount or a criminal charge or its punishment. Evidence of conduct or statements made in compromise negotiations is likewise not admissible. This rule does not require the exclusion of any evidence actually obtained during discovery merely because it is presented in the course of compromise

negotiations. This rule also does not require exclusion when the evidence is offered for another purpose, such as proving bias or prejudice of a witness, negating a contention of undue delay, or proving an effort to obstruct a criminal investigation or prosecution; however, a party may not be impeached by a prior inconsistent statement made in compromise negotiations.

The Judge ruled that the witness had to testify and that certain documents had to be produced in the third party case. TDEC complied with that ruling.

2. The State has failed to identify or explain its reversal of the denial that it issued on the same cell in April of 2010. The State denied the same permit application in a public statement issued in April 20 10. That denial included detailed discussion of the history of violations, the groundwater contamination including MCL exceedances, the history of an ongoing statistically significant increases over background of indicator parameters of chlorides, calcium, potassium, magnesium, manganese (other), the risk of destabilization at Cell 7 and the entire site if the sinkhole area is put under construction over the Hermitage/Carters contact - a known active karst zone at the landfill, and the fact that the sinkhole in Cell 7 drains directly to Vickrey Creek in a residential neighborhood across the street. There were numerous other issues addressed in the April denial. The new notice is short, lacks explanation, and does not provide information or evidence as to how each of concerns from the April 2010 Notice of Denial has now, suddenly been resolved.

The Department issued a Notice of Intent to deny the request to modify the existing Cedar Ridge Landfill Class I Permit to Cedar Ridge Landfill, Inc. (the applicant on April 13, 2010. This denial covered the applicant's request to construct, operate, close, and provide post-closure care for a disposal cell in Phase 7 of the Cedar Ridge Landfill. The applicant appealed the denial to the TN Solid Waste Disposal Control Board as allowed by the TN Solid Waste Management Act, T.C.A. 68-211-101 et. seq. As a result the applicant asked to meet with the TN Department of Environment and Conservation (the Department) to discuss the denial and to seek reconsideration. The applicant asked if additional geologic information regarding geologic stability, geologic features, changes in the engineering design or any other additional information could be provided to supplement the information previously provided in the permit modification application.

The Department provided a response to the applicant that listed deficiencies in the original permit modification and the information needed to reconsider the permit modification. Please see Tab 3, Bullet 1 (March 18 2001 letter) After receiving this response, the applicant asked to meet with the Department to discuss providing that information. As a result of these discussions, the applicant and the Department entered into a Memorandum of Understanding (MOU) that specifically set-out the information the Department required before it would reconsider the permit application. The MOU, Tab 3, provided the applicant with the information the Department needed to reconsider the permit application. The MOU did not guarantee the issuance of a permit. Only if the applicant provided all the information requested and that information demonstrated that the disposal cell in Phase 7 met the regulatory criteria for protection of public health and the environment would the Department recommend to the Board that the denial be reversed and the permit issued.

The applicant provided additional information for the Department's review including (the list of Hearing Documents). The Department carefully reviewed these documents and determined from the information provided and changes in the cell design that Phase 7 could be successfully constructed and operated in accordance with the Rules of the Division of Solid Waste Management.

3. The installation of "two monitoring wells" for Cell 7 does not address the rest of the site, which for over 5 years, has not had monitoring as required by federal regulations. The two new wells referenced in the Memorandum of Understanding do not appear to be required by TDEC to either continue producing groundwater samples as a condition of the permit or the permanent monitoring program. The State has not required the most basic protections now for over 5 years, allowing the landfill to sample and wait for an outbreak of leachate to be detected between two residential yards, across the street from the landfill, well beyond the footprint. This is a violation of state and federal law that TDEC has simply ignored under the guise of a 'variance'. There is no legal basis for allowing this other than simply the creative thinking of the division. See Rule 1200-01-07 -.04(7)(a)(2).

Notably in the May 26, 2011 letter from Waste Management to Chuck Head, Waste Management pointed out that even though TDEC and Waste Management had agreed to "supplemental detection monitoring wells" for the purpose of on-site monitoring the groundwater impact "by a release from Phase 7" those wells are sampling from the same, uppermost aquifer as existing locations SW-J and SW-6. In other words, the two new wells are 'technical window-dressing' for the issuance of this permit. The two new wells do not provide any earlier detection than SW-6. To address this, Cedar Ridge specifically recommended "cell specific underdrain monitoring at Phase 7." IDEC has not required that and in fact, declined to include it in the Memorandum of Understanding,

This comment addresses two different issues; (1) the current ground water contamination problem from the existing landfill and (2) the evaluation of the site for construction of Cell 7.

In regards to the existing landfill, the Department has determined there has been a release of leachate from the leachate collection system of the existing landfill into ground water. The Applicant was required to repair the leachate collection system to eliminate further release of leachate to ground water and the Department placed the landfill in the Ground Water Assessment Phase. This requires the applicant to sample the existing ground water monitoring points monthly. The applicant has and continues to conduct ground water monitoring. With the closure of existing cells, repairs/replacement to components of the leachate collection system and additional site work, the level of ground water contamination has decreased. The Department allowed the applicant to add an offsite ground water monitoring point (a spring) to better monitor ground water conditions at the landfill. This was allowed under the variance procedure provided to the Commissioner under the Solid Waste Management Act and the pursuant regulations.

The Department did have concerns about the ability to monitor ground water for releases from the disposal cell in Phase 7, if constructed. Several options were discussed. The final design for ground water monitoring for releases from the disposal cell in Phase 7 had to be able to identify a release from that specific cell

before the Department would approve the permit modification. The final design does include an underdrain system below the disposal cell, a geologic buffer above the underdrain system, a synthetic liner with a leachate collection system, a leak detection system at the leachate sumps and the installation of two ground water monitoring wells adjacent to Phase 7. In regards to ground water monitoring for releases, the applicant is required to monitor discharges from the underdrain system and to regularly monitor the two new monitoring wells. The wells will become a part of the current ground water monitoring system.

4. The dye trace studies that the Commissioner asked for, and received, proved that any discharge of leachate from the site, and particularly from Cell 7 will reach the local neighborhood and Vickrey Creek off site within approximately forty-eight hours or less. Currently, the monitoring program calls for sampling every six months. Even quarterly sampling would allow a leachate release to go undetected for months. This has already occurred. In May of 2009, Cedar Ridge had just finished their quarterly sampling when a main leachate line broke sending hundreds of thousands of gallons of leachate directly to Vickrey Spring, and into the neighborhood. When contacted, Jessica Preston from Waste management initially emailed TDEC 'referring' them back to the quarterly report and refusing to take responsibility. The Marshall County leaders - not Waste Management - were the first to advise local residents of the risk. The discharge continued to pollute Vickrey Creek, turning the water grey and milky for several months. In other words, personal observations the residents Vickrey Creek's polluted state served as the monitoring system on this occasion. A photo is attached that from the TDEC files showing the condition of Vickrey Creek downstream from the where the spring emerges in the creek bed.

The Department acknowledges there was a release from the leachate collection system for the existing landfill and due to that release, leachate entered Vickrey Spring causing a water pollution problem. The Department required the applicant to investigate the release and to make repairs to the leachate collection system including replacement of the leachate collection piping with double walled piping that is pressure tested to insure it maintains its integrity, repaired the leachate collection sumps, installed meters to measure the volume of leachate removed and has added leak detection to the sumps. The data logger at SW-6 is still in place and in operation.

In regards to the release of leachate from Phase 7 immediately leaving the disposal cell and entering local streams via fractures in the bedrock, the Department believes the structural information that the applicant has now provided, the repair to the sink hole and the new design for the disposal cell in Phase 7, demonstrates that the risk of immediate discharge into local surface streams has been minimized. The applicant is required to cleanout and repair the sink hole in Phase 7 (the sink hole will be filled with stone of different sizes, a fabric filter and then sealed with a clay liner per an approved UIC permit), and to re-route the blue line stream that was discharging into the sink hole in the Phase 7 area. Given this and that the applicant cannot blast in the Phase 7 area, the design of the disposal cell will include an underdrain system that will be monitored for flow, a geologic buffer, a synthetic liner, a leachate collection system and the installation of two new monitoring wells adjacent to Phase 7, the Department believes construction of a disposal cell in Phase 7 will be protective of public health and the environment.

5. The discharge levels are currently trending downward since the site has been closed. Reopening will cause those levels to go back up. There is no reason to subject the public and local landowners to five to ten more years of uncertainty, water monitoring, and likely, if not certain, increases in leachate discharges. The site has already outlived its purposefulness. The Garrett property still has an active leachate discharge from the CRL and new ones on the landfill hillsides have broken out. CRL has refused to address or acknowledge the Garrett seep, even under a federal lawsuit, and after being provided with the sampling data showing 1300 mg/L in chlorides, 46 mg/L nitrates and dissolved solids of 600 as recently as February 2011. Neither TDEC, nor CRL has acknowledged these conditions despite learning of them during a site inspection in 2007 when a green seepage and algae was observed by all present. (April 2007 TDEC Report re: East Fork Globe Creek).

The Department is not aware of the February 2011 data from the Garrett Spring. However, the spring has been sampled in the past and contamination in the spring led the applicant to rebuild the leachate collection trench on the closed Phase I area several years ago. Garrett Spring is on private property near CRL and drains into the upper part of Globe Creek. The Department is aware of the pending "federal lawsuit" referred to by the commenter however to our knowledge no decision has been rendered nor has the federal court required the applicant to take any action on the Garrett property.

The applicant has worked with the Department to correct problems at the existing portion of the landfill. When the leachate collection system leaked, the applicant replaced the leachate collection piping with double walled piping that is pressure tested to insure it maintains its integrity. The applicant has repaired the problems in the leachate collection sumps and has added leak detection. The applicant has added cover material to the existing cells to limit surface water infiltration into the landfill.

The Department recognizes there was a leachate release from the existing landfill to ground water but has required the applicant to take action as specified in the Solid Waste Management regulations to address the release. Recent ground water sample results demonstrate that the repairs made by the applicant to the existing portion of the Cedar Ridge Landfill are effective as the concentration of constituents in the samples are decreasing since the repairs were made.

However, most importantly, the Department believes the additional information concerning the geologic structure below Phase 7 (including additional borings to evaluate rock structure), the geologic stability analysis performed by the applicant and confirmed by TDEC, the cleanout of the sink hole in Phase 7, the evaluation of the geologic characteristics of the sink hole in Phase 7, the approved repair for the sinkhole, and re-routing the blue line stream away from Phase 7 area, that Phase 7 is suitable for construction of a waste disposal cell. As mentioned earlier, the design will include an underdrain system that will be monitored for flow, a geologic buffer, a synthetic liner, a leachate collection system and the installation of two new monitoring wells adjacent to Phase 7. Another permit condition is that the applicant cannot use blasting to remove any pinnacles encountered during construction; they must be mechanically removed. Given this, the Department believes construction of the waste disposal cell in Phase 7 meets the regulatory siting criteria under the

regulations and that Phase 7 can be individually monitored for releases into the ground water.

6. The president of Cedar Ridge Landfill offered specific and additional protections if TDEC would allow expansion into phase 7. Two of the specific proposals were: 1) grouting over the sinkhole, i.e. adding a "twelve inch thick layer of cement/bentonite grout (to) cap the completed stone fill in lieu of a geosynthetic clay liner" and 2) a continuous data logger installed in an underdrain of Cell 7 to immediately identify any leakage. It does not appear that the grouting cap will be required. It should be. The site will need all the protections it can get. The continuous monitoring was deleted from a later draft of the "agreement" between TDEC and Waste Management for no identifiable reason. TDEC and Waste Management have thus far refused to disclose what occurred during meetings between the two or why they deleted such a protective term.

The Department has worked with the applicant to develop an approved repair of the sink hole in Phase 7. The sink hole has had soil and debris removed, will be filled with stone of different sizes for additional structural stability, a filter fabric will be placed on top of the stone and then a clay cap installed to seal the sink hole. Further, the stream currently entering the sink hole will be diverted to prevent surface water from entering the sink hole. Between the repaired sink hole and the bottom of the geologic buffer, the applicant will install an underdrain system that collects and directs any water between the top of the repaired sinkhole and the bottom of the constructed landfill to discharge from under Phase 7. The Department does not believe that any water that is collected and discharged from the underdrain system will be contaminated by leachate from Phase 7, however, if there are discharges, they will be periodically monitored.

7. To date there is no map available which identifies the joints in bedrock carrying conduit flow with the directions or various elevations of those flows, TDEC has repeatedly requested such a document and no one has provided it. Accordingly, the location of the underground joints and conduit flow under, through, and around the landfill footprint are not fully known, The point being, that leachate could be releasing in any number of directions, being carried offsite to other groundwater wells, or emerging in surface streams, TDEC has taken an 'out of site out of mind' approach to managing this leachate. Due to the inability to adequately protect groundwater, because neither TDEC nor Waste Management knows where the underground now leads, the permit cannot comply with the minimum requirement under state law that the permit may only be issued if there are assurances that groundwater be adequately protected. Issuance of the permit is a violation of state law.

The Department believes that the applicant has now provided sufficient information to address the stability of the subsurface geology as well as the characteristics of the underlying bedrock. As with any karst area, there are joints, fractures and solution channels in the bedrock. The applicant has provided information regarding (1) the regional geology (2) reviewed the geologic information obtained during the investigation for the existing portion of the Cedar Ridge Landfill, (3) performed three different geophysical assessments of the subsurface, (4) completed numerous borings into the bedrock and analyzed the rock core for fractures, solution channels and joints, (5) completed a geologic stability analysis based on the physical data gained from the rock corings and (6) inspected the subsurface structure of the site revealed when the sink hole was cleaned out.

In regards to the "out of site (sic), out of mind " statement, the Department believes that the applicant has performed the needed work and provide sufficient data to demonstrate the stability of the site. The Department also believes that the repair of the sink hole, completion of the underdrain system, diversion of surface water from Phase 7 and the Class I landfill geologic buffer, synthetic liner and leachate collection system will prevent release of leachate to the subsurface. Further, should there be a release, the Department believes it will be observed in the two new ground water monitoring wells.

8. TDEC has failed the public in protecting the environment East Fork Globe is now on the 303(d) list from landfill contamination, and Vickrey Creek has had small and large discharges, Enough is enough, CRL cannot fully control its site and should be capped and closed as it is at the end of its expected life span. If there is even the slightest miscalculation in constructing or stabilizing Phase 7, the risks to the groundwater and neighboring community would be potentially catastrophic. The risk to the community is unwarranted for an 8-acre expansion to a landfill that has reached the end of its expected life span.

Streams in Tennessee and other states that are impacted are placed on the 303(d) list. The East Fork of Globe Creek is currently assessed by the department as not meeting the uses of fish and aquatic life protection, plus recreation. The pollutant impacting recreation is the pathogen *E. coli* which is thought to originate from cattle grazing in pasture areas along the creek. Fish and aquatic life is impacted by elevated ammonia and chloride (salts) levels discharged from Cedar Ridge Landfill. Staff has reviewed the reports and determined the additional work and subsequent information provided satisfied the outstanding concerns of the Division of Solid Waste Management.