

Warnell, Terry G, EMNRD

From: Davidson, Florene, EMNRD
Sent: Tuesday, October 13, 2009 2:20 PM
To: Warnell, Terry G, EMNRD
Subject: FW: Oct 15, 2009, Division hearing on Case 14329 - citizen concerns and comment

Here you go.

From: KDIX@aol.com [mailto:KDIX@aol.com]
Sent: Tuesday, October 13, 2009 12:50 PM
To: terry.warnell@state.nm.us
Cc: Davidson, Florene, EMNRD
Subject: Oct 15, 2009, Division hearing on Case 14329 - citizen concerns and comment

Dear Mr. Warnell,

I am writing these comments on Case 14329 in lieu of an appearance at the Division Hearing on October 15, 2009. Please include them as testimony in the record for this case.

The three primary concerns I have about the Anadarko acid gas injection well at the San Juan Gas Plant in Kirtland are:

- 1) protection of citizens of New Mexico, who deserve primary consideration,
- 2) justification of effects and unknowns of deep underground injection vs. upgraded Claus processing with tail-gas treatment/recirculation or other process which could be monitored at the surface, and
- 3) the long term safety and legacy (much longer term than the 30 years projected for the injection process life) of an injection well because of the high surface injection pressures of liquified hazardous gasses along with the unknowns of H₂S, SO₂, SO and CO₂ consequences underground... especially in a populated area and with mining and oil and gas wells close by.

The public: The public must be protected.

This plant is in the community of Kirtland, very close to a public school, as well as to recreational areas and residences. The 100ppm H₂S calculated radius of exposure reaches nearly to Highway 64. Of course, should there be a catastrophic pressure release, a plume of concentrated migrating hazardous gas would not stop at Highway 64, but continue downslope at ground level into yet more populated areas, especially in a windless scenario.

How often will the list of residents in Appendix G and their contact information be updated for immediate notification purposes? If a catastrophic release happens on a holiday or at nighttime, how many on-duty personnel will be immediately available at the plant to make emergency notification to these residents? Is there a backup plan for notification? Are close by residents to be included in the drills? Will they be given a copy of the H₂S contingency plan?

My understanding is that until just few weeks ago, there has not been an H₂S contingency plan at this plant to protect the public since this plant was built sometime prior to 1981,

despite the fact that H₂S has been processed there for many years. Since then, a second contingency plan has now been developed to include this injection well, if it is approved. While this most recent October 7, 2009 H₂S plan has been improved from an earlier H₂S contingency plan draft I reviewed, public notification is still treated much too casually. There is no information for me as a citizen to know how I would be notified unless I am in the 100ppm ROE, and even then, the instructions are not clear as to how I would actually receive the notification and if it would be mandatory that I be reached. Notification instructions for the general public are not as specific as they should be. I believe, as I have seen in other parts of the country, the public should be protected from this type of danger by public announcement, publication of the contingency plan, and even as done by DOE in some instances, the contingency or evacuation plan published in phone books for immediate public emergency reference. Businesses and agencies seem to be at the top of this notification list but it is the individual resident who is probably most vulnerable and has the highest chance of not being contacted in time. A worst case scenario happening on a summer night would allow H₂S to penetrate open windows, possibly well outside the ROE. How would citizens be alerted in that emergency? Perhaps with remote alarms in the residential areas as is done for other hazards?

What responsibility does Anadarko/San Juan River Plant have for damages and injuries outside of the 100ppm ROE?

A protective and effective H₂S contingency plan must protect the public no matter what process is used at the plant to address the acid gas issue.

Justification: What are the real reasons that this injection well is being requested?

I understand that the historic Claus H₂S reduction process has been in effect at this location for many years. It is not clear from the application if the Claus process will remain as part of the plant process other than statements that the injection well will take effluent from "plant processes." The question arises as to why this move to place H₂S underground is, instead, not addressed by upgrading the current surface process and the open flaring and its by-products. Of course, reasons may include the credits to be gained associated with the carbon sequestration, as mentioned. The question is still why at least the H₂S problem cannot be addressed at the surface through newer processes to treat tail-gas from the Claus operation, if that is the issue.

The increase the application notes in the volume of gas inflow expected to the plant in the future is a matter of scale I would think, rather than a process issue.

Balancing a decision of continuing a process on the surface (where the by-products and the hazard can be known and addressed) against pumping the hazard underground with many unknowns and future legacies, begs for knowing and dealing with the problem at the surface instead of burying it.

Legacy: Unknowns could be a risk.

The application states (I don't have the Appendices) that the injection well will be fully cased and sealed to the bottom of the well, unlike standard well bores where that is not routinely done. However, despite this description, many instances in the application only reference the casing extending "deeper" than surrounding man-made penetrations and in one instance, that the "casing for the AGI well will extend well below (at least 900 feet) the

bottom of [Farmer's Mutual Ditch.]" While it seems that the casing will be complete, the wording in this document is not specific to that. Why would the "at least 900 feet" be referenced if the well bore will be incased to 6800 feet?

Regarding nearby surface penetrations, the plugged Dugan well at 4726 feet and only 0.63 miles from the proposed AGI well raises questions. This well's history is not in any of the online records that I could find, but the question arises about the history of this well and whether it was ever frac'ed. Frac'ing of course would have introduced unnatural geologic fractures the characterization of which are assumed, but are really of unknown nature, depth, and extent.

There is also little concern expressed about the close proximity of mining operations. None of the planning I see here for this AGI well addresses future protection from additional drilling/well processes in the area, natural earth shifting, or vertical seams. Since the BPI mining operation drilling for methane release is unregulated by the State of New Mexico or other entities as mentioned in the application, what guarantees do the citizens of New Mexico have (let alone the residents of Kirtland) that future drilling and subsurface disturbance in the area will be carefully controlled?

There is an assumption that the confining layers above and below the Entrada formation are uninterrupted. Are they or aren't they?

This corrosive liquefied acid gas injection would create an acid hot spot in the Entrada even though chemical reactions long term and short term are to be expected between the sandstone elements and the acid gas which will change the porosity and composition in the sandstone over time. In this case, the 10% H₂S expected concentration (though by no means guaranteed at that level, since H₂S is a growing problem in the San Juan Basin) in the injected gasses, liquified to at least twice their psi vapor pressures at 20 deg C, apparently adds extra reaction potential into the mix because of inherent interactions, in addition to the CO₂ acid reaction that can develop if there is water associated with this Entrada layer. I was not able to see in the application whether water is a factor in this stratum nor do not know whether it is simply a given. H₂S /CO₂ sequestration from coal fired plants (which apparently is the best history we have at this point) seems to not deal with the elevated H₂S of the 10%+ levels that this injection will handle. As an aside, since there are well treatments for (biogenic only?) H₂S, why does a refiner have to accept H₂S laden gas? Isn't this something OCD should be addressing at source?

My understanding is that this is the first acid gas injection well in the San Juan Basin. I would like to see Anadarko provide an alternative proposal to addressing the hydrogen sulfide issue without injecting it underground with carbon dioxide. As citizens, we expect that the best technologies will used to solve these problems and provide the best safety, especially when a plant and a plan such as this is so closely associated with and located in a residential community.

Thank you for your consideration of these three concerns in making your recommendation on this case.

Sincerely,
Kris Dixon
PO Box 6575
Farmington, NM 87499

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