

AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

TIME AND DATE:

10:30 AM, April 27, 2005

LOCATION:

TCEQ, Park 35, Building F, Room 2210, Austin, Texas

PURPOSE OF MEETING:

The FY05 Third Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee.

ATTENDEES:

AGENCIES

Texas Department of Agriculture [TDA]
Texas Commission on Environmental Quality [TCEQ]
Texas Water Development Board [TWDB]
Texas Cooperative Extension [TCE]
Texas Agricultural Experiment Station [TAES]
Texas State Soil & Water Conservation Board [TSSWCB]
Texas Structural Pest Control Board [TSPCB]
Texas Alliance of Groundwater Districts [TAGD]

REPRESENTATIVES

Joseph Peters	Chair, Member, TCEQ, Austin
Richard Eyster	Member, TDA, Austin
Janie Hopkins	Member, TWDB, Austin
Bruce Lesikar	Member, TCE, College Station
Allan Jones	Member, TAES, College Station
Chris Higgins	Member, TSSWCB, Temple
Jeff Isler	Member, TSPCB, Austin
Barry Miller	Member, TAGD, Gonzales

AGENCY STAFF

Alan Cherepon	TCEQ, Austin
Sean Ables	TCEQ, Austin
Greg Rogers	TCEQ, Austin
Lynne Fahlquist	USGS, Austin
Ambrose Charles	TDA, Austin

INTERESTED PARTIES

Ed Baker	Syngenta Crop Protection, Mineola
Denise Geutsch	Syngenta Crop Protection, Austin
Marty Fontenot	Syngenta Crop Protection, Houston

MEETING SUMMARY:

I. Opening Remarks

The Chairman of the Agricultural Chemicals Subcommittee, Mr. Steve Musick (TCEQ), was unable to attend the meeting, and was represented by acting chairman, Dr. Joseph Peters, who called the meeting to order. All Subcommittee members were present. Following the self-introductions, Dr. Peters proceeded to the Task Force Reports.

II Task Force Reports

Site Selection Task Force: Janie Hopkins (TWDB), the Task Force Chair, provided a brief summary of work the TWDB is performing through the end of the fiscal year. The TWDB is presently conducting water well sampling in the Gulf Coast aquifer, primarily in the southern portion. The High Plains Underground Water Conservation District #1, and the Panhandle Groundwater Conservation District have also volunteered to continue collecting well samples, in the Panhandle region. The TWDB will continue with the cooperative monitoring program in the Gulf Coast aquifer, where priorities will include counties with previous detects of atrazine or metolachlor, and where few or no samples have been collected. The TWDB began sampling in March, estimating less samples will be collected than previously anticipated (<500). Ms. Hopkins added that the USGS will do some well sampling in the counties east of Houston, and coordinate sampling with the TWDB. The USGS will sample some 30 wells. The TCEQ remains hopeful the USGS may also pull samples for them to do immunoassays for atrazine and metolachlor. Ms. Hopkins also mentioned a sampling project, primarily involving springs in the Hill Country, between the TWDB and the Texas Parks and Wildlife Department. Ms. Hopkins later elaborated that TWDB's interest is to conduct a reconnaissance of the springs to determine which ones to conduct isotope studies for determining flow paths at some future time.

Education Task Force: The Task Force Chair Dr. Bruce Lesikar (TCE), reported on various education events around the state, primarily being conducted by Dana Porter in Lubbock and Monty Dozier of the TCE/NRCS. Events were as follow;

- January-Bell County, La Mesa, and Muleshoe events addressed water quality issues,
- February-Navarro County and the Lubbock area for producers and Master Gardeners,
- March-Lubbock, Brownfield, Littlefield, where Dana Porter spoke on water quality to growers/producers, on 3/16, Dana Porter addressed Master Ranchers in the Brazoria County area on a local radio show, and Monty Dozier spoke to a producers group meeting in Delta and Hunt Counties,

- 4/22, a well plugging event was held in Fayette County.

Ed Baker (Syngenta) commented on the BMP guidelines and curriculum Syngenta received from Dana Porter, and was able to show the electronic slide show material to groups in the Midwest, and how impressed everyone was with this material.

No other Task Forces had anything new to present.

III. TCEQ Source Water Protection and Agricultural Activities

Sean Ables of the TCEQ Drinking Water Protection Team (DWPT, formerly the Source Water Assessment and Protection Team or SWAP), provided an overview of where they are and where they are going with the program, as related to water supply wells and agricultural chemicals. Program emphasis is on the identification of major drinking water sources, and to inventory Potential Sources of Contamination (PSOCs) into database sets for GIS applications and potential impact to supply wells.

The DWPT has developed models and data sets for use with ESRI GIS application software and visual basic. They plan on updating every three years, and to set the Public Water Supply (PWS) systems on a three year rotation. Numerous characteristics are required for the model to work, including well identification and location, zone of influence, contributing area, intakes, PSOC inventories, and a summary for each PWS of which constituents (chemicals) their wells are susceptible to contamination. Presently, they have identified 227 constituents, using Nonpoint Source data from various government agencies, and have tried to develop equations for these constituents. Insufficient data was available, and they were only able to come up with 5 equations for groundwater, and 40 for surface water.

Data sets used include USGS Land-Use from 1995, on 30-meter grid cells, urban areas, agricultural (crops, croplands, and pesticide use), transportation, population density and such. Capture zones were developed in watersheds, identifying overlap with land use to indicate potential constituents likely to be used, by percentages. These areas were then ranked/rated by this data, based on land use and constituents, and given a high, medium, or low ranking. Some tweaking to this has occurred, changing some of the initial rankings, but it is still not perfect, with additional changes planned in the near future. They are doing the best they can with the limitations of data quality and detail, and basic assumptions that are required within the schedule they have to work under.

The model and data set approach enables the team to utilize the land use and potential constituents data and assumptions to back track, through applying well capture zone modeling as a way of anticipating when and if any well may be impacted by the constituents in question. For pesticides, they include such land uses as nurseries, hardware/garden stores, cotton gins, and other such places where pesticides are known to be used or sold. Other sources of locations include permitting data, soil survey books, where they can identify cotton gins, some of which may identify old gins that may no longer be in use or even present. Transportation routes for

spills or leakage, and landfills, which could contain most anything, are also identified. The team then removes wells that are too great a distance from the PSOCs.

Groundwater sampling records exist for over 6 million records, and should any of these indicate contamination, they immediately flag the system as being highly susceptible. Some PWS systems have volunteered for monitoring programs, where a wide range of chemicals are tested for and detected, and end up being rated as highly susceptible for those constituents. The team then uses the assessment results to develop monitoring strategies, vulnerability assessments, monitoring waivers, and to establish source water protection programs for the systems. There are still many improvements to be made to the system, improve data sets, and make the water system reports easier to read and understand. They would also like to look into rewarding systems that implement BMPs.

A lengthy question and answer period followed. Dr. Jones asked whether the system has been validated, whether any ground truthing has been conducted in any way. Mr. Rogers (the TCEQ DWPT Leader) said that due to the deadlines and effort it took to put this together, they have not. They would like to do so at some point, by having a PWS system participate in the process. Ms. Hopkins asked whether any of the systems are appreciative when the team finds some constituent in their water supply, and Mr. Rogers replied that some are, as it makes them aware of a problem, but they typically are critical of the rating system. Another question asked if once a system gets a high rating, is it possible to get it lowered or removed. Sean said that through BMP and more frequent sampling, this may be accomplished, but none of what TCEQ recommends is mandatory. Another person asked if this information is shared with other agencies when appropriate, who regulate those types of constituents, and Sean said they are working on this presently, but it can take considerable effort in some instances. Mr. Rogers would also like to see some partnerships with groundwater districts, local councils of governments and such. Mr. Miller (TAGD) added that some districts have little water, and what they have isn't very good quality, and if they get a high rating, they will try to do what is in their jurisdiction/power, but if it is for an oil well, for instance, this falls under the Railroad Commission's authority. Someone asked if everyone could get a copy of the presentation, as they were very impressed and not even aware of what the DWPT had been doing. Dr. Jones added it was a good first step, and suggested the team eventually conduct some statistical analysis and comparison reports on which constituents were most detected for which land uses, and establish some where and why relationships. Mr. Rogers said this would be a challenge, since many of the constituents are grouped. Mr. Baker commented that the rating system can be misleading, or mis-interpreted, and as a PWS system manager, would rather see a rating of the level of susceptibility. Sean said they are planning on adding new components and tweaking the system further this summer, and they will be updating this work.

IV. Business Items for Discussion and Possible Action

Panhandle Work Plans and Tentative Schedule, and Addition of Cross-Reactive Compounds & Metabolites to Analysis (topics combined)

Alan Cherepon (TCEQ) summarized scheduled pesticide monitoring activities of the TCEQ for the 2005 fiscal year. Screening of the City of Amarillo Public Water Supply system wells for atrazine and metolachlor is scheduled for the week of 5/16/05. Nearly 100 wells are anticipated to be screened for atrazine and metolachlor by immunoassay analysis for the City of Amarillo PWS system. Any high detects will be re-sampled during the July trip for laboratory verification analysis.

The second monitoring trip will take place during the week of 7/11/05. Annual on-going monitoring of specific wells for previously investigated PWS systems will be conducted, with a small number of samples sent for laboratory analysis. TCEQ is also attempting to arrange for laboratory analyses of compounds that are cross-reactive with atrazine in the immunoassay analysis. The USGS laboratory in Kansas is presently the only lab that could conduct these analyses due to the contract and QAPP, and the fact that the LCRA lab cannot perform certain analyses at present. The contract and QAPP allows for LCRA to subcontract the specialized analysis for metabolites to the USGS, with whom they also have contractual arrangements. The TCEQ sampling team also has a contingency plan, should arrangements fall through with the USGS for some unforeseen reason. Should this happen, arrangements will be made for LCRA to add several pesticides to their Method 525 analysis, and also include as many of the atrazine metabolites as they are capable of analyzing for. The trip dates are contingent upon QAPP approval by EPA.

The Cooperative monitoring efforts are also continuing, with the TWDB sampling the Gulf Coast aquifer this year. Nearly 100 wells have already been sampled and analyzed. The High Plains Underground Water Conservation District #1 and Panhandle Groundwater Conservation District have also volunteered to continue monitoring in the Panhandle region for TCEQ, but with considerable coverage already gained in this region, well samples will be more selective, limited to areas with sparse coverage, or possibly specific PWS system wells.

Ms. Fahlquist (USGS) asked whether TCEQ had any plans to go public with the Interagency Pesticide Database (IPD), by placing it on the agency Website. Dr. Peters responded there are no such plans at present, but the database can be supplied upon request, in Paradox database format.

V. Information Exchange

a. Revised FIFRA QAPP

Joe Peters (TCEQ) provided a handout and summary on revisions to the FIFRA/106 Groundwater QAPP, presently undergoing EPA review. There are two major changes to the plan; allowing for expedited well sampling of wells that have been pumping for over an hour

without having to first take temperature, pH and conductivity readings at three consecutive 5-minute intervals or more until two consistent readings are made; and to include metabolites and other cross-reactive compound analyses, and for contracting laboratories other than LCRA, which is presently limited in these analyses. By allowing expedited sampling, TCEQ can likely complete the screening of the City of Amarillo PWS system in the 3-4 day time scheduled. Any well that has been pumping for at least an hour should have reached equilibrium by that time, and if not, may indicate either serious problems, and little hope for the samplers to accomplish sampling goals. The flexibility in laboratory choice will also enable TCEQ to attempt to include additional pesticides and metabolites that will increase our understanding of immunoassay results in Texas, as well as enabling for searching out more economical lab services.

One question was fielded, in which Ms. Fahlquist asked whether any of the City of Amarillo wells had been previously sampled, and were there any detects. Mr. Cherepon said the Cooperative monitoring efforts had a detection of atrazine in one well, and this was confirmed by TCEQ confirmation sampling of the same well. This was a fairly low detect. Also, the TCEQ Public Drinking Water Monitoring program typically monitor entry points, some of which can have 10 to 20 wells manifolded into each entry point. With this potential for dilution, the vast number of wells in the system, and the number of detects in wells in the general area, it would be worthwhile and much more economical to screen the wells with immunoassay analysis. Should a considerable number of detects occur, this would also indicate a need to sample and screen other PWS systems with a large number of wells and well fields in high atrazine use areas.

Dr. Jones asked whether there were few labs in Texas that could conduct the analyses of cross-reactive compounds and metabolites. Dr. Peters responded that some non-EPA methods were needed for the metabolite analyses, and there are few labs who conduct these specialized analyses, especially for drinking water standards. Mr. Cherepon added that he was only aware of maybe one other lab, TAES's at College Station, that could do these analyses. Our present contract and QAPP only allow for specific analyses by specific labs, and this will enable us to seek different ones, primarily for next fiscal year. Ms. Fahlquist also said the wording was confusing, where the QAPP indicates that non-EPA approved methods could not be used. She said that even though the USGS does not use EPA methods, that EPA does approve their methods for analyses, and it would be more correct and less confusing if it would either state that non-EPA methods could still be used if EPA authorizes them, or EPA-authorization on non-EPA methods. (This is probably too late for changing the QAPP currently under review, but could be accomplished in the following year's QAPP.

b. iRED Atrazine vs FIFRA/PMP Monitoring & Analysis Comparison; Syngenta Method AG-625 for Analysis of Atrazine by a Modified Beacon Immunoassay Kit

Mr. Cherepon also provided a handout and summary of the recent issues and EPA request for comments on the Syngenta Method AG-625, and how this relates to the Atrazine iRED, and to the ACS's monitoring and analysis activities. The issue may be a moot point, since the comment period has already come and gone, but it has brought up several items that may need further scrutiny and/or comments/recommendations to EPA.

Mr. Cherepon first presented a brief summary of events from the provided timeline. The EPA approved Syngenta Method 625 for atrazine analysis by a Beacon kit, for compliance monitoring, back in 10/02, which was followed by EPA's atrazine iRED in 2/03. The EPA/Battelle Environmental Technology Verification testing of immunoassay kits for atrazine was conducted in 9/03, and an American Water Works Association (AWWA) funded similar study was conducted by the University of Missouri, Rolla in 2003-2004. During these studies, some issues were encountered with the Beacon kit. The ETV study results indicate the low-end detection limit claimed by the manufacturer could not be verified/reached. The AWWA study said the Beacon kit encountered interference from chlorine disinfectants in finished drinking water, among other issues. This resulted in Syngenta and Beacon revising the kits and method standards (they could not reach the accuracy and precision ranges of the other kits under the EPA Method 4670), resubmitting the method as revised, and gaining approval again from EPA. However, when AWWA submitted several comments on their findings to EPA, they put out a request for comments in the Federal Register on 2/16/05 on whether the EPA should retract their approval of the method, or continue with it as is.

The actual issue about the validity of the method for compliance monitoring is again, a non-issue for comment to EPA. However, the method is being used in the Atrazine iRED program monitoring by Syngenta. Mr. Cherepon added that the application of the method for the iRED, to the best of his knowledge, is probably ok, since immunoassay analysis includes a certain percentage of the cross-reactive compounds, as well as parent atrazine, all of which combined, is what the iRED monitoring includes anyway, as a sum of all these related compounds. The only recommendation or comments would include lab verification analysis for higher detects, especially since immunoassay analysis is only detecting a smaller percentage of the cross-reactive compounds as compared to lab analysis, which would result in the lab analysis detecting higher concentrations, and the immunoassay method results would be an under-detected sum of these compounds. Since TCEQ sampling utilizes EPA Method 4670 for immunoassay analysis of atrazine as a screening tool, there is presently no issue with this approach and kits used.

Mr. Baker commented that Syngenta does conduct lab verification analyses on the higher detects as the iRED requires. Mr. Cherepon said the iRED may require this, but the Syngenta Method 625, as approved for compliance monitoring in the iRED program, does not. It may be a question of semantics, but he didn't know for sure as to what one would take precedent, or whether anything of substance would actually come out of all this.

c. ACS Input for the upcoming SFIREG meeting

This item was added late to the agenda, as time was of the essence for any sort of combined agencies input for the upcoming SFIREG meeting. Mr. Cherepon (TCEQ) gave an overview and handout addressing a recent request for input by TDA, for the SFIREG meeting. He added that the ACS should review the comments provided, and possibly add to them, but that these comments would have to be from the subcommittee, and could in no way be presented as official TCEQ comments.

At issue was EPA's loss of some funding due to not having a PMP performance assessment measure in place, and that EPA would like state input, program accomplishments, and priorities. Mr. Cherepon's commented that the state already provides considerable reporting and details of program accomplishments, issues, and has a list as long as his arm. These include grant Mid-Year and End-of-Year reports, annual and monitoring reports to the Agricultural Chemicals Subcommittee, the Joint Groundwater Report and Legislature Report, to name a few. Perhaps the issue is more what EPA does with this data, and not using what they get, and that one possibility may be that EPA dropped the ball on this one.

Mr. Cherepon's suggestions were provided in a handout, along with four (requested up to three for the SFIREG meeting) electronic Power Point slides summarizing Texas PMP program accomplishments, for the ACS to review and add to as needed. A few minutes were allowed for the subcommittee members to review this material, as Mr. Eyster (TDA), the regional representative for the meeting would be needing these comments by Friday (the day after this ACS meeting). Someone asked Mr. Eyster if we lost any funding as a result of all this. He said he wasn't sure, but we probably did lose some. EPA is looking for results, what we do with what we find out, not just research, and that he would be able to fill the subcommittee in a little more after the SFIREG meeting, which is scheduled for 5/3-4/05 in Arlington, Virginia.

Mr. Cherepon summarized much of the handout, stating that both the EPA draft Final Rule for the PMP, and the Texas Generic PMP indicate a biennial assessment report should be presented, but since the rule was never finalized, the overall issue had become another unfunded mandate, and a considerable amount of assessment is presented every year to EPA relative to the program, the biennial reports were never really requested or required up to this point. Mr. Eyster added that the meeting agenda was for a meeting other than the SFIREG one, and could be crossed out of the handout. No further input was provided during the meeting.

V. Public Comment

Ed Baker (Syngenta) provided a brief update on the Atrazine iRED program in Texas. One year of monitoring data is available, there are presently eight surface water sites in Texas, with all doing well, except the Navarro Mills site has had some higher detects than they would like, but is still within acceptable concentrations.

VI. Announcements

Mr. Cherepon announced that the TCEQ Environmental Trade Fair will take place from 5/2/05 thru 5/4/05 at the Austin Convention Center.

Additionally, Mr. Cherepon announced that the USEPA Regional FIFRA meeting for states and tribes will be held in San Antonio from 5/9/05 thru 5/11/05.

Mr. Cherepon and Mr. Eyster also mentioned the SFIREG meeting will be held during the week of 5/3/05 in Arlington, Virginia, with Mr. Eyster, as the Regional Representative, providing them with input from the ACS at this meeting.

Dr. Peters mentioned there have been several recent and upcoming agricultural waste pickup events (these and all such events can be found at the TCEQ website address as follows; <http://home.tnrcc.state.tx.us/exec/oppr/agwaste/agwaste.html>). These are as follow;

- 4/21 - Paris
- 4/23 - Greenville
- 4/25 - Denton
- 4/27 - Carthage
- 4/29 - Jasper

Dr. Jones announced TAMU approval for a new graduate program for water-related science, as an MS and PhD program. This will be an inter-disciplinary study and multi-college faculty training program to train the next generation of water managers, combining agriculture, geology, environmental and life sciences. The aim is to provide state agencies, groundwater districts, river authorities, municipalities with staff that has a broad-based understanding of water issues.

Dr. Lesikar mentioned several well plugging events;

- 1st week in June, Brazos and Robertson GCDs
- 6/7, Piney Woods GCD, Nacogdoches
- 7/19-21, Kickapoo GCD

The decision was made by the Texas Groundwater Protection Committee that the FY05 fourth quarter meeting of the Agricultural Chemicals Subcommittee will take place on 8/11/05 at 10:30 a.m., in TCEQ Building F, Conference Room 2210.

VII. Adjournment

Recorded and transcribed by Alan Cherepon.

Attachments

Draft Work Plan for Panhandle Groundwater Monitoring 2005 Fiscal Year

FIFRA QAPP letter of transmittal to EPA

Syngenta Method AG-625 for analysis of atrazine...Timeline...

TCEQ Input (for use by the ACS) for the May SFIREG meeting, with slides of PMP program accomplishments