

# AGRICULTURAL CHEMICALS SUBCOMMITTEE MEETING RECORD

## TIME AND DATE:

10:30 AM, July 30, 2008

## LOCATION:

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

## PURPOSE OF MEETING:

The FY08 Fourth Quarter Meeting of the Agricultural Chemicals Subcommittee of the Texas Groundwater Protection Committee.

## ATTENDEES:

### AGENCIES

Texas Commission on Environmental Quality [TCEQ]  
Texas Department of Agriculture [TDA]  
Texas State Soil and Water Conservation Board [TSSWCB]  
Texas AgriLife Research [TAR]  
Texas AgriLife Extension Service [TAES]  
Texas Alliance of Groundwater Districts [TAGD]  
Texas Water Development Board [TWDB]

### REPRESENTATIVES

|                  |                               |
|------------------|-------------------------------|
| Joseph L. Peters | Chair, Member, TCEQ, Austin   |
| Richard Eyster   | Member, TDA, Austin           |
| Donna Long       | Member, TSSWCB, Austin        |
| C. Allan Jones   | Member, TAR, College Station  |
| Bruce Lesikar    | Member, TAES, College Station |

### AGENCY STAFF

|                  |              |
|------------------|--------------|
| Alan Cherepon    | TCEQ, Austin |
| David Villarreal | TDA, Austin  |
| Patty Ging       | USGS, Austin |

### INTERESTED PARTIES

|                 |                                   |
|-----------------|-----------------------------------|
| Ed Baker        | Syngenta Crop Protection, Mineola |
| Denise Gentsch  | Syngenta Crop Protection, Austin  |
| George Caldwell | Texas Farm Bureau, Austin         |

## **MEETING SUMMARY:**

### **I. Opening Remarks**

The Chairman of the Agricultural Chemicals Subcommittee, Dr. Joseph Peters (TCEQ), called the meeting to order. There was one Subcommittee member not in attendance, David Van Dresar (TAGD). Dr. Peters welcomed everyone to the meeting. The Subcommittee members introduced themselves and the meeting proceeded to the Task Force Reports.

### **II Task Force Reports**

**Site Selection Task Force:** Janie Hopkins (TWDB), the Task Force Chair, provided a brief update, indicating the TWDB will be sampling in the Panhandle through October. Thus far they have sampled over 400 wells. The Gulf Coast Aquifer will be their target monitoring area next year. Alan Cherepon (TCEQ) mentioned that he will provide a summary of the urban pesticide monitoring later in the agenda. He also added that TWDB Coop monitoring for 2008 has thus far analyzed by immunoassay, about 202 samples for atrazine, 15 for chlorpyrifos, and 5 for organo-phosphates/carbamate. The TWDB's monitoring is scheduled to continue into FY09.

**Education Task Force:** Bruce Lesikar (TCE), the Task Force Chair, was not present to provide an update.

**Pesticide Management Plan Task Force:** The flow chart developed by the Task Force will be addressed under Item IV of the agenda, under "Business Items", later in the program.

None of the other task forces were active.

### **III. NAWQA Pesticide Monitoring in Texas Surface Water**

Patty Ging (USGS) gave a presentation summarizing pesticide monitoring of surface water in Texas under the USGS National Water-Quality Assessment program. Ms. Ging began with an overview of the program objectives and an explanation of how and why the USGS conducts monitoring in a unified, cyclical approach, in assessing the nation's water quality. The program began in 1991, and is conducted in 10-year cycles of more intense versus less intense monitoring. The program thus has two components, one aimed at distinguishing any trend (cyclical variations and status/time variations) and a second aimed at determining impacts on water quality. Cycle I results were used to make a program assessment which was used to focus and adjust study as needed.

Cycle II started in 2001. Cycle II combined some of the sampling areas, deleted others, and changed some of the analytical parameters. In Texas there were three study areas in Phase I: the High Plains, Trinity River Basin (from the Dallas area to the Houston area), and areas in South Central Texas (the Edwards Aquifer in and around San Antonio). Partly due to budgetary constraints, the High Plains Aquifer, which was strictly a groundwater monitoring survey, was dropped from Cycle II. Cycle II has two study components, a drinking water component, and an Effects of Urbanization on Stream Ecology (EUSE) component. Much of Cycle II focused on

four areas near Dallas/Ft. Worth and extending downstream from there, as well as a few sites (reduced in number from the original plan) in the Edwards Aquifer area. The planned sites for Cycle II were decreased from 26 to three, and then to one integrator site in Texas, in the Dallas area. This site was chosen because it was determined that it would serve as a better representation nationally demonstrating the effects of urbanization on water quality. Initially, the Dallas area sites included an agricultural, an urban, and an integrator area, but the plan was changed to only study the urbanization site due to a decision that an urbanization focus was more important for the nation.

In Cycle II, the Major River Basins (MRB) were delineated as priority areas since river basins generally serve as mediums for the greatest anthropogenic impacts. MRB5 covers the Lower Mississippi and Texas river basins (except for the Rio Grande). The MRB5 report detailed pesticide trends, nutrient trends, a modeling study, and the EUSE component. Unfortunately, the review indicated insufficient data for identifying pesticide trends and this portion was tabled in place of addressing general national results (in the Pesticide Synthesis Report). The USGS decided to use another region with more pesticide use data for re-evaluating the pesticide studies for trend analysis. The nutrient trend analysis for Texas' area is available on-line. The Ecological trend report is being developed.

The pesticide study began with atrazine, the most commonly detected pesticide nationally. The national study was to extend and confirm what was learned in regional studies. Some additional pesticides that had undergone some regulatory changes were added to the study. The focus was on metolachlor, cyanazine, diazinon, and chlorpyrifos. Several of the tests and plots were chosen to provide the best interpretation of the available data for pesticides in surface water in Texas. Four tests or plots were presented; a Wilcoxon Rank-Sum Test, a step-trend analysis used on five Texas sites; Probability Plots of pre- and post-regulation changes; Low S Curves; and Box-Plots, for which mostly pre-NAWQA data was used. The Source Water Quality Assessments (SWQAs) monitored both raw source water and finished/treated water, in surface and ground water. The first year (2002-2003) only tested the source water at nine sites nationally, and the second year (2004-2005) added the finished water. 270 compounds were analyzed, with the second year focusing on detects and added degradates. Compounds were classified by use, and sampling was more frequent in the spring. Two groundwater studies were also completed in Texas, San Antonio, and Houston. The program was conducted in three cycles, but the problem was getting sufficient data from one locality over time from which to do trend analysis. In the second cycle, the USGS limited the number of sample locations to provide this long-term data. Triazines were found in both source and finished water samples at similar concentrations.

The Effects of Urbanization on Stream Ecology (EUSE) program was also conducted on nine national sites, with one of these in the Dallas-Ft. Worth Trinity River Basin in Texas. The Texas study focused on where the Blackland Prairie soils overlap the Trinity River Basin downstream from Dallas-Ft. Worth. Temporal, instead of spatial variables, were studied. Variables such as soils, land use, chemistry, population density, and other socio-economic factors went into the study to establish an Urban Intensity Index to determine which variables most impact concentrations of chemicals being detected in the water. Ms. Ging added a list of specific staff responsible for the various aspects of these studies, including Lynne Fahlquist who is the lead for the groundwater study in South-Central Texas (San Antonio). A few questions were fielded,

including what or who can have the most impact on steering these studies. The program is primarily influenced by the US Congress and the National Academy of Science. However, if there is a problem in your state, the state may have some influence. The Cycle II report is scheduled to be released in December 2008. Cycle III is being developed.

#### **IV. Business Items**

##### **Pesticide Management Plan Task Force (PMPTF) - Pesticides of Interest Assessment, Flow Chart, and Reporting**

Mr. Cherepon gave us a report on the work of the Pesticide Management Plan Task Force. The report is summarized in bulleted form as follows.

- At the PMPTF meeting Mr. Cherepon briefed the members on what his experience was with testing the Pesticide Of Interest Tracking System (POINTS) and how it differs from the flow chart and the previous form used in 2007. POINTS is a system to be used by states and tribes for entering assessment information on pesticides.
- The task force determined to continue with the flow chart that they had developed, with minor modification. Toxicity, specifically human toxicity, will be utilized by prioritizing pesticides with an LD<sub>50</sub> value of less than 50. (LD<sub>50</sub>, or the median dose that can be expected to kill half the population tested) If the pesticide has a TMDL, has been on the 303d list, or has exceeded a trigger value (such as MCL/HAL) it will automatically be assessed as a pesticide of interest. This will make the Texas list more defensible. Also, pesticides with monitoring results will be prioritized and assessed first, since the available information will make these easier to assess.
- A suggestion was made by Donna Long (TSSWCB) to put together a list of pesticides used in Texas that have not yet been monitored and see if the USGS could monitor and analyze for them using certain grant money.
- Handouts were provided at the PMPTF meeting on the POINTS on-line database entry forms, and an explanation was given on how much the reporting program has changed compared to the pesticide assessment form EPA required in 2007. Texas will still use the flow chart developed previously by the group as an assessment aid.
- Michael Hare, assisted by David Villarreal (TDA) developed a pesticide characteristics table for TCEQ to utilize in the assessment process. Dr. Hare developed the Human Health toxicity criteria table and Dr. Villarreal developed the fate and ecological criteria table. TDA plans on also making a list of the most toxic and mobile pesticides so that they can be addressed first.
- Mr Cherepon also provided a brief summary of TCEQ's urban pesticide monitoring in 2008.
- Dr. Jerry Collins' (Reg.6 EPA) statements were reported to the PMPTF members. Dr. Collins stated that the pesticide water quality reporting form required in 2007 is no longer needed since it has been replaced by the on-line POINTS form. He also said that the EPA Region 6 staff received training on POINTS, and he felt the states could benefit from some training as well. He will see if he can arrange for some training at the next Region 6 meeting around October. Dr. Collins suggested that Texas begin testing and working with the on-line

database entry form in the POINTS system, so as to be prepared for what exactly EPA is asking for in this process.

- Future PMPTF meetings are to be scheduled on an as needed basis, rather than on a fixed quarterly basis.

Mr. Cherepon reported on having a long phone conversation with Chuck Evans of EPA, after the PMPTF meeting, about the on-line forms for the database that replaces the reporting form for POIs/POCs. Mr. Evans was able to answer several questions about the on-line forms and how to complete them, and confirmed that the POINTS on-line form replaced the 2007 form. He indicated that if we had pesticides that are rarely used in the state, they could be quickly dropped from the list of pesticides of interest.

Dr. Villarreal added that from what he saw and heard at the last SFIREG Water Quality meeting, the EPA pesticide program is a moving target, changing very quickly, and that we should not do more work than absolutely necessary on our program, in case it changes again. He also felt that most states could possibly complete this on-line reporting and assessment within two years time.

## **Business item 2: Input for the Next Groundwater Protection Strategy and the next Report to the Legislature**

Input was needed for the Legislative report pertinent to the activities of the Agchem Subcommittee. A number of changes have been made due to EPA FIFRA grant changes and the POI/POC assessment process. The subcommittee was given some time to review the two sections. Then the members provided some feedback on mostly minor points and typos. Any additional review and changes relative to the various agencies are welcome, and can be accomplished through e-mail. The deadline for comments was indicated as 8/15/08.

## **V. Information Exchange - Status Update on the 2008 Urban Pesticide Monitoring Report**

Mr. Cherepon gave a preliminary report on 2008 urban pesticide monitoring activities as follows.

- Alan Cherepon and several GPAT team members conducted sampling between 4/14/08-5/22/08, in metropolitan Austin, San Antonio, and Houston.
- Greater cooperation from the affected entities was experienced in 2008 than in 2007. Assistance was received from the Barton Springs-Edwards Aquifer Conservation District, San Antonio Water System, Bexar Metro Water District, and Edwards Aquifer Authority.
- For immunoassay analysis, five immunoassay reagent kits were used. These included kits for the analysis of atrazine, 2,4-D, chlorpyrifos, diazinon, and organophosphates/carbamate.
- In addition to the usual Lab Method 525.2 analysis for pesticides, which includes propazine and prometon, Methods 515 and 622 were also used to analyze for several widely used urban pesticides. Method 515 includes analysis for 2,4-D, Dicamba, and Picloram. Method 622 includes azinphos-methyl, chlorpyrifos, diazinon, and malathion. Together, with the atrazine, alachlor, metolachlor, simazine, these analyses provided a fairly extensive assessment of urban pesticides in groundwater for the three major metropolitan areas of Texas. Also, diazinon is on the EPA re-registration list for 2008, and chlorpyrifos, Phorate, malathion, AZM and Glyphosate

Table 1 2008 Urban Pesticide Monitoring Sample Summary

| County/City        | # of Wells | # of Springs | # of QA/QC Samples | #POE     | Totals     |
|--------------------|------------|--------------|--------------------|----------|------------|
| Travis/Hays-Austin | 43         | 19           | 8                  | 0        | 70         |
| Bexar/Comal-SA     | 37         | 2            | 6                  | 2        | 47         |
| Harris/Houston     | 29         | 0            | 4                  | 0        | 33         |
| <b>TOTALS</b>      | <b>109</b> | <b>21</b>    | <b>18</b>          | <b>2</b> | <b>150</b> |

Table 2 2008 Urban Pesticide Analytical Summary

| Lab/Immunoassay Analyses         | Lab analyses | Immuno-assays | Atrazine (ppb) | Chlorpyrifos (ppb) | Diazinon (ppb) | 2,4-D (ppb)      | OP/C# (ppb)   |
|----------------------------------|--------------|---------------|----------------|--------------------|----------------|------------------|---------------|
| <b>Totals</b>                    | 18           | 601           | <b>148</b>     | <b>131</b>         | <b>138</b>     | <b>150</b>       | <b>34</b>     |
| #Springs                         | # of Wells   | # of POEs     | # of Duplicate | # of Blanks        | #Immuno-Assays | Atrazine Detects | Other Detects |
| <b>TOTALS</b>                    | <b>21</b>    | <b>109</b>    | <b>2</b>       | <b>9</b>           | <b>601</b>     | <b>9</b>         | <b>12</b>     |
| <b>High Concentrations (ppb)</b> |              |               | <b>0.28</b>    | <b>0.20</b>        | <b>0.112</b>   | <b>ND</b>        | <b>ND</b>     |

The above tables show that: 601 immunoassays for five pesticides, and 18 laboratory analyses for three methods were conducted on 109 well samples, 21 spring samples, and two entry points in the Austin, San Antonio, and Houston metropolitan areas in 2008. In comparison, in 2007, urban pesticide monitoring only performed about 298 immunoassays, on samples from 49 wells and four springs in 2 metro areas, as well as 13 lab samples from the Panhandle, only one method.

- The only detects by immunoassay screening include 11 very low ones for diazinon, 9 for atrazine, and 2 for chlorpyrifos.
- The laboratory results indicate only trace amounts of atrazine in five samples, and trace amounts of metribuzin and simazine in one other sample.
- All the lab detects were below quantitation limits.
- There were very few detections of the urban pesticides for which analyses were made and these detections were at very low levels. This indicates that there is no substantial problem for the urban pesticides monitored in these three metropolitan areas in Texas. Since springs and wells were sampled in two of the areas, including 19 individual springs in Austin, a substantial argument can be made that there is little pesticide making its way to the groundwater in Texas metropolitan areas. Presently, there appear to be limited to no impact on groundwater by urban pesticides in Texas metropolitan areas. A complete report will be made at the next meeting.

## VI. Announcements

No announcements were made by the Subcommittee members.

## VII. Public Comment

No public comments were made. With no further announcements or public comment, the meeting was adjourned.

## **VIII. Adjournment**

Recorded and transcribed by Alan Cherepon.

### **Attachments**

Revised draft version of Agricultural Chemicals Activities and Appendix 3 sections for the Report to the 81<sup>st</sup> Legislature.

Flow Chart (revised) for the Assessment of Pesticides of Interest and Concern, along with several pages from the POINTS on-line reporting system.

In their afternoon meeting, the decision was made by the Texas Groundwater Protection Committee that the FY09 first quarter meeting of the Agricultural Chemicals Subcommittee will take place on 10/29/08 at 10:30 a.m., in TCEQ Building F, Conference Room 2210.