PCB & DIOXIN TMDL STAKEHOLDER MEETING
Draft Meeting Summary

July 14, 2009
1-4 PM

MEMBERS PRESENT: Nicole Hausler (Port of Houston Authority), Gordon Pederson & Felicia Paxton (Gulf Coast Waste Disposal Authority), Louis Brzuzy (Shell Oil Products), John Westendorf (Occidental Chemical), Steve Hupp (Harris County Public Health), Patricia Radloff (Texas Parks and Wildlife), Lial Tischler, Bob Stokes (Galveston Bay Foundation), Winston Denton (Texas Parks and Wildlife), Ed Matuszak (Private Citizen, with URS),

MEMBERS ABSENT: Scott Aspelin; Chris Barry; Charles Beckman; Ronald Crabtree; Luke Giles; George Guillen; Tracy Hester; Guy Jackson; Rory Lang; Sara Metzger; Kristy Morten; David Ramsden; Gerardo Ruiz; Steve Weishar; Kerry Whelan; Kirk Wiles; Bob Wood.

SUPPORT STAFF PRESENT: Carl Masterson (H-GAC); Rachel Powers (H-GAC); Larry Koenig (TCEQ Austin); Hanadi Rifai (UH); Stephen Tzhone (EPA)

OTHERS PRESENT:

Steve Archer (Archer Environmental Consulting)
Latrice Babin (HCPHES)
Debra Baker (Connelly Baker)
Dana Blume (Port of Houston Authority)
Lee Bodkins (USGS) by phone
Amy Branom (TCEQ)
Linda Broach (TCEQ)
Cynthia Brum (GBEP/TCEQ)
Matt Bunn (CCA Texas)
Glenda Callaway (Ekistics)
Jerry Caraviotis (Harris County)
Sean Carbonaro (Rutgers)
Marshall Cedilote (TCEQ)
Marilyn Christian (Harris County)
Erika Courtrade (Interested Observer)
Michael Cowart (Klinefelder Austin) by phone
Sharon Crabb (AECOM)
Catarina Cron (Harris County)
James Doyle (DRHR Law)
Francis Fehin (Waste Management)
Kirk Fleener (TCEQ)
Ann Hamilton (Houston Endowment)
Linda Henry (Port of Houston Authority)
Steve Johnston (GBEP/TCEQ)
Bud Karachiwala (Harris County)
David Keth (Anchor QEA)
Divigar Lakshmanan (UH)
Carole Lamont (Harris County)
Mark Landress (Project Navigator, Ltd.)
Mike Lee (USGS)
Kathy Lord (Bayou Preservation Association)
Brandt Mannchen (Sierra Club)
Alisa Max (Harris County)
Ericka McCauley (GBEP/TCEQ)
Jennifer McFarland (UH)
Evelyn Merz (Sierra Club)
Lythia Metzmeier (TCEQ)
Maria Modelska (UH)
Philip Moore (Interested Observer)
Nawa Panthi (AS Engineers)
P. Owen Parker (Dannenbaum)
Cynthia Pickett (DRHR Law)
Ellis Pickett (Gulf Restoration Network)
Ceil Price (City of Houston)
Eric Reese (TCEQ) by phone
Sue Reilly (TCEQ)
Rebecca Renzel (Bracewell & Giulliani) on phone
Nick Russo (Harris County)
Carlos Sanchez (EPA)
Andrew Shafer (Interested Observer)
March Smith (Waste Management)
Jeff Stevenson (Shell)
John Sullivan (UTMB)
Ashley Wadick (TCEQ)
Matt Warren (CCA Texas)
Leonard Waterworth (Dannenbaum)
Charlotte Wells (Galveston BayKeepers)
Scott Raneckhukes (Rice University)

DRAFT

WELCOME & INTRODUCTIONS

Rachel Powers called the meeting to order at approximately 1:05 PM. She thanked everyone for coming. She introduced the three presenters. Self- introductions of stakeholders followed.

REVIEW AGENDA & APPROVE MEETING NOTES

Rachel reviewed the agenda and the group approved the meeting notes from August 2008.

OUTLINE OF THE DRAFT HSC DIOXIN TMDL, AND BEGINNING A GALVESTON BAY SYSTEM DIOXIN & PCB SURVEY, LARRY KOENIG, TCEQ

Larry Koenig began by showing the draft cover from the draft TMDL report, which TCEQ is circulating for internal approval by TCEQ prior to public comment. While the report is not ready to be released, Larry will discuss some of the contents and technical information contained within the draft report and technical support documents. The technical support documents are available on the website at http://www.tceq.state.tx.us/implementation/water/tmdl/26-hscdioxin.html#documents (there is a link to the TCEQ page from http://www.h-gac.com/tmdl).

The support documents discuss two scenarios, A and B. Scenario B is the scenario that was chosen for use in the draft. Larry showed a table, required by EPA, of point-source load allocations. Permits will not directly reflect load allocations shown in the table, which was derived by proportionately allocating the total loading among permitted dischargers, not by direct measurements. Stormwater runoff was also incorporated, as shown in a table for each of the twenty assessment units associated with the twenty TMDL projects.

Modeled six major congeners, associated these with assessment units, derived TEQs for seventeen major congeners. The report has to address internal loading as well as external loading. Internal loading represents the sloshing (by tides and current) of the dioxin recently added to the system--but not legacy dioxin in the sediment--from one assessment unit to another. External loading is new loading from outside the system each day. It is the external loading of about 4 mg/day that it might be possible to regulate with permits, etc. (For reference, baby aspirin contains 81 mg of aspirin along with other ingredients.)

Larry briefly explained that the report describes implementation possibilities in general terms. Other possible sources of Dioxin might include air deposition and dioxin from residential burn barrels. These sources have not been examined in detail, although possible actions to reduce loading from these sources were also described in general terms. The implementation plan will be addressed in a separate document.

Larry offered the opinion that modern emissions and discharges are within acceptable loading guidelines.

Q: The current permit applications do not require testing for Dioxins unless something specifically indicates the need to test for dioxins. Will this change?

A: There *may* be a need to more widespread testing for dioxins, but Larry could not make such a determination now, or until the implementation plan is completed.

Q: When is the public comment period expected to occur?

A: Hopefully in fiscal year 2010 (between September 1, 2009, and August 31, 2010), depending on the internal review and approval process.

Q: One slide indicates that the internal loading is essentially recounted external loading. Should the internal loading be calculated with external loading?

A: The internal loading is not external loading that can be controlled. The TMDL is meant to address loading that can be controlled.

Q: Are the loading levels derived from fish tissue levels?

A: Sort of. The modeling predicted water column concentrations. Bioconcentration factors were also applied that had been estimated from channel data. When water column concentrations are achieved, the bioconcentration factors predict tissue targets will be achieved.

Q: Is TCEQ considering changing the standard for dioxin to be in terms of fish tissue concentration instead of water column concentration?

A: Possibly.

Q: Will a recalculation be required if the standard changes?

A: Perhaps. We'll jump that hurdle when we get there.

Q: Have the TMDL reports been evaluated to see if they would correlate with the proposed new standards?

A: Not extensively or rigorously, although preliminary calculations suggest that there might be a slight change. The report does indicate that "permits will be issued to comply with the water quality standards in place at that time," whatever those might be.

Larry commented that the Superfund group is also looking at the issue.

Larry then provided some information relating to the year-old Consumption Advisory 35 for the whole Galveston Bay System and last week's announcement of an advisory for Clear Creek. TCEQ has been talking internally about expanding the monitoring they do further into the Bay system, beyond the previously monitored channel area. A work order is in process. Larry hopes to begin work at the beginning of September to begin these initial reconnaissance projects.

Larry showed a map of possible testing locations. TCEQ will be asking stakeholders for suggestions for sampling locations, possibly in September or October, as the QAPP is developed for the project. The map shows existing monitoring sites.

Q: What funding is available for these studies?

A: TCEQ has allocated $250,000 in federal grant funds for the next fiscal year. Larry anticipates that the study will last for two years or more, but TCEQ does not budget that far in advance.

Q: Is there a need for more than $250,000?

A: We will do as much as we can with this amount, and do more in the future. It can cost from $5,000 to $9,000 dollars to collect and analyze a sample for fish tissue and water.

PCB TMDLS - PROJECT UPDATES, HANADI RIFAI, UNIVERSITY OF HOUSTON

Hanadi explained that she would address three topics: 1) Results from last year, 2) Comparison to 2002 samples, and 3) 2009 Activities.

FY2008 PCB Results

Samples of fish tissue, sediment, and water were collected and analyzed. In contrast to the 2002 samples, which evaluated the sum of 18 congeners to get total PCB, the 2008 analysis looked at the sum of 43 congeners for total PCB, which now seems to be the prevailing protocol.

While there was some geographic variation in the highest concentrations of PCBs based on whether you looked at water, sediment, or fish tissue, segments 1006 and 1007 seem to have the highest concentrations. [1006 is the Houston Ship Channel and 1007 is Buffalo Bayou.]

PCBs and Dioxins can be separated out based on chlorination levels. By comparing chlorination levels in a given sample to source profiles, it is possible to trace the source of PCB concentrations. [In some ways, this is like looking for genetic markers or phenotypes.] Analyses produce some distinct differences:

- in dissolved water, lower levels of chlorination have the highest relative concentrations of PCBs
- in sediment, the 4-5-6 series has the highest concentrations
- There are some anomalies in certain congeners in the ship channel, and this raises some questions to be examined.

There seems to be more PCBs in the dissolved phase instead of attached to sediment, which is a bit different than for the Dioxins and is somewhat unusual.

There are relatively few bodies of water that have been tested and which show higher levels of PCBs in the dissolved phase (Lake Michigan, Green Bay, the Delaware River, and the remainder of such sites are overseas). This raises the question of why the levels are so high in the Ship Channel, although the answer might be difficult to ascertain.

Hanadi described the filtration system used to differentiate between dissolved concentrations and concentrations attached to sediment. If the PCBs are attached to sediment that is smaller than one micron, it would be identified as dissolved. There are technological challenges that would need to be resolved in order to determine if the PCBs are dissolved or attached to sediment smaller than one micron.

Q: Are you looking at the distribution of different size particles in the water phase?

A: Yes, although we have not found or developed a technology that can provide that information for the very small particles. They are looking into highly sophisticated methods to figure out how they might be able to make a gadget that can use a .45 micron filter. Until then, they cannot tell if the PCBs are colloidal or dissolved.

Hanadi continued by summarizing results. The current water quality criteria were exceeded 41% of the time using the sum of 43 congeners. More than 70% of fish tissue samples exceeded DSHS values. PCB concentrations were higher than suspended PCB samples.

Q: How do these studies relate to the existing and proposed standards, in terms of groups of congeners, arochlors, total PCBs, and fish tissue levels? Perhaps these analyses need to be done in parallel.

A: Arochlors did not appear to be indicative of total PCBs. In the future, Hanadi will report on calibrations between the different standards.

2009 PCB Sampling Status

The majority of sites have been sampled. Fish have been difficult to catch, but most have been caught. There are plans to sample runoff, but weather has not been cooperating.

Effluent from various industrial sites is also being planned. Sites have been selected based on several criteria such as flow levels, industry type, NPDES permit data, spatial distribution, and proximity to hotspots. Sampling will begin at 20 sites in the near future, once permissions are received.

Q: Will the sampling by high volume samplers? Are you following Coast Guard regulations?

A: Yes.

Q: Will sampling results be usable for compliance samples?

A: They are not enforcement samples.

There was a discussion of the variation in levels in enthusiasm by the industrial sites that have been selected for sampling and of the letters that were sent to the sites.

PCB Concentration over Time

Hanadi then showed some comparisons between 2008 samples and the 2002-2003 samples. These data will be used in modeling. Until then, the comparisons can be used to make general inferences. In general, it appears that there have been reductions in the system. There are a few locations that seem to show significant increases, although this hasn't been analyzed for statistical validity. Similar results are indicated for different levels of chlorination.

Hanadi introduced Sean Carbonaro, an REU (Research Experience for Undergraduates) student who is looking at PCB partitioning data. He is finding interesting and significant differences between catfish and croaker tissue concentrations.

Q: For effluent, what parameters are being sampled besides the PCBs?

A: TOC, TSS, pH, temperature, and other standard water quality variables. The samples will be high volume samples, where water is pumped through a filter for several hours. Some of the parameters will be based on composite values of several grab samples.

UPDATE ON SAN JACINTO RIVER WASTE PITS SUPERFUND SITE, STEPHEN TZHONE, EPA

Stephen thanked the group for inviting EPA to speak to the stakeholder group. Stephen is the project manager for the San Jacinto River Waste Pits Superfund Site. Stephen introduced Carlos Sanchez, EPA's section chief for all the remediation sites in Arkansas and Texas.

Stephen discussed EPA's fact sheet for the San Jacinto River Waste Pits Superfund Site, which can be viewed at http://www.epa.gov/region6/6sf/pdffiles/0606611.pdf. This fact sheet is updated every month or two. The structure of his presentation generally follows that of the fact sheet.

Current Status

Normally, after a site is listed on the NPL (National Priority List) but before the RI (Remedial Investigation), EPA conducts a three-stage enforcement process. The three stages are 1) requesting and collecting information, 2) sending general notice letters to parties that might be liable based on preliminary information, and 3) sending special notice letters to parties that are probably liable based on more detailed information. The special notice letters specify that the EPA is ready to negotiate and provide details regarding those negotiations. Currently, the EPA has completed the first two stages of the enforcement process.

When the site was listed last year, it was unclear which funding source would be used. The results of the enforcement process will determine the funding source for the remediation. Funding will either be "Fund Lead" (from Superfund monies) or "PRP Lead" (from a negotiated cost settlement with responsible parties; PRP means Potentially Responsible Party).

After the time of listing, a sampling plan began to be developed in coordination with the state and natural resource trustees, which consists of representatives of federal and state agencies (e.g., NOAA, USFW, GLO, TCEQ). Due to the dredge and construction permitting around the area of the pits, the US Army Corps of Engineers is also involved. The Corps actions on permits in the area may impact the cleanup of the site.

Site Description

Stephen displayed a map of the site and surrounding area. While a source area has been identified, the nature and extent of the site will not be defined until after RI. While the McGinnis tract is about 20 acres, the site will encompass a larger area in proximity to the tract.

Wastes and Volumes

Sediment has been tested, finding dioxin concentrations of up to 41,300 parts per trillion at the tract. The RI will define the wastes and volumes more accurately.

Community Involvement

Stephen reviewed the diagram of the Superfund Process, describing several stages depicted in the diagram on the fact sheet. He explained that the EPA has completed the first three stages (site discovery, site evaluation, and NPL Listing) and was at the very start of the RI stage. The RI will define the extent of dioxin contamination from the site. In the feasibility study (FS), alternatives will be identified to address the contamination from the site. In the Proposed Plan stage, a plan will be proposed for public comment. In the Remedy Selection stage, a plan will be chosen and a Record of Decision (ROD) and Responsiveness Summary will be made.

Stephen explained that EPA has an enforcement first policy that requires that if there is a PRP, that a plan would pursue funding from that avenue before pursuing in-house funds.

Q: How long will it be before remedial design begins?
A: If a Special Notice is pursued, EPA has discrete timeline for negotiation by both EPA and the responsible parties. The negotiation would result in a "Consent Decree" or "administrative order on consent." If an agreement is not reached within the timeline, EPA can request that the Department of Justice issue an administrative order requiring clean-up by the responsible parties. If the responsible party does not comply, it might be possible for EPA to conduct the work and bill the responsible party for triple damages.

If a special notice is not pursued, the Superfund Program could request funding from Congress. Carlos hypothesized that it might take four to five years to get to the clean up.

Q: At this stage, is it still possible the project will be a fund lead? Or will it definitely be a PRP lead?

A: EPA has an enforcement first policy, which mandates that if a special notice stage is reached, then enforcement lead is required.

Q: Would the type of lead influence how quickly the project would proceed? How quickly would it take to clean it up?

A: If it is a fund lead site, once the funds have been received from Congress, progress might be faster.

Q: McGinnis is deceased, the paper mills are long gone… How likely is a PRP lead?

A: PRPs are identified under CERCLA as owners, operators, and generators. EPA is not confined to any one of those categories.

Q: TxDOT is undertaking construction on I-10 right at this site. How is this being coordinated?

A: We will be approaching them to coordinate. EPA is working with several Texas agencies.

Q: Is it possible to begin doing some containment now while EPA is still investigating the possibility of PRP funding?

A: That's a good question. It depends on how much dioxin is leaching out and how stable the site is. The 'removal program has looked at that, and the initial opinion was that removal was not time

critical, although the situation is being evaluated again. This will be part of the remedial program, a part of the Superfund process.

Q: How can access be restricted? People are catching and eating fish there all the time.

A: EPA does not own the property, so there are limitations. There is also a fish advisory for a much larger area. To restrict access on private land at this point might be considered a taking. I'll get back to you on that, though.

Q: What is the blue line on the map?

A: EPA is developing a comprehensive sampling plan in coordination with federal and state trustees. The blue line is a possible, estimated, preliminary perimeter for possible investigation. The blue line will probably change as we learn more about the extent and nature of the contamination. This area is much larger than the initial area listed as the Superfund site. The line was determined by looking at historical photographs, tidal influence, floodplains, and TMDL data. This information has been collected in a GIS database which is used to interpret spatially contained information.

We have not yet identified how much of the contamination can be attributed to the San Jacinto Waste Pits, and this investigation has not yet been completed. Initially, we are looking at TCDF, one particular congener of dioxin that is associated with pulp mills.

Hanadi offered to share some of the modeling data, which does at look at these questions to an extent. She understands that the evaluation will need to consider ecological risks. How does the blue line correlate?

The natural resources trustees will be looking into this.

The EPA plans to look at both the San Jacinto site and the San Jacinto Watershed in a more holistic watershed management strategy.

Hanadi pointed out that the model (WASP, which has been approved by EPA) suggests that 40% to 60% of the contamination might be from the site, although it is not entirely clear.

Stephen suggested that remedial investigation may include the barge terminal on the south side of I-10. It has not been determined whether the southern land mass might be contaminated or leaching.

Q: Where on the map have the highest concentrations of dioxin been found?

A: Stephen pointed to an area right in the pits, in the water.

Q: Is there any posting that is a Superfund Site?

A: EPA has not posted any signs. Harris County Precinct 2 has placed signs in English and Spanish, but they tend to get stolen or destroyed.

Stephen then shared the EPA is working with the US Army Corps of Engineers to develop a watershed management strategy. The Corps is responsible for issuing Clean Water Act permits in this area. EPA advised the Corps that the issuance of dredging and dredging-disposal permits might interfere with the investigation and remedy. The Corps have provided information regarding permits in the area. Stephen believes they have already revoked at least one permit, the Captain Roberts permit.

Stephen explained that they will be working with the Corps to make sure permits are appropriate. The Galveston District Corps and EPA are examining a permit process used by EPA and the Corps in Seattle that includes language about potential liability.

Q: Have you done any leachate testing of the sludges in the pits?

A: No. Samples include initial Superfund testing and TMDL testing.

Stephen summarized the three topics he had discussed:

1) The three stages of the enforcement process—information collection, general notice, and special notice
2) The sampling plan
3) Working with the Corps of Engineers

Rachel then thanked Stephen for his presentation.

OTHER BUSINESS

Larry shared a series of historical photos of the Superfund site. Photos were from

- 1964—something was going on the area, but not much
- 1973—Pits had been built, filled, and left. There were about eight feet of subsidence.
- 1981—Barely visible at a high water stage
- 1984—You can still see where the levees were, but cells two and three were clearly breached
- 1985--was a low water level and you still see clearly where the cells were
- 1987
- 1989—you can see evidence of sand dredging from the north
- 1992
- 1994
- 1995—Low water level. You can see the bottom in many places.
- 1997—The end of cell one is now open to the water and you can hardly tell where cells two and three were.
- 1998—Cell one is more open.
- 1999
- 2001—There had been sand dredging very near the pits and it looks as through the end is gone from cell one
- 2002
- 2003
- 2005—the most recent image. The levees are still there, but they are underwater.

Q: Has there been any investigation as to where the sand from the end of cell one has gone?

A: Larry thought it would probably be in concrete—or back in the river. The dredging is done on a boat, and the sand is separated from the fines and the fines are put back in the river. The Dioxins are probably associated with the fines.

Q: Is it possible to get a copy of the slides that EPA showed, or could they be posted on the H-GAC website?

A: A link to the fact sheet will be provided along with other information that EPA can provide.

Comment: EPA, TCEQ, and other agencies are encouraged to educate the population who are fishing at the site that there are risks associated with eating the fish.

In the past, H-GAC had worked with Precinct 2 to do public education with signs, brochures, and media coverage.

Q: Is this site part of a historical pattern in the area? And are there more sites like this?

A: Possibly.

Q: How was this site identified?

A: TCEQ kept finding high concentrations of dioxin near the bridge. A TPWD staff member, Andy Sipocz, connected some dots then looked at aerial photographs. The photos suggested that the site should be further investigated.

Comment: It is good to see so much cooperation between so many agencies. It is great to see a State TMDL person sitting next to an EPA CERCLA person, working to solve the same program.

Q: Will the implementation group be forming soon?

A: The group has begun to consider possible implementation strategies, although the development of implementation strategies needs to continue through a more formal process.

NEXT MEETING

The next meeting might be in early Fiscal Year 2010, possibly in late September, to discuss the lower bay plan and possible sampling locations, called The Bay System Survey.

Comment: Hopefully, EPA will be able to provide a brief update at the next meeting.

EPA offered to attend the next meeting. If there are any specific questions, they'd be happy to try to answer them at the next meeting.

Comment: Please ask the Department of State Health Services to attend the next meeting.

Rachel stated that they would be invited.

Hopefully there will be a public comment period and public meeting during the coming fiscal year.

ADJOURN

The meeting adjourned at approximately 3:45 PM.