

**Meeting Summary**  
**Houston Ship Channel/Upper Galveston Bay TMDL Stakeholder Group**

**February 2, 2005**

**STAKEHOLDERS PRESENT:** Scott Aspelin; Chris Barry; Louis Brzuzy; Winston Denton; George Guillen; Ed Matuszak; Bob Stokes; Lial Tischler; John Westendorf; Kirk Wiles.

**STAKEHOLDERS ABSENT:** Charles Beckman; Ronald Crabtree; Luke Giles; Joy Ijharah; Guy Jackson; Sara Metzger; Kristy Morten; Juan Parras; Jack Wahlstrom; Steve Weishar; Kerry Whelan; Bob Wood.

**SUPPORT TEAM PRESENT:** Michael F. Bloom; Jennifer Davis; Sam Eaton; Larry Koenig; Carl Masterson; Mary Jane Naquin; Randy Palachek; Hanadi Rifai; Monica Suarez.

**OTHERS PRESENT:** Phillip Dorn, Shell; Joe Phillips, Shell; Amber Thomas, Harris County; Kathy Ramsey, H-GAC; Steven Johnston, GBEP; Tony Gray, City of Baytown; Marty Kelly, TCEQ Houston.

**WELCOME & INTRODUCTIONS**

Mary Jane Naquin welcomed participants and opened the meeting at approximately 1:10 PM and self-introductions were made.

**REVIEW AGENDA**

Members accepted the agenda as proposed.

**ADOPTION OF January 7, 2004 MEETING SUMMARY**

There were no changes to the meeting summary and it was adopted by consensus.

**MEMBERSHIP ISSUES**

This agenda item was moved from its place on the agenda to allow introduction of new members prior to the discussion of the project. New members present were George Guillen, Environmental Institute of Houston, University of Houston Clear Lake, and Bob Stokes, Galveston Bay Foundation.

Carl Masterson noted that Juan Parras who was to have represented the Environmental Justice component has never attended and will be dropped from the group unless there is any objection. There was none. Another absent member, Joy Ijharah, is a citizen representative from the Channelview area and was unable to get a babysitter for her two small children. Ms. Naquin has been in contact with her and she is very interested in participating and we will try getting her participation by her reading materials and sending comments, concerns etc. to the group. Ms. Naquin asked the group if that would work and the group agreed.

**TMDL PROJECT STATUS**

***Background.*** Dr. Hanadi Rifai gave an update of the project that is now in Phase III. Phase I was basically an assessment of data, major sources, fate and transport of dioxin in the environment and the development of work plans and costs for Phases II and III. Phase II incorporated additional data collection, refining the conceptual model, developing a steady-state water quality model, and sensitivity analyses of the project. Phase III includes a substantial amount of sampling which is mostly complete, developing more sophisticated models, estimating a TMDL, evaluating PCB data gathered to date and stakeholder involvement. An amendment to the Quality Assurance Project Plan (QAPP) was submitted to TCEQ on January 20, 2005.

Dr. Rifai then discussed what has occurred over the past year. Seventeen in-channel locations were sampled, tributaries were sampled for sediment, focused sampling was conducted in segments 1006 (HSC) and 1001 (Lower San Jacinto River) to focus more closely on why the dioxin levels were particularly high

in these segments. Samples were also collected in the upper watershed to get background information for the model. The major sources looked at this year were the tributaries, additional ambient air (wet and dry) deposition and stormwater runoff (not enough data points from previous years for analysis). Dr. Rifai also noted that the team is looking closely at particle sizes in air and the relationship to dioxin. She reviewed the locations of the project sampling stations and the basics of what parameters were sampled.

**The Data.** Dr. Rifai talked about the dioxin data from water, sediment, catfish and crab samples, both the most recent data and data prior to Spring 2004. It all basically shows that dioxin in ship channel water is consistently, year after year, exceeding the water quality standard as is the water in the channel's side bays. Sediment data showed that the peak level is the highest ever found. There was no change in catfish data – dioxin is still above the standard. Blue Crabs were hard to find, but dioxin levels still exceeded the standard. Dr. Rifai noted that at the State of the Bay Symposium in January, Dr. Jim Lester with Houston Advanced Research Center (HARC) indicated the overall crab population has declined. Overall the technical team saw no seasonal changes reflected in the data.

**Water Quality Target.** There is a question of what the water quality target is for this project. Currently the standard is .0933 based on generic EPA numbers used in a toxicology equation. The issue that needs to be addressed by this group is whether to target water based or sediment based standard using the generic EPA numbers or using HSC-specific data. Using HSC-specific data to calculate a standard results in a number lower than the current standard. The same results are seen when using HSC-specific data for a sediment based standard. This group will have to address the issue of whether to go with a lower or higher value standard, but regardless, we exceed the standard in either case.

**Resuspending Dioxin.** An issue raised by stakeholders was that we are gathering water data from the shallow part of the water column and if there is resuspension of dioxin from the sediment to the water column we aren't seeing it. The team went to two locations in segment 1001 (Lower San Jacinto River) and segment 1006 (Houston Ship Channel) and sampled shallow and deep. The resultant data did show that the deeper samples had higher levels of dioxin 3x the shallow samples at these two stations. So there is resuspension (going from suspended particulates to dissolved) in some parts of the HSC with higher levels in deeper part of the water column. This could explain why we continue to see high levels of dioxin in these two segments. Further analysis indicates that dioxin is going from dissolved to suspended, not the other way around. The difficulty is that at only two stations were sampled shallow and deep. The team tried to identify the specific cause/source of these higher levels of dioxin but was unable to do so.

**Dioxin Old or New?** The team worked with Texas A&M Galveston to try and learn whether dioxin in the sediment cores was newly deposited or was the result of historical deposition. Age information is complete for two stations, one in the HSC and one in Upper Galveston Bay. The core sample taken in Upper Galveston Bay was about 40 years old, and that of HSC samples analyzed is about 1 year old. The higher levels of dioxin are in the top 20 centimeters of cores taken.

**Air Sampling.** Ambient levels of dioxin were detected at all five air monitoring stations and each station showed about the same concentration. There are some seasonality and spatial differences between stations, but not much. The sampling shows more dioxin in wet deposition than in dry deposition. One thing the team discovered is that the samplers need to be left out longer and they will be doing so to get a 6 month period. The team will sample more green areas to see if they get similar concentrations to the more urbanized areas.

**Runoff.** The concentration of dioxin in runoff is fairly large exceeds the number from point sources. This is based on one round of sampling in 2002. There will be more sampling this year. What we are seeing is that the level of dioxin in runoff is the same level as we are seeing in the shallow part of the water column in the HSC. One interesting discover is the relatively high level of dioxin in Brays Bayou. The preliminary data shows that highly urban land use areas have more dioxin, which would explain why Brays has high levels.

**Model.** Dr. Rifai reported to the group on the status of the model and some of the sensitivity analyses that have been done for suspended and, dissolved concentrations. The model is not finished and will be refined.

**Stakeholder Involvement.** Dr. Rifai reported on stakeholder process participation including presentations to Citizen Advisory Panels, the Galveston Bay Council and a presentation at the State of the Bay Symposium. The team also met with the Port of Houston Authority and a number of industries as well as responded to comments from stakeholders.

**PCB Data.** PCB data was collected and analyzed along with the dioxin. There are 209 congeners as compared to Aroclors but Texas standards are based on Aroclors as is the Department of State Health Services tissue screening level. The assessment of the PCB data showed a concern in water concentrations (congener data) in segments 1006 and 1007 of the HSC, concerns for levels in catfish in segments 1001, 1006 and 1007 (congener data) and a concern for Aroclor in segment 1001. Congener data in catfish showed potential concern in Sims, Vince, Patrick, Buffalo, and Whiteoak Bayous. Dr. Rifai would like the group to consider using 18 congeners identified by NOAA rather than Aroclors.

**Upcoming Work.** Over the next 6 months, the technical team will be expanding the model, gathering remaining runoff samples and recalculating load estimates, analyzing 2004 air deposition data, conducting flow measurements, completing the sediment aging studies and beginning the TMDL allocation process.

#### **NEXT STEPS**

Larry Koenig noted that this TMDL study is approaching the end of the data collection phase and over the next few months and in FY '06 the group needs to address what all the data means and what can be done with it.

#### **NEXT MEETING**

No definite date was set for the next meeting other than it will probably be early summer when all the data collection is complete.

#### **ADJOURN**

The meeting was adjourned at approximately 3:30 PM.