

June 12, 2002 Meeting of the Houston Ship Channel Dioxin TMDL Stakeholder Group

Stakeholders Present: Chris Barry, Linda Broach, Tracy Hester, Ed Matuszak, Kristy Morten, Juan Parras, Chris Sappington, Steve Speer, Ted Brenneman for John Westendorf

Stakeholders Absent: Henrietta Allen, Charles Beckman, Erwin Burden, Ralph Calvino, Ronald Crabtree, Winston Denton, Laura Fiffick, Guy Jackson, Scott Jones, Pam Kroupa, Donna Phillips, Tina Proctor, Luis Sueiro, Lial Tischler, Jack Wahlstrom, John Westendorf, Kerry Whelan, Kirk Wiles, Bob Wood, Woody Woodrow

Support Team Present: Jennifer Davis, Andrea Dunn, Sara Hausman, Paul Jensen, Louann Jones, Larry Koenig, Earline Lambeth, Carl Masterson, John Matthews, Hanadi Rifai, Tricia Rittaler, Yu Chun Su, Monica Suarez, Pris Weeks

Others Present: Om Chawla (H-GAC), Courtney Miller (Galveston Bay Foundation), Randy Palachek (Parsons), Celesta Zuniga (UNEC)

Materials Distributed:

- 16 August 2001 meeting summary
 - 12 June 2002, proposed agenda
 - Stakeholder list, current as of 12 June 2002
 - Hanadi Rifai's PowerPoint QAPP presentation
 - Supporting data tables
 - QAPP
1. The meeting for the Houston Ship Channel Dioxin TMDL Stakeholder Group was held from 1:00-3:00 PM at the University of Houston-Clear Lake (UHCL), 2700 Bay Area Blvd., Houston, Texas 77058, Bayou Building 2nd Floor, Room 2234. **Pris Weeks** of the Environmental Institute of Houston (EIH) welcomed the group. Self-introductions were made. Meeting agenda items were approved.
 2. No announcements or updates were made.
 3. **Hanadi Rifai** began her presentation by briefly discussing the goals and history of the analysis of dioxins in the Houston Ship Channel. She reviewed the major tasks of the first phase of the research team and the work completed to date. She then provided a brief summary of the longitudinal dioxin data gathered in the HSC and Patrick Bayou since 1992. The most important conclusion of the first phase was that there exists an evident need for collecting additional tissue, effluent, and sediment data to develop a plan to reduce dioxins in these segments.

The major tasks for the second phase include identifying water quality targets (which is almost done), developing a Quality Assurance Project Plan or QAPP for further

data collection (feedback on which was a goal of this meeting), monitoring and collecting data (based on the approved QAPP), and creating a model of the fate and transport of dioxin in the designated segments. These tasks should be completed by August 2003. Stakeholder involvement would be a continuous element of all of these processes. The ultimate goal of the second phase would be to estimate TMDL allocations.

Since the last meeting on 16 August 2001, the research team has developed the phase two workplan, developed cost estimates and a project timeline, written a QAPP, defined model segmentation, and selected a model for mass-balance simulations.

An essential problem in developing a QAPP has been connecting dioxin levels in the water column, where dioxins are typically measured, with tissue levels, which are the basis for mandated standards. Resolving this issue means identifying water quality targets via one of two approaches: analyzing water concentrations using high volume sampling methods or using strictly tissue-based concentrations, tying bioaccumulation to water and sediment concentrations.

TNRCC standards specify a water concentration of 0.093 pg/L for saltwater fish and 0.47 ng/kg for fish tissue. However, the Texas Department of Health (TDH) and EPA have different standards, and those standards have been shifting and are hard to compare. An important task, therefore, is identifying a water quality target. The EPA and TNRCC tissue standards, for instance, are of the same order of magnitude, but the EPA has recently lowered their approved level from 0.7 pg/g to 0.26 pg/g. The TDH value is an order of magnitude higher than both EPA and TNRCC, although TDH assumes that exposure occurs over a 30-year period rather than the EPA and TNRCC's 70-year model. **Randy Palachek** pointed out that the TDH's acceptable cancer risk level is also an order of magnitude higher than EPA and TNRCC levels. **Kristy Morten** asked if there had been any discussion between TDH and TNRCC. **Randy Palachek** said that has been contact between EPA and TDH.

Pris Weeks then asked what methods of rectifying standards vis a vis local conditions had been considered or developed. In other words, what type of person was assumed to be consuming fish for the risk levels, and did those assumptions match the profiles of communities near our segments? **Randy Palachek** said the estimates were very conservative on the part of TDH, TNRCC, and EPA. These risk levels had been set for their vision of a recreational fisher, based on assumptions about serving size, length of exposure, and the source of the fish. A different set of assumptions would have to be used, for instance, with coastal Native Americans. **Larry Koenig** then wondered if eating ten times the amount of fish as defined in these assumptions would translate into ten times the amount of risk. **Randy Palachek** said that was true. **Hanadi Rifai** added that these rates translated into cancer rates above "normal" background rates.

Hanadi Rifai then said that another important task is to develop a QAPP. The first draft was submitted to TNRCC on 7 May 2002. Comments on the first draft have already been addressed, and a second draft based on those comments is being prepared now. **Tracy Hester** then asked if the second draft would include new TRI data. And how will sampling stations change? **Hanadi Rifai** stated that she would address those questions in the new draft.

Hanadi Rifai then presented some highlights from the QAPP on reporting limits for dissolved water, solids, and air. The Ambient Water Reporting Limits (AWRL) for each type come from TNRCC standards. **Chris Barry** noted that these AWRLs differed from target standards. **Hanadi Rifai** replied that AWRL levels are higher than the standards and may need to be lowered. **Linda Broach** asked what other congeners were found. **Randy Palachek** said that pentas, heptas, and furans were included but not PCBs. **Hanadi Rifai** said that the complete list of congeners was found in the QAPP.

Hanadi Rifai then turned to talk about the data collection methods and TRACS. The water concentration measurements will use two kinds of samplers differing in their filtration systems for ambient water and effluent sampling versus runoff sampling. The research team is now selecting the labs to test these samples. The RFP has been sent to the dioxin labs, with audits to select the primary lab or labs. Quotations for other analyses are expected by the end of June 2002; only one lab will be selected.

The next major task is the monitoring and data collection process to establish baseline readings. All testing for in-stream water, in-channel sediment, and tissue will be conducted simultaneously. Locations will be sampled twice, with eight locations sampled four times to assess regional trends. Monitoring stations are not cast in stone and may shift.

Major sources that will be inventoried include sludge at 105 facilities (with the 50 worst chosen for monitoring sites), sediments at important confluences, runoff during wet weather events, ambient air levels, and wet and dry deposition. Depositional processes will be particularly important. Research suggests that air processes are the major source of dioxins nationally, but this monitoring should determine the relative local importance. Runoff will also be a major focus, and the research should separate water from air sources for each watershed.

Runoff samples will be collected from larger storm events so that runoff can be pumped through the filtration system over a long period of time (perhaps up to eight or twelve hours). **Om Chawla** asked how they know where wastewater treatment plant discharges are located, so as to avoid those watersheds for runoff sampling. **Hanadi Rifai** replied that it was from TNRCC records. The goal was to have watersheds with no wastewater discharges, so that only runoff possibly affected by air sources would be assessed.

Hanadi Rifai then described the air monitoring stations and sampling. **Ed Matuszak** asked what the sampling location rationale was. **Randy Palachek** responded that good dispersion, data holes in previous sampling, and sites with good long-term records were all favored. **Ed Matuszak** said that there didn't seem to be many in the Bay area. **Randy Palachek** said that all sites would be sampled for tissue, not just the yellow dots on the sampling site map, so there are as many tissue sites in the bay as there are water/sediment sites.

Hanadi Rifai then proceeded to describe the modeling process, which has already begun with preliminary mass-balance simulations using early numbers with QUAL-TX and analytical equations. The mass-balance simulations are considering atmospheric sources, nonpoint runoff, atmospheric deposition, and point source discharges. QUAL-TX has already been used in another HSC TMDL and is accepted by TNRCC for dry-weather, low-flow waste load allocation modeling. . Many details remain to be settled with the mass balance, particularly the partition coefficient that determines the relative dissolved phase versus the particulate phase and how runoff loads and settling process are to be incorporated into the model.

Stakeholder involvement in phase two will be continuous and include providing a project timeline, informational materials, and technical presentations to stakeholders. The research team will also respond to questions and information requests and incorporate group recommendations.

The ultimate goal of phase two is setting TMDL allocations and modeling reduction measures.

4. **Pris Weeks** then thanked **Hanadi Rifai** and asked her what comments she had already received in writing about the QAPP. Hanadi Rifai said that most comments were straightforward technical issues, mostly from TNRCC. Pris Weeks then turned to the audience and said this is the last opportunity for input. Hanadi Rifai agreed, saying that the research team goes to the field as soon as the TNRCC gives the OK. Any additional comments need to be received by Friday, 14 June 2002 to modify the QAPP. Pris Weeks then stated that the QAPP is available on the H-GAC website but that hard copies are also available.
5. The meeting was then adjourned.