**Meeting Summary**
**DIOXIN TMDL STAKEHOLDER MEETING**

**April 5, 2007**
**1-4 PM**

**MEMBERS PRESENT:** Scott Aspelin; Charles Beckman; Winston Denton; Tracy Hester; Ed Matuszak; Bob Stokes; Lial Tischler; John Westendorf; Bob Wood

**MEMBERS ABSENT:** Louis Brzuzy (represented by Jeff Stevens); Ronald Crabtree; Luke Giles; George Guillen; Guy Jackson; Sara Metzger; Kristy Morten; David Ramsden; Jack Wahlstrom (represented by Felicia Najera); Steve Weishar; Kerry Whelan; Kirk Wiles

**H-GAC STAFF PRESENT:** Carl Masterson

**OTHERS PRESENT:** Mary Jane Naquin (Facilitator); Larry Koenig (TCEQ); Linda Broach (TCEQ); Hanadi Rifai (UH); Randy Palachek (Parsons) Monica Suarez (Parsons); Ken Schwartz (Citizen); Lucy and Will Umholtz (Citizens); Patricia Radloff (TPWD); Spencer Williams (ChemRisk); Jennifer Davis (Parsons) Wendall Honeycutt (Corrigan Consulting)

## WELCOME & INTRODUCTIONS
The meeting was called to order at 1:10p.m. Self introductions followed.

## REVIEW AGENDA
The agenda was reviewed with no additions.

## FORMAL ADOPTION OF SEPTEMBER 19, 2006 MEETING SUMMARY
The September 19, 2006 meeting summary was adopted.

## PROGRESS OF MODELING EFFORTS
### RMA2
The RMA2 model is able to approximately predict water surface elevations through the water velocities and flows.
### WASP
Once flows and salinities were calibrated, the WASP modeling began. The hydrodynamic and WASP models are now completed, and the sensitivities and uncertainties of these models are explained below.
### Load Allocation Spreadsheet Model
The Load Allocation Spreadsheets for preliminary mass balance and preliminary overall reduction for both TCDD and TEQ have been completed and are explained in detail below.

## STATUS OF MODEL ANALYSES
### WASP Modeling
Indirect and direct discharges were considered in finding the overall discharge for a given day and segment in the WASP grid.

- Stormwater runoff and point source discharging u/s model segments were calculated by multiplying the USGS measured discharge by the concentration.
- The concentration was determined for dry days (load from point source/flow at USGS gage) and for rainy days ([runoff load + point source load]/flow at USGS gage).
- The point source loads for direct discharges to WASP segments were found by multiplying the self-measured discharges by the concentrations for a given segment on a given day.

- The runoff load was found by multiplying the flow (as determined using the NCRS method) by the average runoff concentration (0.017 pg/L).
- The direct deposition was found by multiplying the deposition flux (wet flux or dry flux as depending on precipitation) by the area.

The modeled average 2378-TCDD concentrations (pg/L) along the main channel and the San Jacinto River were found to be higher than the observed concentrations. When sedimentation, which seems to be a major contributor of TCDD, is factored into the model, accounting for the low sedimentation of surface water, the modeled concentrations were found to be closer to the observed concentrations. This will be explained further below.

**Load Allocation Spreadsheet Model**

The Load spreadsheets for preliminary mass balance (TCDD and TEQ) were reviewed, including how the in-stream load and source loads could calculate the unaccounted loads – the positive of which are representative of source amounts in their given segments, and the negative of which are representative of sink amounts in their given segments. Sedimentation is not factored into the load allocation spreadsheets.

The Load spreadsheets for preliminary overall reduction (TCDD and TEQ) were reviewed, explaining how a percentage of overall reduction of TCDD can be obtained from the net outflow multiplied by the Texas WQS (0.0933 pg/L), multiplied by the average contribution of TCDD to TEQ in water (46.6%) and how a percentage of overall reduction of TEQ can be obtained from the net outflow multiplied by the Texas WQS.

## DISCUSS MODELING RESULTS AND IMPLICATIONS AND FUTURE ANALYSES NEEDED

The modeled line in the average 2378-TCDD tends to predict a wider peak than the observed line indicates, particularly in areas that have higher concentrations. The standard deviation bars showed that there was a range at each site of observation that depended largely on the number of times these sites were monitored (some were only monitored twice, others five times – those monitored less had larger standard deviations).

The sensitivity analysis shows the uncertainties in the model – the impact of sediment variables, scour and benthic concentrations, are factored into the average 2378-TCDD concentrations (pg/L) on separate graphs, showing that when both of these variables are increased, the average 2378-TCDD concentrations also increase. In addition, WASP load scenarios were given for the main channel and San Jacinto River, which further show that if sedimentation were removed from the loads, there would be a decrease in the average 2378-tcdd concentrations. Thus, sediment is a major source of TCDD.

In regards to the difference between the modeled and observed lines in the graphs representing the average 2378-TCDD concentrations (pg/L), the modeled lines are representative of the average of three years of data collected at the depth average concentration of the channels. The observed data is primarily from surface samples, while the depth sampling showed there to be stratifications in the deeper parts of the channel; thus, the two lines show the differences in the sedimentation in the depths. To bring the lines closer, high settling modeling was done, to create comparable observed and modeled 2378-TCDD concentrations.

## NEXT STEPS

Define target
Model additional congeners
Run load reduction scenarios

Update load spreadsheet model and define TMDL

**MEMBERSHIP ISSUES**
There were no membership issues.

**NEXT MEETING**
No meeting was scheduled and will depend on review of materials to be provided by U. of Houston.

**ADJOURN**
The meeting adjourned at 3:00 PM.