**DRAFT**
**Meeting on TCE Developmental Toxicity Study**
**November 3, 2014**

1. Rationale for and value of moving forward with a repeat study of cardiac anomalies.

2. Identification of study objectives to best meet regulatory decision-making needs (problem formulation):

- Risk management problem: Implications of cardiac malformation data for protecting against adverse health effects associated with short-term vapor intrusion exposures at TCE-contaminated groundwater sites.

- What protocol design will yield information acceptable and of most value for addressing regulatory decision-making? Key problem is to determine if cardiac malformation findings of Johnson *et al.* are replicable using high-quality and scientifically credible study design.

- How best to ensure replication study has quality and credibility suitable for regulatory decision-making? Consensus that study should follow applicable EPA/OECD Testing Guidelines, be GLP compliant, and meet OMB/EPA Data Quality Guidelines? Study must be sufficiently robust that it is accepted, whether positive or negative. Necessity for and nature of oversight peer-review panel ensuring acceptable protocol design, implementation, interpretation, and communication?

- Necessity for transparency and reproducibility. Results will be published and raw data made available.

- How can toxicokinetic data assist in study design and interpretation and potentially offer constructive refinements to evaluation of PBPK models for cross-species and dose-specific risk extrapolations? Value of toxicokinetic studies as a bridge to effective integration of study findings with other existing TCE toxicity test data?

3. Mechanism for HSIA sponsorship and TASARC review through existing ATSDR/HSIA Voluntary Testing Agreement.

4. Options and process for selection of scientists to participate in oversight committee and their operational framework: *e.g.*, review of study design, implementation plans (including laboratory selection), and data review, interpretation, and publication as appropriate.

5. Identification of process for moving forward with definition of roles and expectations/requirements for agency research partners and study sponsor.