U.S. EPA Endocrine Disruptor Screening Program Update for PPDC

October 17, 2007

United States Environmental Protection Agency

EPA's Statutory Authority

- **Food Quality Protection Act (FQPA)**

Requires EPA to: Develop a screening program using validated assays to identify pesticides that may have estrogenic effects in humans.

Authorizes EPA to include:

Other endocrine effects, as designated by the EPA Administrator (e.g., androgen and thyroid; endocrine effects in species other than humans).

Other non-pesticide chemicals that:

- Have "an effect cumulative to that of a pesticide," and
- To which a substantial human population may be exposed.

- **Safe Drinking Water Act (SDWA) Amendments**

Allow EPA to require testing of chemical substances found in sources of drinking water, if a substantial human population may be exposed.

Endocrine Disruptor Screening Program (EDSP)

Established in 1999 following recommendations of:

- the Federal Advisory Committee Act (FACA) chartered Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC) of 1996-1998;
- public comment; and
- EPA's Science Advisory Board & FIFRA Scientific Advisory Panel

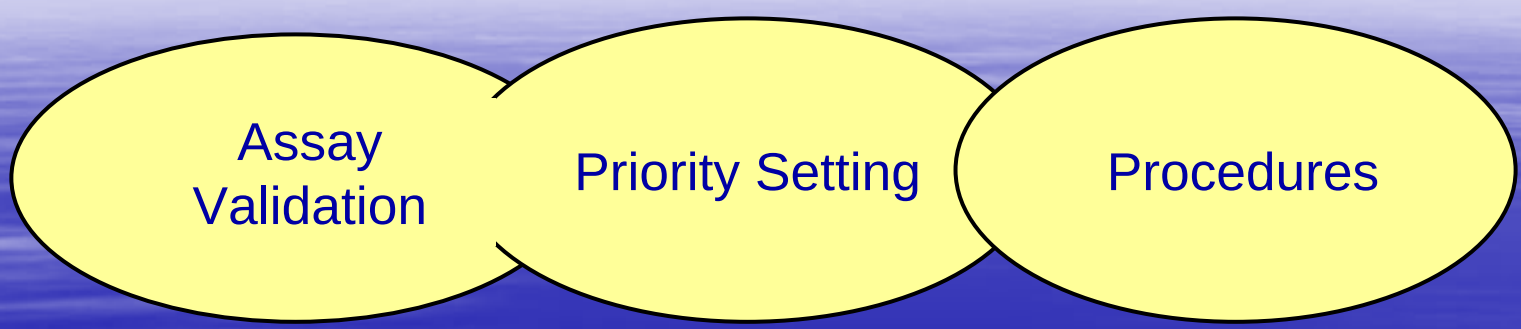
Endocrine Disruptor Screening and Testing Advisory Committee (EDSTAC)

- Chartered Oct. 16, 1996 (www.epa.gov/scipoly/oscpendo)
- 39 members representing broad constituencies
- Recommendations proposed in 1998:
  - Estrogen, androgen and thyroid
  - Human and ecological effects
  - Priority setting for broad universe of chemicals
  - 2-Tiered Approach

Two-Tiered Approach

- Tier 1
  - *In vitro* and *in vivo* screens
  - Detect potential to interact with endocrine system
- Tier 2
  - Multi-generation studies covering a broad range of taxa
  - Provide data for hazard assessment

Current EDSP Activities



- **Assay Validation** - Development and validation of test assays (Tier 1 screening & Tier 2 testing)
- Priority Setting - Selecting chemicals to be screened
- Procedures - Developing implementation procedures for requiring testing

Validation Process for EDSP

- Method development and preparation of Detailed Review Paper (DRP)
- Pre-validation
  - Demonstration of relevance
  - Development of standard optimized protocol
  - Determination of readiness for validation
- Validation in multiple laboratories
  - Demonstrate reliability across labs
- Independent scientific peer review of validation effort: Integrated Summary Report (ISR)
- Regulatory acceptance

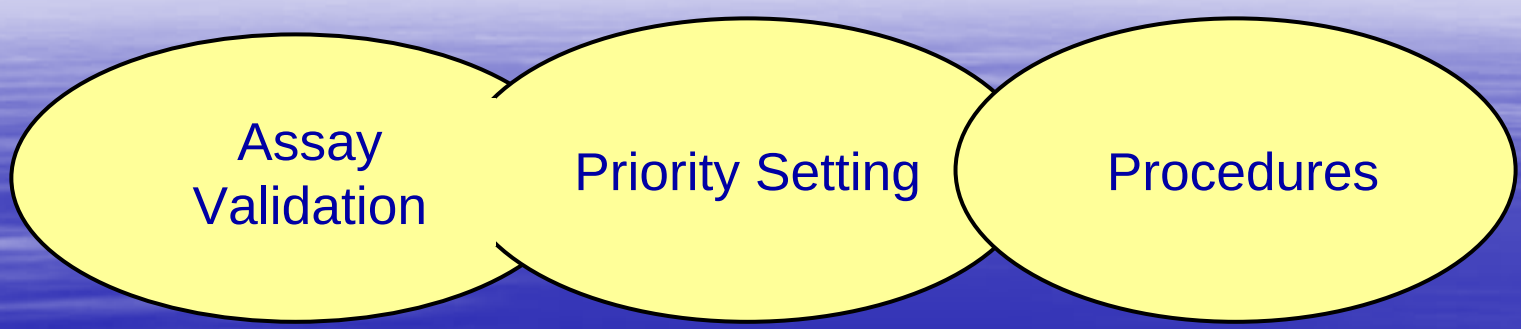
Validation Update on Tier 1 Assays
Tentative Peer Review Schedule

Uterotrophic	Complete
Hershberger	Complete
Adult Male	In Review
Female Pubertal	In Review
Male Pubertal	In Review
AR Binding	2007-Q4
Aromatase	2007-Q4
Amphibian Metamorphosis	In Review
Fish Screen	2007-Q4
Steroidogenesis	2008-Q1
ER Binding	2008-Q2

Validation Update on Tier 2 Assays

- Mammalian 2-generation – Complete
- Avian 2-generation – 2009/10
- Amphibian Growth/Reproduction – 2009/10
- Fish 2-generation – 2009/10
- Mysid 2-generation – 2009/10

Current EDSP Activities



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Priority Setting

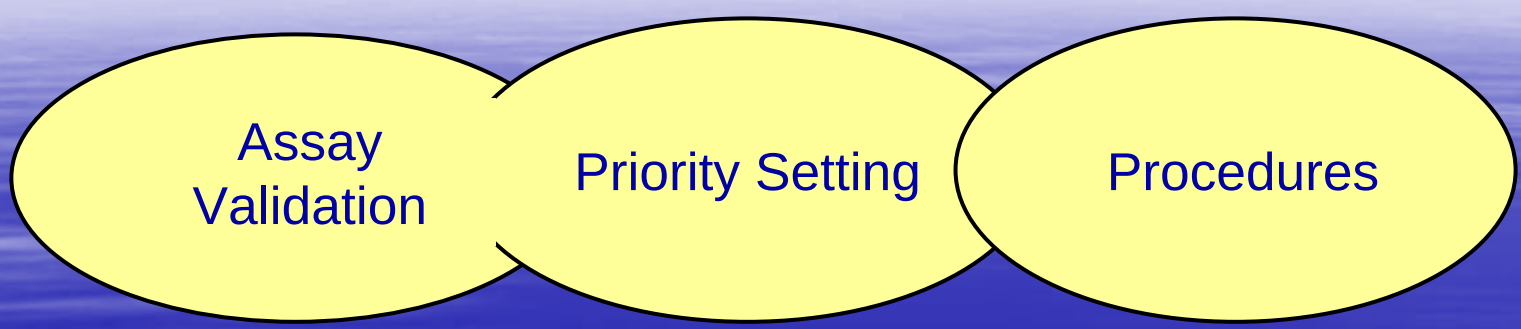
Selection of 73 Chemicals for Initial Screening

- Selection based on potential human exposure
  PAIs with food, water, residential, occupational exposure
  HPV inerts in human and eco biomonitoring, water, air
- Selection based on chemicals found in multiple pathways
- 64 Pesticide actives and 9 HPVs / pesticide inerts selected
- This is not a list of “known” or “likely” endocrine disruptors

Priority Setting

- Published draft list in FR on June 18, 2007
- 90 day comment period, extended 60 days to November 16, 2007
- EPA will review comments on draft list and finalize list for Tier 1 screening by early 2008

Current EDSP Activities



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Procedures

- Purpose – Develop the processes and procedures the Agency will use to require testing under the EDSP
- Must have an ICR in place to require testing
- Statutory Authority – FFDCA Section 408(p)
- All documents will be available for public comment and will be finalized by the end of 2007 or early 2008
- Public meeting to be held this fall

EDSP Timeline