



FIFTH THERMAL ECOLOGY AND REGULATION WORKSHOP

NOVEMBER 13-14, 2018 – CHATTANOOGA, TN

Workshop Overview:

Thermal ecology—the effect of temperature on aquatic organisms and communities—remains an important issue in the permitting of thermal-electric power plants. Heated discharges from power stations with open-cycle (once-through) cooling constitute an important environmental modifier in some receiving waters. Demonstration of a Balanced Indigenous Community in the thermally affected zones, as called for in Clean Water Act Section 316(a), can be a significant analytical effort when local water temperature standards are not met outside an initial mixing zone. To address this complex scientific and regulatory nexus, EPRI has organized workshops since 2003 to facilitate communication of thermal ecological science to support permitting and regulatory decision making.

There have been four previous thermal ecology workshops (Ohio in 2003, Colorado in 2007, Minnesota in 2011, and Iowa in 2015). More than 100 representatives from industry, regulatory agencies, academia, the legal profession, and consulting companies attended each workshop, which addressed legal and regulatory perspectives associated with implementation of Section 316(a) variances, thermal physiology and effects, community balance, modeling, monitoring, and cooling technologies. Our understanding of thermal ecology continues to evolve and the workshops provide a forum for information exchange, including discussion of new regulatory issues, implications of climate change, thermal variance case studies, thermal physiology, and identification of research needs. To present these issues and other new developments, a fifth workshop is scheduled to take place on November 13-14, 2018 in Chattanooga, TN.

Invitation:

The Steering Committee is soliciting abstracts for presentation. Preliminary agenda topics are shown below. Abstracts are due by July 31, 2018. You will receive notification as to whether your abstract has been accepted and follow-up instructions by August 31, 2018. Presenters are invited to submit a paper within eight weeks after the workshop, which will be published in the workshop proceedings. If a paper is not submitted, then the abstract and presentation slides will be published.

Preliminary Agenda Topics:

Regulatory

- Regulatory perspectives on 316(a): how have things changed since the 2015 workshop?
- Revisions to state thermal standards: have there been changes and, if so, what are the drivers of these changes?
- How are state and federally protected aquatic species (e.g., fishes and mussels) being evaluated within the context of 316(a) variance requests?

Analysis and Modelling

- What are the latest techniques being used to assess and quantify thermal effects on aquatic organisms and communities?

- How can hydrodynamic modeling be used as an effective tool for compliance and operational optimization?
- How does climate change affect surface water temperatures and the 316(a) variance request process?

Thermal Response Research

- What research areas regarding thermal response are highest priority? Why?
- What have we learned about aquatic life and ecological responses to temperature? What do we still not know?
- How can physiological responses (e.g., heat shock proteins) be used to provide evidence of adverse thermal stress or adaptive thermal acclimation?

Technologies and Facility Operations

- How might thermal discharge constraints influence generation and transmission?
- What new technologies and field programs are being used to assess thermal effects?
- What new cooling technologies are emerging?

Case Studies

- What lessons have been learned from recent efforts seeking a thermal variance?
- How are potential thermal discharge effects being incorporated into cooling water intake [316(b)] evaluations?

International

- What are key thermal issues outside the U.S. and what research is being conducted to address them?

Submittal Instructions:

Email abstracts as attached Word files to Christine Lew (Christine.lew@tetrattech.com). Submissions need to be received by July 31, 2018. Abstracts should include title, names of authors and their organizations, name of principal contact with contact information, and a description of the topic to be presented, not to exceed 400 words.

Registration:

All attendees must register. Registration information will be provided at a later date.

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Steering Committee:

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