

Citizens' Advisory Committee Resolution
regarding
NRG's use of "once-through" cooling water
at its Indian River Generating Station

Prepared on 3 DEC 2008

Preface

In 1994, the Delaware General Assembly passed HB540, which established the Center for the Inland Bays (CIB) to oversee management of the Inland Bays Comprehensive Conservation and Management Plan (CCMP) and promote the wise use and enhancement of the Inland Bays watershed. In accordance with the CCMP, the Inland Bays Citizens' Advisory Committee (CACC) reviews issues of concern to stakeholders regarding the protection of the Inland Bays and brings recommendations to the CIB Board in support of that protection

Background

NRG currently operates four coal-fired steam electric generating units at its Indian River Generating Station in Millsboro. Units 1, 2 and 3 use a system known as "once-through cooling." These systems take in bay water, use it to absorb heat and return the water to the bay at a higher temperature (thermal effluent).

Unit 4 employs a closed-cycle recirculating cooling system with a cooling tower and must take only a small amount of water from the bay to replace water that has evaporated. This type of system is widely recognized as the "best technology available" (BTA) for minimizing environmental impacts as mandated by Section 316(b) of the Federal Water Pollution Control Act (Clean Water Act). Since the mid-1970's, all new coal-fired steam electric generating units in the State require cooling towers, such as that used by unit 4 that came on-line in 1980.

In total, units 1, 2 and 3 withdraw as much as 411 million gallons per day (MGD) from the Indian River. Each year, millions of fish and an estimated 400,000 blue crabs are killed through entrainment and impingement as a result of the "once-through cooling" process⁽¹⁾. Entrainment is when fish eggs and larvae are drawn through the power plant's intake screen. Impingement is when organisms too large to be entrained are caught on the intake screen. Such fish or crabs can die either directly or indirectly from injuries.

As a result of a consent decree between NRG and Department of Natural Resources & Environmental Control, units 1 and 2 will be shut down no later than May 11, 2011, Department of Natural Resources & Environmental Control estimates that these closings will reduce cooling water intake by 57%.

The IRGS recently applied for an National Pollutant Discharge Elimination System (NPDES) permit inasmuch as it has been operating since 1992 under an administratively extended NPDES permit. Basically, units 1 and 2 aren't an issue and neither is unit 4, which already employs a cooling tower.

The issue is when will unit 3, which withdraws as much as 175 MGD from Indian River, be required to install a cooling tower similar to unit 4 and discontinue “once-through cooling?” Or, in other words, what is a reasonable time-frame to mandate the conversion of unit 3 to a closed-cycle cooling tower?

This decision should consider the fact that unit 3, in and of itself, has been responsible for the mortality of millions of fish and crabs annually and that the goals and objectives of the Inland Bays CCMP state the following:

- **G2:** Protect, restore and enhance living resources by improving water quality and protecting and enhancing habitat
- **G2B:** Restore finfish and shellfish populations
- **G2C:** Decrease potential for fish kills

Action

Now therefore, inasmuch as the BTA exists to minimize the losses of fish, crabs and other aquatic organisms as a result of “once-through cooling,” and that the BTA has existed for over thirty years, and, inasmuch as the State of Delaware has the legal authority to regulate cooling water discharges in order to prevent violations of its Water Quality Standards, the Citizens' Advisory Committee believes that the Department of Natural Resources & Environmental Control should not grant NRG additional time to retrofit unit 3 with a cooling tower.

Accordingly, be it resolved that the CAC recommends that the Board ask the State to give NRG until May 2011 to retrofit unit 3 with a cooling tower. Following Board approval of this resolution, we request that copies of the resolution shall be forwarded to the Governor-elect and members of the General Assembly as well as the Environmental Protection Agency’s Headquarters and Region III offices.

⁽¹⁾ Entrix, I. 2003. An ecological risk-based 316(B) evaluation for the Indian River Generating Station. Prepared for NRG Energy, Inc. Wilmington, DE