DNR Exhibit_(GLW-1)

BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

In the matter of the Application of Catoctin Power, LLC for a Certificate of Public Convenience and Necessity to Construct a nominal 600 MW generating facility in Frederick County, Maryland	)))))	Case No. 8997

DIRECT TESTIMONY OF GARY L. WALTERS

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND CURRENT POSITION.

A. My name is Gary L. Walters. I am an environmental engineer with Environmental Resources Management, Inc. (ERM) and Manager of the Engineering Group in ERM's Annapolis, Maryland office. A statement of my educational background, occupational history, and professional qualifications is attached to this testimony as Appendix A.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT WITNESS IN OTHER REGULATORY PROCEEDINGS AND IF SO, DESCRIBE THE NATURE OF YOUR TESTIMONY.

A. Yes, I have testified as an expert on the use of reclaimed water for process cooling in several prior licensing proceedings before the PSC, specifically the Panda-Brandywine congeneration facility in Brandywine, Maryland, which was licensed by the PSC in 1994 (PSC Case No. 8488), and the Kelson Ridge cogeneration facility, which was proposed to be constructed in Charles County, Maryland and licensed by the PSC in 2001 (PSC Case No. 8843).

Q. PLEASE DESCRIBE YOUR SPECIFIC EXPERIENCE IN POWER PLANT SITE EVALUATION AND IMPACT ASSESSMENT STUDIES IN MARYLAND.

A. In addition to the PSC cases cited above, I was also integrally involved in PPRP's evaluation of converting the cogeneration facility at the Eastern Correctional Institution to fire poultry litter as its primary fuel. I served as PPRP's lead technical consultant and project coordinator for the study, which was conducted over the 1998-2000 timeframe. I was also the lead engineer and case manager for PPRP during the evaluation and licensing of the Allen Family Foods/CHx Engineering cogeneration facility, which was a waste-to-energy facility (specifically, gasification of poultry litter) planned to be constructed on the premises of Allen Family Foods' poultry processing plant in Hurlock, Maryland. And I am currently serving as the lead engineer in PPRP's evaluations of the reactivation and expansion of the Cove Point LNG terminal in Lusby, Maryland, which is a CPCN licensing proceeding before the Federal Energy Regulatory Commission (FERC).

Q. DESCRIBE YOUR ROLE IN PPRP'S REVIEW OF THE PROPOSED CATOCTIN POWER PROJECT AND THE PURPOSE OF YOUR TESTIMONY.

A. I was responsible for all evaluations related to the facility's proposed use of reclaimed water for process cooling (as one of two possible water supply options). My testimony will address the possible use of reclaimed water by Catoctin Power for process cooling; however, additional detail regarding this topic is contained in PPRP's report titled *Environmental Review of the Proposed Catoctin Power Project* (DNR Exhibit __DHB-2A), Section 6.4 for which I was the principal author.

Q. WHAT INFORMATION DID YOU RELY UPON IN CONDUCTING YOUR ANALYSES?

A. I developed an understanding of the proposed facility through review of materials submitted by the applicant, including the CPCN

application, supplemental filings and responses to specific data requests. I developed familiarity with the reclaimed water source during a site visit to the Ballenger Creek wastewater treatment plant (WWTP) and meetings with representatives of the Frederick County Department of Pubic Works (DPW) in August 2004. Under my direction ERM also received and reviewed data regarding the operations and historical performance of the Ballenger Creek WWTP from the Maryland Department of the Environment (MDE). In addition, I have a significant amount of prior experience with similar use of reclaimed water resulting from my involvement in the Panda-Brandywine and Kelson Ridge cases.

Q. PLEASE DESCRIBE THE EVALUATIONS THAT YOU CONDUCTED REGARDING THE USE OF WWTP EFFLUENT FOR PROCESS COOLING WATER.

A. Numerous qualitative and quantitative evaluations were made with regard to the use of the treated effluent from the Ballenger Creek WWTP in the Catoctin Power cooling water system. Information and data evaluated included the following:

- Interviews with the plant manager for the Ballenger Creek WWTP;
- The National Pollutant Discharge Elimination System permit for the Ballenger Creek WWTP (NPDES Permit MD0021822);
- Monthly Discharge Monitoring Reports (DMRs) for the Ballenger Creek WWTP, which include the results of routine sampling for the Discharge Permit parameters, obtained from MDE;
- A 'Notice of Violation' (NOV) summary report for the Ballenger Creek WWTP obtained from MDE;

- Ballenger Creek WWTP effluent analytical data for non-routine parameters (toxic metals and organics) obtained from MDE; and

- Whole Effluent Toxicity (WET) data from Ballenger Creek WWTP obtained from MDE.

Q. WHAT WERE YOUR CONCLUSIONS REGARDING THE SUITABILITY OF USING RECLAIMED WATER FOR PROCESS COOLING?

A. We concluded that the effluent from the Ballenger Creek WWTP is very high quality water and would be suitable for use in the cooling water system of the Catoctin Power facility. The routine monitoring data from the Ballenger Creek WWTP, in conjunction with the performance history of the WWTP, indicate that the plant has an excellent operational history and is subject to infrequent upset conditions. In fact, review of the performance history of the Ballenger Creek WWTP indicates that the facility has never been cited for violations in water quality – the only violations the facility has been cited for relate to excessive flow. Notwithstanding the favorable record of the Ballenger Creek WWTP, ERM's experience with WWTPs in general and prior cases involving the use of reclaimed water have confirmed that upset conditions can occur at all WWTPs and, consequently, there is a need for routine monitoring and for contingency measures when upset conditions occur.

Q. **WHAT MEASURES WILL ENSURE THAT ONLY WATER OF SUITABLE QUALITY IS USED IN THE PLANT'S COOLING WATER SYSTEM?**

A. Several conditions that will be recommended by PPRP as part of the CPCN licensing process will provide this assurance. First and foremost, Catoctin Power will be required to chlorinate the reclaimed water obtained from the Ballenger Creek WWTP (or McKinney WWTP when it comes on line) sufficiently to establish and maintain a

measurable free chlorine residual for a minimum of 6 hours prior to use of the reclaimed water in the power plant's cooling water makeup system. The efficacy of chlorination as a means of disinfection is a function of maintaining a free chlorine residual and allowing sufficient contact time for the chlorine to kill any pathogenic microorganisms (bacteria and viruses).

Secondly, PPRP will recommend routine monitoring procedures be employed by Catoctin Power to ensure that the effluent is of consistently high quality once it is received at the power plant. The effluent will be sampled daily for pH, turbidity, total suspended solids, fecal coliform and free chlorine. These are indicator parameters that provide the most expeditious means of assuring that only water of suitable quality is used in the facility's cooling water system.

Additionally, the Ballenger Creek WWTP will provide notifications, as required by its NPDES permit, of any plant condition that would cause it not to meet its discharge limits within 24 hours of learning of the upset condition. The Catoctin Power facility will be constructed such that it can instantaneously divert reclaimed water from delivery to the plant's cooling system or store it on site for additional treatment, thereby preventing water of unacceptable quality from entering the plant's cooling system.

Finally, the transit time for the reclaimed water to be conveyed from the Ballenger Creek WWTP to the Catoctin Power facility is estimated to be approximately 6 hours and will provide Catoctin Power additional time to become aware of upset conditions at the WWTP prior to the effluent reaching the Catoctin Power facility. Immediately upon becoming aware of unacceptable water in the pipeline, Catoctin Power can instantaneously divert the effluent and return it to the effluent pipeline or provide additional treatment on site.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Appendix A

Statement of Qualifications

APPENDIX A

STATEMENT OF QUALIFICATIONS FOR

GARY L. WALTERS

Gary L. Walters is an Environmental Engineer and Principal with Environmental Resources Management, Inc. He manages the Engineering Group in ERM's Annapolis, Maryland office. He received a B.A. degree Cum Laude from Western Maryland College in 1977, with a major in Biology and a minor in Chemistry, and received a Master of Science in Civil Engineering, with an emphasis in Environmental Engineering, from the University of Maryland in 1982.

Mr. Walters has over 23 years experience in industrial waste management and environmental engineering. His fields of competence include water and wastewater treatment, industrial pretreatment, solid and hazardous waste management, and hazardous waste investigations and remediation. Mr. Walters has been with ERM for fourteen years and has provided engineering support, primarily in the areas of water supply, wastewater treatment, and other waste management issues on other licensing cases before the Maryland Public Service Commission.

Specifically, Mr. Walters' experience related to the evaluation of impacts from power generating facilities in Maryland includes:

- Manager and lead engineer for the evaluation of a poultry litter fired cogeneration facility proposed to be constructed by Allen Family Foods at their Hurlock, Maryland poultry processing plant (2000);
- Managed the comprehensive engineering and socioeconomic assessment of using poultry litter as a fuel at the Eastern Correctional Institution Cogeneration Facility in Princess Anne, Maryland (1999/2000);

- Directed the engineering evaluations of the Panda-Brandywine cogeneration facility, located in Brandywine, Maryland , including the use of reclaimed wastewater for cooling water (1994); and
- Directed the engineering evaluations of the Kelson Ridge cogeneration facility proposed to be constructed by Free State Electric in Charles County, Maryland (2001).

Prior to joining ERM in 1990, Mr. Walters was Chief of the Restoration Branch of the U.S. Army Toxic and Hazardous Materials Agency (now the Army Environmental Center) in Aberdeen, Maryland where he managed a group of 10 multidisciplined scientists and engineers in executing and overseeing the Department of the Army's (DA) Superfund program at DA facilities across the country. Mr. Walters was also employed as a Project Engineer and Project Manager with Black & Veatch Consulting Engineers for four years where he was integrally involved in the development of industrial pretreatment programs for major POTWs in the Baltimore-Washington metropolitan area.