Ladies and Gentlemen, good evening,

My name is Dr. Anthony Skiptunas. My opinions expressed here tonight are my own. I do not represent any water company, sewer authority or engineering firm. I thank the Sustainable Water Infrastructure Task Force for allowing me to speak on this important topic: clean drinking water and our local environment. To say this issue is simply important is an understatement; it's critical.

I have read with interest the two page summary document and questions posed by the committee. I hope to address at least some of the issues listed. Unfortunately, I will also bring up some other issues the committee, I believe is overlooking.

I moved from Lancaster to Wrightsville in 2000. I live about 300 yards from the Susquehanna River. I regularly oat on Lake Clarke (above Safe Harbor Dam) and I am witness to the general health of this section of the river on a weekly basis (if not a daily basis). My discussion tonight will be mostly restricted to the Susquehanna River Basin.

Various reports have documented the dismal pollution problems occurring in the Susquehanna River Basin and recent "State of the Bay" reports from 2006 and 2007 have rated the pollution indexes for nitrogen as "F", phosphorous as "D-", and other toxic chemical as a "D". As we all know, the majority of the pollution coming into the bay is from the Susquehanna River.

I cannot address the nitrogen and phosphorous problems as well as the sewer authority, water company and engineering leaders present here tonight have done. I can only say, from a health standpoint, that it is imperative that we act NOW to reduce these compounds in the river. There are over 190 "point sources" (waste water treatment plants) located along the river dumping wastewater and storm water on a daily basis. As we have heard, many (if not all) are in dire need of upgrades or repairs. In my opinion, the best return and the most immediate benefit (the "biggest bang for the buck") would be to invest out dollars into upgrading these facilities. The DEP has previously identified the Susquehanna River Basin as a "critical watershed area". It is my opinion there should be a 10-year moratorium on any new major housing or industrial development within 10 miles of the river. Any new point sources (as licensed by the DEP) should exceed the current and future federal standards for nitrogen and phosphorous effluents. The technology exists today to create cleaner water from our treatment plants. An example is the Advantex AX20 textile filter from Orenco systems. But this solution is costly. You ask, how do we pay for it?

It's time to think "out of the box". Where or what happened to the $650 million "Growing Greener" referendum money? How much is left and how much has been used or can be diverted to upgrade our wastewater treatment facilities along the river? What about a bond fund? A "Pennsylvania Clean-up fund?" The state of New York floated such a bond fund in 1999 specifically designed to clean up its small streams and rivers. I recently saw the fund in action on a trip to Cornell University in Ithaca, NY. I

small stream runs through Whitney Point and Lisle NY on the road to Ithaca. A large sign documented the NY bond funds actions in that area (including upgrading the local wastewater treatment facilities to the upcoming federal standards).

It's time to enlist industry in the problem (make participation in the bond fund MANDATORY for the biggest polluters along the river). It's also in their best interest to operate their plants with clean water. Enlist the health care industry (specifically the larger insurance companies). If the large insurers are really serious about preventative medicine they should be more than willing to invest in clean water. Expand current programs such as PENNVEST which provides low interest financing for wastewater systems for townships and private (onsite) homeowners. There should be no income "cap" on borrowing to upgrade your septic system. In fact, the state should be delighted you are willing to do this and participate in the clean up. Finally, make it financially attractive to do wastewater clean-up "business" in this state. Offer tax break incentives to those industries that offer proactive solutions in wastewater management. (As an aside, this would be a marvelous area for investment in technology-wastewater clean up, that possibly could be sold to the rest of the world to recoup some of our foreign debt!)

The second and last part of my address this evening concerns the toxins in our wastewater and unfortunately, our drinking water. In 2006, the American Cancer Society released statistics concerning the epidemiology of cancer in the United States. 41 out of every 100 people today will develop some type of cancer in their lifetimes. By 2010, this is expected to top 50%, and by 2020, 75%. About 20% of all cancers are related to some form of inflammation or environmental exposure. Some common examples include malignant melanoma (from the sun and UV radiation exposure), lung cancer (from exposure to toxins in cigarette smoke), and liver cancers (secondary to chronic hepatitis or cirrhosis form toxins we eat or drink). How does this relate to drinking water and the Susquehanna River?

In the name of "progress" problem chemicals (not just nitrogen and phosphorus) are being released into the watershed at alarming rates. These include mercury, PCB's, petroleum compounds (from storm water runoff of oils and chemicals in our pavement) and many new chemicals such as antibiotics, steroids (birth control pills) detergents and hand soaps and a myriad of others- all washed down our drains daily. These are highly purified chemical compounds being washed into our streams and rivers. BEWARE! We know very little about the environmental effects of the majority of these chemicals- but the ones we DO know about are disturbing.

Organic solvents (benzene and toluene derivatives) are potent carcinogens. Other hydrocarbon carcinogens include dibenxanthracene, benzyopyrene, 3 methylchloranthralene, napthalamine and estrone. Located within several miles of the Susquehanna River are two major landfills, the Manor landfill which is visible from the river in Lancaster, and the Windsor/Lower Windsor landfill here in York. All landfills will eventually leak toxins into our aquaphors. No matter what the landfill industry tells us about their "liners", all will eventually leak. May of the toxins I just mentioned are byproducts of products such as plastics, Styrofoam, textiles and other materials we daily

throw away into out landfills. Some to the toxins are found in paints, inks and stains used in the production of newspapers and periodicals.

For many of these toxins we now know the cellular pathway of mutagenesis or carcinogenesis. Our cells have thousands of protein receptors imbedded in their membranes that "sense" their environment. In petri dishes, when cell are exposed to some toxins, the cells are stimulated to proliferate- and can't be turned off- leading to over proliferation and cancer. Other carcinogens directly alter DNA or RNA (via mutagenesis) resulting in proliferation. Water samples from at least one of the landfills listed above (April 2007) showed elevated levels of 1, 4 dichlorobenzene and toluene (methylbenzene). There are potent brain carcinogens. Adding to the problem, these hydrocarbons are fat-soluble meaning that when consumed, they are readily stored I our body fat and accumulate. We really do not know the minimum toxic levels for these compounds despite the EPA's "minimum" safe estimates. Are we even looking for these compounds in our water?

Folks, WE ARE POLLUTING OURSELVES TO DEATH!!! There is no easier way to say it. As the levels of toxins in our environment rise, so will the incidence of cancers caused (directly or indirectly) by these toxins. The cancers will not just affect humans but our flora and fauna also. This is already being observed in our fish population in the river. Researchers at Johns Hopkins University have identified a trilocarbon (an active ingredient in hand soaps) in streams, drinking water and wastewater. The increasing concentrations of these types of chemicals may not only lead to a higher incidence of cancers but may also contribute to the production of resistant bacteria (such as the methicillin resistant bacteria we have heard so much about in the news). Swimming in the bay or river would be analogous to swimming in a resistant "bacterial soup" with devastating effects on our fish, crabs and other wildlife. We are also already seeing this.

Finally, I advocate an immediate (extended) moratorium on any new landfill projects (or extensions thereof) in this state and a permanent moratorium on any landfill project proposed next to a river or major watershed. The decisions of the past administrations to allow the current landfills to operate so close to the Susquehanna River watershed leave much to be desired. We all will or are currently suffering as a result of OUR OWN pollutions and will, hopefully, one day wake up to the fact. We need a proactive approach to move forward, expanding on what we already know, without making the same mistakes we have made in the past.

Thank you for your time and attention to these matters. If I can be of any further help to this task force concerning the biology of cancer or current research, please do not hesitate to contact me.

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