

Date: November 17, 2013

To: Cowlitz County, Washington, Washington Department of Ecology, US Corps of Engineers

From: Theodora A. Tsongas, PhD, MS  
Environmental Health Scientist, Portland OR

Re: Comments on scope of draft EIS for proposed Millenium Coal Terminal at Longview, WA.

I am an environmental health scientist with many years experience evaluating the adverse human health effects of exposure to environmental contaminants in air, water, and soils. My experience includes work in public health as an environmental epidemiologist for the US Environmental Protection Agency, the US Occupational Safety and Health Administration, the Colorado Department of Health, and the Oregon Public Health Division (now Oregon Health Authority) as well as academic appointments at the University of Colorado, Washington State University, and Portland State University, teaching environmental health, environmental science, and epidemiology. My research has included epidemiologic studies of community exposure to and health effects of drinking water contaminants as well as air, water, and soil contaminants near a large hazardous waste site. I have served as a member of a number of scientific advisory groups including the Oregon Department of Environmental Quality's Air Toxics Advisory Committee. I am a member of the Society for Environmental Geochemistry and Health, the Climate Change and Health Topic Committee of the Environment Section of the American Public Health Association, the Environmental Health Working Group of Oregon Physicians for Social Responsibility, and a Fellow of the Society for Applied Anthropology.

I am submitting these comments on the scope of the draft EIS for the proposed coal terminals at Longview and elsewhere in the region, because I am very concerned about

the potentially devastating impacts of coal mining, transport, export and burning on the health and welfare of people and the ecosystems of which we are a part. To evaluate the potential impacts of this project, the Environmental Impact Statement (EIS) must necessarily be comprehensive, independent, and must include a comprehensive Health Impact Assessment (HIA) that includes a public scoping process. These investigations and documents must fully identify, quantify, and discuss all potential impacts of the proposed coal terminal project(s). The need for a comprehensive EIS and HIA is due to the potential for this project to have multiple adverse health impacts at every stage of the process, from mining the coal to transporting the coal by rail or barge, loading, unloading, storing the coal, to transferring it to ships that carry it to Asia, to burning the coal, and coal emissions carried back to the US on prevailing winds, to pollute the air and be deposited in soils and water. So, this is a local, regional and global problem that needs to be thoughtfully and comprehensively addressed.

I wish to consider five points in the scope of the EIS for the proposed coal terminal: 1] the need for implementation of the precautionary principle in decision making, to prevent the many irreversible adverse health impacts on the people of Cowlitz County, Washington State, the region and the globe, with 2] special consideration of the exacerbation of climate change by exploitation of coal resources, 3] the adverse health impacts of coal dust and diesel emissions during transport and storage of coal, 4] consideration of environmental justice for communities and neighborhoods most likely to be impacted by this project, and 5] the need for a comprehensive review of the combined economic, social, environmental and health impacts of several coal, oil, and gas transport, storage, and export projects in the NW region and on the Columbia River.

[1 & 2]

We need to shift the “questions on which we base our environmental protection efforts. Given our uncertainty and ignorance and the vast complexity of ecological systems, we can no longer ask what level of harm is safe. We need to question basic human activities” such as resource exploitation, and learn from “millions of years of ecological self-regulation.” (Raffensperger and Tickner 1999, pg. 352)

The EIS will, by definition, provide information to guide decisions that affect the health of the public, now and in the future. The concepts of precaution and prevention have

always been at the heart of public health practice: identifying and avoiding risks to the health of populations and identifying and implementing protective interventions.

Precaution can guide public health decisions under uncertainty. "... human activities cannot be risk-free, precaution can stimulate more health-protective decision-making under uncertainty and complexity." (Martuzzi & Tickner 2004, pg. 13)

"To persist in mining and burning coal will condemn future generations to catastrophic climate change, which is clearly the biggest health problem of the future." (Castledon, Shearman, Crisp, & Finch 2011) The EIS must consider the impacts of coal transport and burning on climate change and air quality/pollution. We cannot expect to mitigate the damage, after the fact, something we know from the overwhelming scientific evidence cannot be mitigated. It is better to **prevent** the adverse impacts by careful consideration of the impacts before allowing a terminal to be built. And if the scientific evidence indicates that there are legitimate concerns about irreversible effects of an action, then the prudent agency takes **precaution** (as in the Precautionary Principle) in its decision-making, to prevent those adverse effects.

"In the U.S. "pollution prevention" is being adopted as a standard best practice for protecting public health, the environment and the economy." (Portland Oregon & Multnomah County, 2006) This means that we are best served by precaution and prevention in making decisions about health, economics, and the environment, and a healthy future for the state, region, and the planet. For example, the City of Portland and Multnomah County, Oregon, have implemented the precautionary principle in their policy and strategy to reduce exposure to toxins in the environment. Other cities and jurisdictions have adopted similar measures in response to public concerns about their health, their environment, and their future lives.

The scope of the environmental impact statement for the proposed Millennium terminal at Longview must consider the adverse impacts on global climate resulting in numerous adverse effects on human and ecosystem health and human welfare. The EIS must consider in its scope, the local, regional, national, and global implications of the mining, transportation and export of coal, because building a terminal and expanding rail lines

will have unintended, irreversible effects by opening a gateway for this outdated and pollution-ridden industry.

The millions of dollars in public costs due to climate change, resulting from crop failures, wildfires, storms and flooding, drought, vector borne diseases, heat stress, loss of property and destruction of a still viable human habitat, among many others, will not be paid by private profit making interests who will benefit from coal export and sale. The public will bear the burden of adverse impacts. The EIS must consider internal and external costs of this proposal compared with alternatives. Alternatives considered must include more sustainable and healthful uses of this valuable deep water terminal as well as the use of alternative sustainable energy sources such as wind, solar, and geothermal to replace the coal not shipped, stored and burned.

3] The EIS must also consider the details of local impacts, not only of climate change on health and ecosystems, but also of the toxic effects of exposure to coal dust and diesel emissions, the adverse effects of air and noise pollution, as well as transportation impacts and interference with commerce for the people and communities along the routes being used for this transportation and exportation. It is necessary, here, to reiterate the need to include with the EIS a thorough, independent, health impact assessment (HIA). The scope of this EIS, if inadequate, can come back to haunt us, soon. We must have real data on the public health impacts of this proposed business activity in the short term as well as the long term.

The EIS must consider air contamination issues near rail lines and on site at the terminal, including exposure of downwind human populations to regulated and un-regulated air pollutants, including coal dust; diesel exhaust particulates including ultra-fine particles from diesel locomotives; heavy metals; and polycyclic aromatic hydrocarbons (PAHs). The health impacts of these pollutants are well documented in the scientific literature. (Lockwood et al. 2009, among numerous others). Ship emissions at and near loading facilities, from bunker fuel, for example, should also be evaluated for their impact on cumulative exposures to air pollutants. The EIS must include a thorough review of potential adverse health impacts due to exposure to

toxic air pollutants. Including a comprehensive Health Impact Assessment in the EIS would facilitate this.

Moreover, the EIS and associated health impact assessment must address the true costs of pollution caused by this project: for example, coal dust contains heavy metals such as mercury. Exposure to mercury has serious health consequences as it is a potent neurotoxin. Trasande, Landrigan, and Schechter (2005) have estimated the economic and public health costs to society of developmental neurotoxicity, specifically loss of intelligence and lost productivity, caused by methyl mercury toxicity. Lost productivity costs \$8.7 billion annually. \$1.3 billion per year is attributable to mercury emissions from American coal-fired power plants. These authors also estimated the cost associated with downward shifts in intelligence quotient resulting in cases of mental retardation. The lifetime excess cost of a case of mental retardation was estimated at approximately \$1,250,000. (Trasande et al., 2006) Similar estimates can and should be made of the costs of exposure to the environmental pollutants, including, but not limited to, arsenic, mercury, and PAHs, associated with exposure to coal dust and diesel emissions. The EIS and health impact assessment must include estimates of the economic, social, and health costs to Cowlitz County, Washington State, and the Northwest region that would result from the proposed Millenium Coal Export Terminal at Longview.

Because data from fixed-site air monitoring networks used for jurisdiction-wide air pollution monitoring are inadequate to assess local or personal exposures, the EIS should include an evaluation of current exposures of workers and residents near rail lines and terminal(s) utilizing personal air monitors, indoors and outdoors, near existing rail lines and in and near coal terminal facilities.

Similarly, the EIS should identify and include an evaluation of plans for more rigorous and continued worker exposure assessments for on-site emissions at the Millenium Coal Terminal Facility and beyond fence-line

monitoring of personal exposures and community exposures at or near any terminal or rail line that is being considered for a permit. Furthermore, all season wind speed and direction monitoring for the terminal site should be included to evaluate the potential for coal dust to be entrained and spread to nearby as well as more remote neighborhoods. It is inconceivable that such a large amount of uncovered coal would not be carried by winds and rain. Longview weather must be considered in its impact on the spread of coal dust. Runoff during rainstorms must be assessed and include specific plans for control of on and offsite contamination. Impacts on local aquifers must be evaluated. Potential use, volume and source of water for dust and fire suppression along with costs of replacement of this resource must be estimated.

4]

Precautionary decision making normally takes into account questions of the distribution of exposure, vulnerable subgroups, and environmental justice in general. (Martuzzi & Tickner 2004) The EIS needs to include evaluation of the distribution of exposures and vulnerable subgroups near rail lines and the proposed coal terminal, and employ values driven by environmental justice in evaluating impacts on communities. The EIS must evaluate the added burden of adverse effects on vulnerable communities and populations along the pathway and in the vicinity of the coal terminal. These adverse effects are likely to be disproportionate due to historic pollution in neighborhoods such as those adjacent to the railroad tracks and in the industrial areas proposed for these coal terminals. For example, the Highlands neighborhood, near the site of the proposed Millenium Coal Terminal, already experiences higher rates of asthma, cancer and lung disease than the rest of the State. Increased rail traffic as well as the construction of new rail lines on and off site will permit increases in the amount of diesel emissions including diesel particulates in the area near the terminal and rail lines enroute to the terminal.

Exposure to diesel particulates is known to increase mortality from stroke. These adverse health impacts can only be exacerbated by increased rail traffic, diesel emissions, and airborne coal dust. Environmental justice must be given thorough consideration in the evaluation of the proposed terminal project. Nearby populations cannot be sacrificed to the profit motive of coal companies because they happen to live there. These are heavy costs for the community to bear and prevention of these impacts must be given preference in decisions to award or not to award permits.

The EIS must include data on the true costs of the activities of the coal terminal and its transportation links, including the economic, social, and commercial burdens on all communities impacted by it, in terms of viability of towns and businesses, jobs lost, and the reality of a mountain of friable and combustible coal sitting for short or long periods of time in a scenic area home to tourism and sensitive ecosystems, upon which we depend for our livelihoods as well as our quality of life. The EIS must assess the numbers and types of industries and businesses that will be adversely affected along the entire transportation route and in the area of the proposed terminal. These estimates must include a precise count of the potential jobs lost and businesses affected, such as agriculture including organic farms, mint farms, and tourism, sports, and recreation with a calculation of the economic impact on the counties, states, and the NW region. Existing businesses contribute enormously to the State's economy as well as its public image. What will be the costs of loss of these important members of the community?

5] Because of the compounding of exposures to environmental hazards by multiple projects, the EIS and HIA must rightly consider the cumulative impacts of several coal, oil, and gas projects proposed for this region. Arbitrary limitation of the scope of the EIS by the Corps of Engineers is simply unacceptable. It also ignores its own Environmental Operating Principles including: "Foster sustainability as a way of life throughout the organization" and, "Employ an open, transparent process that respects views of individuals and groups interested in Corps activities."

Please think globally, ACT locally to make sustainable decisions. You have an opportunity to make a courageous stand to protect the health of the planet and our

supporting ecosystems. We will support you every step of the way. Thank you for this opportunity to participate in this important decision process.

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