Sheila Clarson - Fanny Bay

TO : Canadian Environmental Assessment Agency
British Columbia Provincial Environmental Assessment Office

RE: Raven Coal Mine Proposal
Environmental Assessment Public Comment
Concerns relating to Public Health

FROM: Sheila M. Clarson, Ph.D

This submission addresses human health and wellness concerns for the Raven Coal Project and some of the relevant deficiencies noted in the draft AIR. My comments are based upon my professional training and experience as a Clinical Psychologist. That experience included working in communities nearest to the Exxon Valdez Oil Spill during and for several years after the spill. The Interdisciplinary Community Health Team of which I was a part, worked collaboratively to address individual and community wellness from a holistic perspective, recognizing that segregation of the physical from the social and psychological aspects of health is arbitrary, ineffective and inappropriate given what is now known about multiple pathways to health outcomes. So I will also address stress and mental health issues as a component of the health impact of this project.

Draft AIR

First some comments about the draft AIR Health Sections (5.9.1, 9.1-9.3) as they are currently written. Although the draft AIR makes reference to the World Health Organization (WHO) guidelines (2010) and Canadian Handbook on Health Impact Assessment (2004), the draft AIR health sections present only a very narrow application of a selected few of the guidelines in those documents. The proponent should expand the application of the guidelines to meet the true spirit and intent of the documents referenced. As just one example, both the documents cited address values of stakeholders. That would include local residents who will be directly affected. Nowhere does the draft AIR identify any plan to assess the values of affected residents. Volume 4 of the Canadian Handbook on Health Impact Assessment indicates that the "full range of values by those likely to be affected be taken in account in the assessment process." That would require information beyond input from government documents and representatives as currently offered, to direct input from residents themselves. Certainly an expansion of Valued Components and Scoping for the sections relating to Human Health are required based on a more representative set of values of local residents. Identifying concerns from citizen input in this public comment period is only a starting point.

In addition the WHO Scoping Section (Section 2) speaks to an inclusive process that recognizes specific content is based on the issues relevant to the situation being assessed i.e., not just a brief template using a small set of existing baseline data. To quote "normally within an HIA the best available qualitative and quantitative evidence would be collected using a range of methods." The very narrow range of baseline data suggested thus far does not come close to meeting this guideline. The WHO document offers case studies that present comprehensive models of health impact assessments

designed to meet unique characteristics of effected communities, not just a template process.

The draft AIR completely misses critical components in the Health Sections. It also glosses over specific known issues likely to impact human health and wellness in the project areas. The section on Environmental Health Valued Components for humans addresses only "non-carcinogenic toddlers and carcinogenic adults." This overlooks documented health concerns in coal mining areas that include low birth weights, elevated preterm birth rates, as well as increased rates of heart, respiratory and kidney disease in adults, to name just a few (Epstein et.al., 2011, Lockwood et.al., 2009) The current focus is exceedingly narrow and barely scratches the surface of how this project will impact individual and community health and wellness.

Finally, the Scope should be expanded to include the impact of stress and mental health factors as a primary pathway to health and wellness outcomes. The WHO Social Indicators are a start but for this environmental assessment to be complete, it must also include the known pathways of stress/health interactions if a true picture of the impacts of this proposed mine are to be known. Qualitative methods are needed to expand baseline data. The written and oral comments in response to this public input request are a valuable beginning source of data about people's type, amount and intensity of stress resulting from this project. Comprehensive community surveys would provide much more reliable and valid data.

Stress and Health Outcomes.

I urge the Federal and Provincial Environmental Assessment Agencies to recognize that individual health outcomes are significantly dependent on psychosocial factors and stresses. As surely as the heavy metals in water or coal dust in air can be directly linked to health problems, the stresses in the psychological environment of the areas impacted by this mine can negatively impact health outcomes. Concerns about stress and mental health should be included in the Scope of the Health Assessment. The medical/neuroscience/psychological literature is clear about the interaction of physical and psychological factors in the development of and healing from disease. Examples of stress impacts include increased frequency of infections, faster growing cancers, and slower healing as stress increases. As much as 30% or more of health outcomes can be accounted for by stress and/or psychosocial factors.

The mechanism whereby cortisol (the stress hormone) is created in response to stressful experiences is well known. That it occurs not only in the face of significant and acute stressful experiences, but also in chronic, day to day worries (the kind many residents are already experiencing due to this project) is also well known in the medical/psychological literature and should not be ignored in the health assessment component of this project.

This mine began to impact people's health from the day it was announced. The list of actual and potential stressors is long and the Proponent should be required to identify them specifically and to address their health impacts as part of the environmental

assessment.

It is these stresses that can by themselves create health problems that did not previously exist or exacerbate preexisting conditions. Examples of the stressors effecting people right now were expressed at every public meeting as people shared their worry and anxiety about issues such as economic survival of their families if they have to sell their home at a loss and move, loss of a small business that requires a pristine environment, loss of valued friends and neighbours to whom they are attached and /or dependent upon for support or assistance as they leave the community- disruption of social supports and valued lifestyles generally. Another stressor is the particular lack of control people experience over events that will significantly effect their lives. Many people spoke of wanting a referendum or local control -which does not exist in this case. The resultant feeling of relative helplessness in the face of such a threat is not only very stressful, it is extremely anger provoking.

Regarding the insidiousness of stress/distress that results from technological challenges and accidents as opposed to natural disasters; research finds and clinicians know, that healing is more difficult and complex. Anger is a larger component. The reasons relate to the human caused nature of the event (s) particularly because they are seen as preventable. Examples are plentiful. The "disaster" does not need to happen to create significant stress. The "what ifs" of the known problems in coal mining communities, from more gradual environmental damage locally and globally to sudden, severe and catastrophic events such as explosions and fires are stresses that worry many local citizens now. For representatives of the Proponent to provide empty assurances that refuse to recognize the known risks or to acknowledge a long history of human error in environmental disasters does nothing to ally fears, rather it just diminishes trust, provokes anger and adds yet more stress.

With regard to this project it is these perceived threats to people's most essential and elemental sense of wellbeing that produces significant stresses and thereby has direct and negative impacts on health and well- being. We know that with individual and community stresses come family stresses and increases in the indicators we all know too well: substance abuse, divorce, family violence, among others. There is research literature on the health and psychological impacts of mining on community and individual health and psychosocial outcomes and it should be addressed in an environmental assessment.

Global Climate Change and Health Concerns

Finally with regard to the larger society and stresses experienced as a result of threats from global climate change, the BC government should consider health effects on the population in general. In the Journal of the American Psychological Association (May-June 2011) a Special Issue devoted to concerns about climate change, Doherty & Clayton outline the psychological impacts of global climate change. After presenting studies from a range of related areas, they note in their conclusion "the psychological impacts of climate change pose a current threat to individual and community health-even to those who have not directly experienced biophysical impacts."

The BC and Federal governments would do well to pay attention to the individual and community health effects of global climate change now documented in several research articles. As the BC government neglects the global impacts of this and other carbon emitting projects developed here just because the coal will not be used in BC, the cost in human health, physical and psychological can quickly outweigh any short term benefits.

In Conclusion

As a resident of Fanny Bay, experiencing these stresses along with my neighbours, I cannot claim impartiality as I am aware that the damage from this mine locally and globally will far outweigh any possible short term benefit. However, the science presented in this comment is independent, sound and should be addressed in the Environmental Assessment.

References

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