Re Proposed Export Terminal and Associated Rail Expansion
To Support Mining, Transportation and Combustion of Coal

U.S. Army Corps of Engineers, Washington Department of Ecology, Whatcom County
January 21, 2013

Comments of Mike Nuess
www.teleologics.org
Spokane resident, Cum Laude graduate of Gonzaga University,
and former researcher and educator for the Washington State Energy Office.

Only if we expand
the boundaries of our scoping
can we simultaneously
solve many inter-related problems.
Only by thinking comprehensively
can we discover that
we possess a vastly superior *alternative*
to extracting, transporting and combusting
this coal,
one that *mitigates*
and virtually eliminates
all its adverse impacts,
from the most serious,
—that of species-threatening anthropogenic carbon—
to the more local and regional impacts of pollution
by mercury, lead, arsenic, sulphur dioxide, etc.;
and to the extremely adverse impact of forestalling
swift and necessary deployment
of our *proven* and powerful alternative
—the *only* comprehensively viable alternative—
which is to deploy
an elegant mix of efficiency and renewables
to achieve sustainable energy abundance,
strong economies with abundant jobs,
safe and healthy environments
and durable peace.

Even further, *only* efficiency and renewables
can mitigate and virtually eliminate
all of *both* fossil *and* nuclear energy′s
current *destructive* contributions to
climate turbulence,
nuclear waste and weapons proliferation,
costly and unhealthy pollution and
increasingly intense conflict over energy resources. (5)

Efficiency and renewables are *proven*
to be safer and cleaner
more durable, flexible and resilient
cheaper and more jobs intensive
than either coal, oil or nuclear.
It was recently observed that Germany,
Europe′s industrial heartland and
a renewables leader,
now has more solar workers
than the U.S. has steel workers.

Since 1970 U.S. investments
in energy efficiency have
cut energy use per $ of GNP by over 50%,
while increasing associated comforts and benefits:
things like warmer houses and safer cars. (4)

It is an engineering certainty
that we can more than double
our efficiency *again* by 2050.

We′ve also been deploying
everbetter renewable energy generation.

For the last 4 years half the world′s
new generating capacity
has been clean renewables.
In 2007 the U.S. added more renewable wind capacity
than it had added in coal-fired capacity
over the previous 5 years.

Installed wind capacity in the U.S.
has now surpassed 60 GW,
doubling in the last 4 years
and adding roughly the capacity of over 50
average nuclear power plants,
or about 90 average coal fired power plants.
Allowing for conventionally assumed capacity factors,
(ignoring the fact that mixed types of
dispersed, distributed and forecastable renewables
have much higher capacity factors)
this represents the generating power of 44 coal-fired power plants,
or 11 nuclear power plants;
avoids emitting as much carbon dioxide as
taking 14 million cars off the road;

while saving 30 billion gallons of water a year;
costing less and delivering more jobs.

In 2010 renewables (excluding large hydro)
got $151 billion of private investment
—because they are safer, lower risk investments with quicker return—
and surpassed the total installed capacity
of nuclear power after adding 60 GW in *just* one year.

Most significantly, the world can now add
100 GW of renewable wind and solar *each* year,
roughly 30% of U.S. coal generation capacity,
or roughly the nameplate capacity of all 104 U.S. nuclear power plants.
Each year, this annual delivery capacity grows swiftly
—and it must.

In my written comments
I offer you five
comprehensive and detailed
scientific studies
—two for the Pentagon (4,5)—
clarifying the physical and engineering
certainty of this alternative.

Scientific American published a study
detailing how wind, water and solar technologies
could provide 100 percent of the world's energy by 2030,
eliminating *all* fossil fuels. (2)

A *Stanford University* study
ranked energy systems according to their impacts
on global warming, pollution, water supply and other *so-called* externalities,
concluding that the very *best* options were wind, solar,
geothermal and other clean renewables;
while coal (*with* carbon capture)
and nuclear
ranked poorly. (3)

In 2011, a comprehensive and detailed
engineering blueprint
demonstrated available savings of $5 trillion
over business as usual
by deploying an elegant mix
of efficiency and renewables
to *completely* phase out coal, oil and nuclear by 2050,
while growing our economy more than 150%,

and reducing our carbon footprint by about 85%. (1)

Given *this* expanded comprehensive context,
extracting extremely harmful coal
represents merely the selfish profiteering
of far less than a tenth of a percent of humans,
who, with the power of very deep pockets,
act in their *own* short-term interest,
as Adam Smith once observed,
regardless of the impact on everyone else.

Extracting this coal
would be reckless foolishness,
indicating that we humans
may yet prove ourselves to be
no wiser
than lemmings headed for the cliff.

Please evaluate this *mitigating* alternative
The *only* one that can deliver
abundance, safety and security
To all humans.
If you do, I′m confident
you′ll leave the coal in the ground.

Linked References:

(1) Lovins, A.B. & Rocky Mountain Institute, ***Reinventing Fire***, Chelsa Green Publishing, VT, September 2011. http://www.rmi.org/ReinventingFire

(2) Jacobson, Mark Z. and Delucchi, Mark A. ***A Plan to Power 100 Percent of the Planet with Renewables***, Scientific American Magazine, November 2009. http://www.scientificamerican.com/article.cfm?id=a-path-to-sustainable-energy-by-2030

(3) Jacobson, Mark Z. ***Review of Solutions to Global Warming, Air Pollution, and Energy Security***. Department of Civil and Environmental Engineering, Stanford University, Stanford, California, June 2008. http://www.solaripedia.com/files/398.pdf

(4) Lovins, Amory B., etal. ***Winning the Oil Endgame, Innovation for Profits, Jobs and Security***. Snowmass, Colorado: Rocky Mountain Institute, 2005. http://www.rmi.org/Knowledge-Center/Library/E04-07_WinningTheOilEndgame

(5) Lovins, A.B. & L.H., ***Brittle Power: Energy Strategy for National Security***, Brick House, Andover MA, 1981. http://www.rmi.org/Knowledge-Center/Library/S82-03_BrittlePowerEnergyStrategy