

RESPONSE TO DUSEL – CASCADES PRE-PROPOSAL

LEAVENWORTH, WASHINGTON

By

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December 2004

The full title of the document being reviewed is:

Pre-Proposal:  
The Deep Underground Science and  
Engineering Laboratory – Cascades:  
A Horizontal-Access Facility

A Facility for Physics, Astrophysics, EarthLab,  
Applied Science and Engineering, and Outreach/Education

dated May 2004

page 1

At 360 pages, the Pre-Proposal is a huge document. Its size is indicative of the size and complexity of this project, which threatens to inundate our small mountain canyon, valley, and community.

In an attempt to deal successfully with the large amount of information and misinformation, each point of contention has been placed in one of 3 categories. These categories are:

I – Incorrect Statements

II – Dangerous and/or Unacceptable Aspects of the Project

III – Miscellaneous Points of Contention

With each point the page number is given for the reference to the Pre-Proposal. Page numbers without a letter prefix refer to the main body of the Pre-Proposal. Letter prefixes to page numbers indicate the appropriate appendix letter.

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The writer of this response founded the Consulting Engineering firm IntegriTech in Leavenworth, Washington in 1985. IntegriTech provides Civil and Mechanical Engineering services.

Prior to the formation of IntegriTech, the writer was, for four years, the Director of Public Works for the City of Leavenworth.

The writer and his family have lived in the Icicle Canyon at Bridge Creek for the past 25 years.

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I. – Incorrect Statements

1. Horizontal Access - pages 1 and 2

Horizontal Access is given high priority, to the point of inclusion in the title of the Pre-Proposal. In fact, horizontal access is desirable but in no way essential. The previous site at Homestake Mine in South Dakota that was widely supported, even by the proponents of DUSEL Cascade, has vertical access. Horizontal access is more comfortable. The desire for comfort is obviously part of the justification to assault the small and elegant Icicle Canyon and to overpower our small mountain community.

2. Facilitator's Role – pages 3 and 95

It appears that the Facilitator, employed by the Port of Chelan County was considered by the proponents to be an adjunct to its program. According to the Pre-Proposal his job is to ... "provide accurate information about DUSEL Cascade to all interested parties." This is to be done while theoretically remaining neutral. This is inconsistent. The Facilitator himself agrees that this is neither correct, nor would it be an appropriate assignment for him.

3. Access Roads – page 13

"All roads are maintained through the winter."

Icicle Road past the Snow Lake Trailhead is a shared-cost road operated by the Forest Service. Its winter plowing is a private operation conducted by one of the residents with financial contributions by other residents and a few vacationers.

"No new road construction is required."

In fact many miles of road would have to be rebuilt. The bridge over Icicle Creek near the portal and its approaches would have to be strengthened or replaced. The roads near the portal are only dirt or light gravel. Their reconstruction to haul the immense volume of huge trucks would bear little resemblance to their current configuration. The widening required for lanes and intersections would be extensive and intrusive. The appearance would most certainly be industrial and completely out of place in the Icicle Canyon.

"The portal is located in an area with appropriate land designation."

This is not true. See Point I-8.

4. Five Year Construction Period –

The construction schedule or even time period is inconsistent, vague, and misleading. In some places the construction period is stated as 3 years. “The full five-year costing presented in Section 5...” is perhaps not a construction period but a preliminary accounting timespan. It is not at all likely that such a huge project in such a delicate area could be completed in only 5 years.

During December 2003, in the virtual absence of any meaningful scheduling data from the proponents, the writer developed a preliminary Critical Path Plan for the project to at least obtain a perspective on the scale of the project. That plan indicated a Critical Path time of 12.6 years. The following table compares the above mentioned Critical Path with the meager information included in the current Pre-Proposal.

Construction Critical Path Times

<u>Item</u>	Estimated Construction Time (years)	
	IntegriTech Preliminary Dec. 2003	Proponents Pre-Proposal May 2004
Power Installation	.5	?
Road Demolish & Rebuild	1.0	?
Portal Construction	.25	.25
Mobilization of Tunnel Boring Machine – (TBM)		
Tunnel 1	.17	.12
TBM Repairs	.25	0
Bore Tunnel 1	2.8	.44
Remobilization of TBM for Tunnel 2	.17	0
Ring Tunnel	0	.08
TBM Repairs	.5	0
Bore Tunnel 2	2.8	.44
Blast & Excavate Laboratories	2.14	.69
Blast & Excavate Connecting Tunnel	0	.28
Install Utilities and Experiments	<u>2.0</u>	<u>?</u>
	12.6 Years	5 Years ?

The glaring difference in the tunnel boring time estimates is a result of a contradiction by the proponent. The IntegriTech estimate of 2.8 years per tunnel is based upon the waste rock trucking schedule given by the proponents to the community in December 2003. Which, presumably, was based upon a rate of hauling that they thought would be tolerable. In the meantime that haul rate has been entirely abandoned. In its place is a full speed tunneling operation with whatever waste rock trucking rate is necessary to keep up with the tunnel boring machine.

Neither hauling rate is acceptable. The Icicle Canyon is not and should not become a heavy industrial site.

The proponents' 3 year or 5 year construction timespan does not include many essential sequential activities.

It is common knowledge amongst engineers and construction people that projects nearly always take longer and cost more than anticipated. This is especially true for projects that are large and complex.

5. 4% Increase in Traffic –

page 47

The proponents claim that their construction traffic will increase the existing Icicle Canyon traffic by only 4%. This is false. It is based upon Forest Service information that has been misconstrued even though the error was pointed out to the proponents by the Forest Service.

The following is factual according to the Leavenworth Ranger District of the Wenatchee National Forest. During the mid 1990's counts were made of the number of visitors by observing passing vehicles.

Number of visitors per year estimated at 400,000

Number of visitors per car = 3.5

Number of vehicles per year =  $400,000/3.5 = 114,000$  (or on the average 312 cars per day)

Nevertheless, the proponents claim that existing traffic is 400,000 cars per year, which is 350% too high.

Another traffic count was made during the period April through July 2003. The average number of vehicles per day during this period was 278. Since this period was a busier time of the year than the average, it indicates that the earlier visitor counts might be excessive. Nevertheless, let us accept a representative count as 114,000 vehicles per year.

The next step of the analysis is to determine the ratio of the impact of the biggest, heaviest construction hauling truck, with trailer such as this project would use; to a passenger vehicle. The proponent has assumed a ratio of one. In other words, a huge truck and trailer is equivalent to one passenger car. This is obviously unrealistic.

On a length basis, a 62 foot long truck and trailer is about 4 times the length of a passenger vehicle.

On a weight basis, a fully loaded truck and trailer is at least 20 times heavier than a passenger vehicle.

On a damage-to-the-road basis, the effect of the huge truck is even greater than the 20 to 1 car to truck weight ratio above

Finally, we need to determine the number of truck and trailer loads per day. The Pre-Proposal states that the tunnel boring would produce voids totaling 303,000 cubic meters over a period inconsistently described as 1.3 to 1.5 years. Since there is no room to stockpile rock waste, all the rock waste would have to be hauled away during that period. Rock in-place is more compact than the same rock shattered into small pieces by the tunnel boring process. The rock volume expands by a factor of about 1.6. Therefore, the 303,000 cubic meters void volume would translate to  $303,000 \times 1.6 = 485,000$  cubic meters of waste rock to haul away.

The proponents have reduced the haul amount by 6%. Apparently they propose to crush, at the portal, the rock for the tunnels' roadbed and therefore reduce the haul amount. Since such an incredibly noisy and invasive rock crushing operation is absolutely out of the question, the above volumes have not been reduced by 6% in this calculation.

The proponents have assumed a year round truckload of 15.4 cubic meters. This is unrealistic during normal winter operations without running the likely risk of losing control of heavily loaded trucks and trailers traveling downgrade on slippery roads. Nevertheless if such a high load rate were forced, the total number of truck loads for tunnel boring only would be:

$$\frac{485,000\text{m}^3}{15.4\text{m}^3/\text{truck}} = 31,500 \text{ truckloads}, \quad \frac{31,500 \text{ truckloads}}{1.3 \text{ years} \times 365 \text{ days/year}} = 66 \text{ truckloads/day}$$

Comparison of Traffic in Icicle Canyon

<u>Car/Truck Impact Ratio</u>	<u>Number of Car Equivalents per Day</u>				
	Pre-DUSEL	312	312	312	312
DUSEL Traffic at 1 truck Equals 1 car	-	66	-	-	-
DUSEL Traffic at 1 truck Equals 4 cars	-	-	264	-	-
DUSEL Traffic at 1 truck Equals 20 cars	-	-	-	-	<u>1320</u>
Total =	<u>312</u>	<u>378</u>	<u>576</u>	<u>1632</u>	
% Increase =	-	+21%	85%	423%	

The claimed 4% increase in traffic is greatly in error. Note that this increase in traffic is for waste rock trucks only and does not include all of the other project associated traffic, which on its own would also be tremendous.

6. Low Impact Siting –

The proponents claim that “Sustainable Design Strategies” promote “low impact siting.”

It is hard to imagine how such a huge and disruptive project could ever result in low impact siting.

7. Protection of the Environment –

page 72

The University of Washington will “assure the safety of the citizens and the protection of the environment”.

This project and the protection of the environment are mutually exclusive.

8. Portal Area –

pages A27, 31, B2,

... “no evidence of any icefalls.”

A portion of the 8-mile road portal site lies directly in the path of annual spring icefalls. An intermittent creek above the site flows across a bare, nearly vertical, rock face where it freezes to form an impressive mass of ice. Each spring the ice cracks diagonally across its face and drops onto the steep scree slope below it and immediately above a portion of the portal site. This is the reason why only bare scree and small amounts of brush exist in that area.

“The portal will be placed on Forest Service lands appropriately designated by the intended use, outside of riparian and shoreline areas”

This statement is not correct. The 1994 “NW Forest Plan Allocations – Icicle Creek Area” classify the portal area as “Matrix” primarily for logging purposes. However an overlying, earlier, more restrictive plan, the 1990 Wenatchee Forest Plan, for the same land overrides the matrix designation in this case. This plan’s designation for the land is WS2 Recreational River.

“We estimate that several acres will be needed for staging during the three year construction period. Figures 4.2 – 4.4 show photos of the bridge (rated to 40 tons), a portal site, and an area in front of the portal site that could be used for staging.”

The only somewhat level land for a staging area at the proposed portal site begins at Icicle Creek and extends toward the portal site no more than 300 feet. The riparian zone setback is 300 feet.

As a result there is no level land available for a staging area at the portal. The land beyond the riparian zone is steep and utterly impractical to use without creating huge cuts, fills, and highly visible towering embankments. For example if a 5 acre (330 feet wide by 660 feet long) staging area were constructed by balancing cut and fill, the cut would be 60 feet high above a fill embankment of 70 feet. The total height of the destroyed portion of the mountainside would be 130 feet which is roughly 13 stories.

The Wenatchee Forest Plan contains scenic designations and visual quality requirements for an area a ¼ mile each side of Icicle Creek.

9. Wilderness Act –

page B-12

The proponents claim that their project would be consistent with the Wilderness Act. This is a gross misinterpretation of the Act.

Scientific studies may be allowable in Wilderness Areas if the studies are conducted to benefit the Wilderness Area in some way. The DUSEL scientific work has no connection to improvement of the Wilderness, rather the opposite. It would set dangerous precedents that could eventually unravel the fabric of the Wilderness Act itself.

10. Enhance Wilderness –

page B-3

The proponents claim that they will be “protecting and enhancing the surrounding wilderness and recreation areas”.

How could such a vast industry-like project enhance wilderness and recreation? The best thing, by far, that the proponents could do for the wilderness and Icicle recreation is to abandon DUSEL Cascades entirely.

There are alternative, far more appropriate, proposed sites vying for the project.

11. Enhance Environment –

page B-17

The proponents would seek to use the water which they would intercept in the tunnel to “enhance the environment”. This taxes the imagination.

The water which would be intercepted is not “free” water discovered or manufactured by DUSEL. It is water which would have been on its way to its original destination for established downstream benefits. Interfering with its subterranean travels does not constitute an enhanced environment. It does constitute, however, dangerous interference with established and critical water flow and usage patterns.

12. Stream Flow Double-Talk –

page B-15

The first full sentence on the page states: “The amount of water is expected to be much too small to have any appreciable effect on enhancing stream flows.”

Two paragraphs later: “The result will help the Project minimize environmental impacts while enhancing stream flows in Icicle Creek.”

13. Mitigation –

page 89, page B-3

“A major focus...has been to identify potential project conflicts so that they can be resolved in this initial pre-proposal. Those that cannot be resolved can be addressed through mitigation.”

It is not true that all conflicts can be solved by mitigation. The proponents are assaulting our homes and happiness. Mitigation is insufficient to deal with such insults to the land and community.

“Mitigation” is the proponents’ favorite word. They claim the ability to mitigate away any serious, dangerous, or embarrassing problems.

“For problems that are unavoidable, appropriate mitigation projects will be incorporated....”

The social and community impacts which would result from the DUSEL project (traffic, wilderness character, etc.) are not impacts that can be adequately mitigated.

However, all DUSEL problems are avoidable by abandoning DUSEL Cascades entirely.

14. Crushed Rock –

pages 2 and 60

The waste rock produced by the tunnel-boring machine is not actually “crushed” rock. The tunnel-boring waste is typically quite uniform in size. It is generally not suitable for structural purposes such as foundations and roadbeds until it is actually crushed, and screened into a well-graded material that will compact and lock together well.

The crushing and screening processes are heavy industrial operations with far reaching side effects. These effects include tremendous long range noise, primarily from the crusher itself, but also from conveyors, loaders, and large vibrating screens.

The pre-proposal states that 6% of the tunnel waste (incorrectly called crushed rock) will not be hauled away from the site but will be used at the site for roadbeds. That means, of course, that the requisite crushing operation would occur at the portal site right in the middle of Icicle Canyon. This would be a disaster.

15. 10 Mile Haul –

page 60

Haulage assumes a 10 mile haul. Leavenworth is 10 miles from the portal site. Where is the waste site for at least 630,000 cubic yards of waste rock during the initial construction and unknown amounts from future expansions?

16. Guaranteed Access –

page 3

It is true as stated that the proposed location is beautiful. It is also true that a beautiful area should not be destroyed especially when there are appropriate alternative areas. The proponents call the climate mild with moderate precipitation. However, 90% of that precipitation is snow. Twenty degrees below zero is not unusual. The writer has personally ice skated on Icicle Road. We have had snow bury our clothes line in Icicle Canyon. There is no such thing as “guaranteed access”.

17. Water –

page 58

A 200,000 gallon fire water storage tank will be insulated and heated. Does this mean that this large tank would be located outdoors? If so, where? Where could it be located on the exposed portal site and not be an eyesore? Water rights by request, purchase, or lease is doubtful. Trucking in water adds to on-going permanent truck traffic.

## II. Dangerous and/or Unacceptable Aspects of the Project

1. Dangerous Materials will be transported, stored, and used. Secondary containment to prevent spills would be proposed. Can spills of large amounts and many types of dangerous material be prevented, over the long haul, even with secondary containment?

Is the likely chance of future spills which could contaminate our wildlife, drinking, and irrigation water supply worth any possible benefit from this project? “Ton quantities”, whatever that is, of an enriched isotope would be required. Bear in mind that even though the initial project is immense by our standards, who knows what the future will bring regarding periodic expansions and the nature of future experiments or other uses such as hazardous waste storage. Los Alamos National Laboratory, for example, began as a laboratory solely for the Manhattan Project and has expanded greatly over the years.

2. Isotopes – page 21

“...ton quantities of an enriched isotope,...are generally required.”  
How many tons? Which isotopes? Is there a radiation or contamination hazard?

3. Sewage Disposal – page 59

Sewage produced within the laboratories would be pumped to holding tanks. Is there no possibility of an accidental spill, since fallible humans will be operating the system?

4. Gray Water Disposal – page 59

Contaminated water within the laboratories would be treated on site and disposed on site, either into Icicle Creek or into the groundwater.

5. Detector Chemical Spills– page 59

Some of the experiments use large amounts of liquids that could seriously contaminate the community’s groundwater supply if the double containment vessels leaked or if the liquid were spilled either going into or being removed from the apparatus. In fact, trucks hauling these liquids would endanger Icicle Creek during spills or accidents. The risks are unacceptable.

6. Underground Water Flow –

page 25

One of the major objections to DUSEL is the likely contamination of the community's ground (and surface) water in case of an accident or carelessness. Now we must add to our concerns intentional contamination by experiments that would introduce tracer chemicals to study the movement of our groundwater. Our precious groundwater is not the place for such research. The audacity and lack of sensitivity required to propose such experiments indicates the mindset of the proponents.

7. Waste Heat –

page 51 and 55

The largest single use of power at the operating facility would be for cooling. The rock temperature increases with depth to an estimated 120°F. All of the great surface area of rock, whether covered or not is producing heat at a prodigious rate. This heat would be transported to the outside air at the portal through a refrigeration system which itself produces large quantities of heat while removing even larger quantities of heat.

The amount of heat to be removed is estimated at 1120 tons of cooling which corresponds to 3935 KW. The amount of power to remove that heat is 1045 KW. The huge ventilation fans are 940 horsepower or 714 KW. The total heat to be dumped into the canyon is 5694 KW or 324,000 BTU/min.

This amount of waste heat is equivalent to the waste heat from approximately 200 houses during their peak winter power consumption period, except that DUSEL waste heat flow would be year-around.

All other peak power uses are approximately equivalent to the above amount (an additional 200 houses). A large part of that power consumption will also eventually appear as waste heat. This additional waste heat brings the total amount to that of nearly 400 houses. Furthermore, this tremendous flow of heat would emanate from a single ventilation port or stack. The same amount of waste heat from 400 houses would be spread over approximately 33 city blocks in an urban setting or several square miles in a rural setting.

Such a concentrated plume of hot air is certain to create serious local and perhaps some longer range climate changes.

8. Noise from Backup Power Generators – page 17

Very large emergency electric power generators would be installed. Such units require “exercise” periods, perhaps weekly, to maintain their reliability. The associated noise and exhaust pollution would destroy the peaceful and quiet character of this highly revered recreational area, and the wilderness which abuts it.

9. Staff and Visitor Quality of Life – page 18

Conspicuous by its absence is concern for the quality of life of residents. This project would be a disaster for those residents for whom peace, beauty and a desire to live quietly and sensitively with nature are the basis of their reason for living here.

Adopting the area’s peace and beauty as if the project invented it, paying lip-service to the environment; and then assaulting these values with a wildly out-of-proportion invasive project is outrageous.

10. U.W. as Lead Agency for the EIS – page 87

Even if it were legal for the U.W. to be the lead agency, it would not be ethical or wise. It is inappropriate to have the proponent directing the EIS for a project with such severe impacts and strong opposition. Credibility of the EIS would certainly and understandably be questioned. Such continuing attempts to “railroad through” a project will meet with strong objections and resistance.

11. Cryogens and Flammables – page 92

“The ventilation and other safety systems are designed with large volumes of cryogens and flammables in mind.”

Large volumes of cryogens and flammables are not acceptable in Icicle Canyon while in transit or in place underground.

Cryogens are incredibly cold and dangerous during an uncontrolled release.

Fire is, unfortunately, a well known scourge in Icicle Canyon. We do not wish to voluntarily increase fire danger.

12. Joints, Faults, and Groundwater –

pages A10, 15, 16, 18

“Joints and faults may carry groundwater and cause excessive water to infiltrate into the underground excavation. Closer spacing of joints and faults will cause larger water inflows than greater spaced joints and faults, assuming similar apertures.”

“Groundwater inflows reported during construction (Bauhof 1989) of the mainline railroad tunnel was a maximum of 10,300 gallons per minute (gpm), which gradually decreased to 5,000 gpm, primarily emanating from the faulted and sheared middle third of the tunnel in granodiorite bedrock. At the Mill Creek access shaft (approximately 500 feet deep), water inflows were reported to be 215 gpm, all of which originated from the top 250 feet of the shaft, and as excavation progressed in the tunnels the flow pumped up the shaft was a maximum of 2,800 gpm.

- Most of the groundwater inflows were observed emanating from joints and shear zones in the granodiorite.
- Granodiorite in shear zones can carry water under pressure as encountered in the main tunnel.
- Typically, hydraulic conductivities for granitic rock are quite favorable and tend to improve with increasing depth. However one should anticipate that DUSEL groundwater flow could be highly variable depending on the size, number, and interconnectedness of fractures. Rates of groundwater inflow could range from less than 1 gpm to several thousand gpm. As the sources of elevated flows should be localized due to the low porosity of the rock, groundwater inflow would likely decrease over time as storage is depleted. Hydrogeologic testing in boreholes that reach the proposed laboratory area is essential, however.”

During past and proposed tunneling projects large amounts of groundwater were and are likely to be intercepted, perhaps as much as several thousand gallons per minute. For a sense of proportion consider the total uninterrupted surface Water Rights for the entire City of Leavenworth is 3 cubic feet per second, or 1355 gallons per minute. The City is hard-pressed to obtain any additional water for its own use. Water here is a highly appropriated, scarce commodity.

Intercepted water is not “new” water otherwise not utilized. It is existing water on its way to where it has been going for eons. Interfering with that flow is courting disaster for established users.

13. Groundwater Quality with Depth –

page A17

“In the Sykes (2003) study of Canadian Shield granite, groundwater quality decreases with depth. Salinity (expressed as total dissolved solids) was found to increase by approximately two orders of magnitude with a 1,000-meter increase in depth. This one example suggests that direct measurements of deep-water quality are important.”

Intercepting high salinity and high temperature water, then bringing it to the surface to boost Icicle Creek flows, as suggested, therefore, is another dangerous idea. Even slight changes in water quality can have a large detrimental effect upon the plants and animals that have developed at and in the creek.

14. Community Support –

pages B3 and B4

The proponents stated initially that community support for the project was essential. The pre-proposal tempers that statement to make community support, if not essential, then perhaps desirable.

There was a committee formed, which was strongly supported and perhaps even conceived by the proponents called the Citizens Advisory Committee, ostensibly to learn the community’s feelings toward the project. During a meeting of the CAC a local resident persisted in questioning a proponent until the proponent finally admitted that if the community did not support the project, the proponents would ignore the committee’s recommendation and proceed regardless.

In the final analysis; and to the proponents’ apparent dismay, the majority of the committee members do not support the project. In fact, about one half are firmly opposed to the project, one quarter are undecided, and only one quarter are in favor. If it is apparent, as stated in the pre-proposal, that there is a substantial level of local support, then it is also fair to say that there is a much more substantial level of community opposition. There are hundreds of people opposed to this project. It would be very unwise to try to bulldoze the opponents out of the way. Our homes and happiness are at stake. We will not acquiesce to the huge financial and political forces bearing down upon us.

15. Bridge Creek Road –

page B17

There is no such road. This indicates that the proponents do not pay enough attention to detail. If this kind of error, which is so simple to verify, is made, what kind of serious errors are being made on important subjects that are not easy to verify?

16. Hazardous Waste – page B17

“The presence of hazardous substances and the disposal of hazardous wastes will require a Spill Prevention Control and Countermeasure (SPCC) Plan and a Notification of Hazardous Waste through the U.S. Environmental Protection Agency and the Department of Ecology. Examples of such materials commonly employed in experiments include plastics and liquid scintillator.”

Do we want in our canyon and watershed an operation that is required to file a SPCC ? The risk is too great for Icicle and Leavenworth environment.

17. Power “most likely” underground – page F-3

It is surprising that the proponents, who claim to be purveyors of the beauty of the Icicle Canyon, would even consider anything so unsightly and inappropriate as above ground power lines.

18. Substantial Impact – page I 98

“There must be extensive community involvement in planning the site and its program because of the substantial impact on Leavenworth and neighboring towns.”

There will be extensive community involvement to prevent this take-over of our canyon and community. Please refer back to paragraph II 14. above.

19. Clearcutting – page 92

There is at present little clearcutting in the outlined portal area. However, a 5 acre staging area as required at the portal with its associated cut, fill, leveling, boulder removal, and high embankments, would require clearcutting and a tremendous irreversible eyesore. (A portion of the portal site is scree and brush as stated in paragraph I 8.)

20. Future Expansion – pages 92

The project, which would be immense by our community standards, is only the initial phase of the project. The proponents are reserving the right to enlarge the facilities. There is no limit to the type or size of facilities that could result. An enlargement of an existing facility would be relatively easy to force upon the community. The community’s only way to avoid such an undesirable, uncontrollable situation is to not allow the project here in the first place.

### III. Miscellaneous Points of Contention

1. Homestake Mine and Henderson Mine Deeper, Better – page 11

The minimum overburden at Homestake is 6,250 “mwe”. The mean overburden at Cashmere is proposed to be 5,960 mwe. Mwe means Meters Water Equivalent. Henderson Mine can easily be deepened if necessary.

There are two very significant differences between Homestake or Henderson and Cascades.

- (1) Homestake and Henderson are already excavated.
- (2) DUSEL at Homestake or Henderson would convert a large industrial mining site into a scientific facility – most would say that this is a step in the right direction.

DUSEL at Cascades, however, would unnecessarily convert a rare, small, elegant, fragile, and beautiful canyon into a scientific/industrial facility; an irreversibly bad idea.

2. “Massive 50,000 ton Liquid Argon Scintillator – page 23

Massive experiments and their massive support facilities don’t belong in small, fragile places such as Icicle Canyon. The Icicle Canyon has wisely been set aside almost entirely as National Forest for good reason. The Icicle Canyon is a rare and special place that needs to be protected, not despoiled.

3. “Underground Hotels” – page 81  
Where? For whom? Why?

4. 5-10 MW of Power – page 88

10 MW of peak power would be required at the laboratories under Cashmere Mountain. This is a lot of power. The Chelan County PUD estimates a peak wintertime power requirements of around 25 KW per house. The amount of power going to the laboratory would equal 400 houses during the houses’ peak demand period. See response II-7, Waste Heat, for discussion of the hazards of concentrated waste heat emissions.

page 20 – III. Miscellaneous Points of Contention, continued.

5. Another Potential DUSEL Site was abandoned due to strong local support for Wilderness. page C2

Capricious inconsistency in site selection is exposed on page C-2.

“The web search revealed West Spanish Peak has been under study as a wilderness area for several years, with legislation introduced in 1997 and passed in the House. Thus, given the strong local support for this reclassification, we decided not to pursue this site.”

West Spanish Peak was eliminated from further consideration because it might become a Wilderness Area someday.

Mount Cashmere is already within the Alpine Lakes Wilderness Area and has been for 22 years. By the same correct logic, therefore, Mt. Cashmere should not even be considered as an available site.

Submitted by:

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