

DEEP UNDERGROUND SCIENCE AND ENGINEERING LABORATORY (DUSEL) PROPOSAL
Process for Early Public Involvement

**THE
CITIZENS ADVISORY
COMMITTEE'S
REPORT
TO THE PORT OF CHELAN COUNTY**

December 2004

THE CITIZENS ADVISORY COMMITTEE MEMBERS:

PAMELA AMOSS
BILL ASPLUND
MIKE BAIRD
JC BALDWIN
MALL BOYD
BOB BRANCH
HANK DREWNIANY
CARL FLOREA
PAT FROMM
PAUL HESSBURG
BUFORD HOWELL
DEAN JOHNSON
BILL KAMPEN
KEN MARSON
CONNIE MCCAULEY
POLLY MCINTYRE
LEE MILNER
ALAN MOEN
DENNIS NICHOLSON
NANCY PIESTRUP
COT RICE
KEVIN RIEKE
DICK RIEMAN
CRAIG ROOT
TASHA TARVER

DEEP UNDERGROUND SCIENCE AND ENGINEERING LABORATORY (DUSEL) PROPOSAL
Process for Early Public Involvement

THE CITIZENS ADVISORY COMMITTEE'S REPORT

to the Port of Chelan County

2 December 2004

INTRODUCTION

In July 2004 the Port of Chelan County Commissioners (Port) appointed a twenty-five member Citizens Advisory Committee (CAC) to serve as the first forum for public involvement to assess the University of Washington's "pre-proposal" to build a Deep Underground Science and Engineering Laboratory (DUSEL) in the Cascade Mountains near Leavenworth, Washington.

The Port's mandate to the CAC is summarized in the purpose statement approved by Committee members at their first meeting on 28 July:

"The purpose of the Citizens Advisory Committee is to produce and submit to the Port of Chelan County by mid-November 2004 a report that identifies: 1) the community's interests and issues that will be affected by the University of Washington's proposal to build a deep underground science and engineering laboratory under Mt. Cashmere; 2) detriments, concerns and benefits of the proposal; and 3) ways to address the community's interests and concerns."

This report fulfills that mandate. It is organized into the following five sections which reflect the issues the Committee identified, discussed and assessed:

- I. Sense of Place
- II. Environmental Protection
- III. Economic Development
- IV. Education
- V. Project Scope and Management

Within each category, the Committee examined and discussed the potential community impacts during the construction period and the subsequent long-term operation and management of the DUSEL. For each category, the Committee endeavored to identify the community's concerns and interests. At each step the Committee members relied on their own experience and expertise, their review of the University of Washington's "pre-proposal," public comments at the nine

Committee meetings, and the members' discussions with their neighbors, friends, colleagues and associates.

The Committee's concerns and interests are presented in the opening paragraphs of each section. Following the concerns and interests are recommendations that address these concerns and interests. The Port of Chelan County should propose to the University of Washington's representatives that including these recommendations in their proposal to the National Science Foundation (NSF) in January 2005 would make the proposal more likely to achieve the community's interests. The findings of the Committee could also serve as criteria that the NSF uses to evaluate whether or not the proposal achieves key interests of the community.

THE COMMITTEE'S MUTUAL CONCLUSIONS

The Committee members agree on the issues, concerns and interests—the foundation of their work together and this report—and the recommendations contained in each section of the report. Furthermore, they agree on these five key findings:

1. The science represented by the DUSEL project is admirable and exciting. There is a need for such scientific research and experimentation somewhere in the United States.
2. The DUSEL proposal has the potential for placing Leavenworth's sense of place, which has been carefully crafted since the community reinvented itself forty years ago, in jeopardy.
3. The environmental concerns, considerations and interests with regard to this proposal are of critical importance.
4. The University of Washington's "pre-proposal" raises as many, if not more, questions than answers, particularly about sense of place, the environment, and the adequacy and sustainability of funding for construction, operations/maintenance and "mothballing" of the laboratory.
5. The potential economic and educational impacts and opportunities to Chelan County of the DUSEL are significant.

As they reached the end of their deliberations, the Committee members came to three different conclusions.

THE COMMITTEE'S DIFFERING CONCLUSIONS

One group of Committee members concluded that the Port should not invite the University of Washington and the National Science Foundation to construct the DUSEL facilities in the Icicle Valley. The DUSEL facilities should be built elsewhere in the United States—at one of the sites that appears more prepared to accommodate the proposed project.

The four reasons for this finding are:

- ***Sense of place:*** In two significant ways the proposal threatens the sense of place for the town of Leavenworth. First, the proposed DUSEL facilities are too big and overwhelming for the Leavenworth community. Forty years ago Leavenworth reinvented itself because of the demise of extraction industries in the area. Over the past four decades the community has grown more diverse—economically, politically, socially and culturally. But it has retained its small town flavor. The DUSEL facilities threaten to overwhelm Leavenworth, potentially making its economy too dependent on this project at the expense of tourism, outdoor

recreation, and arts and culture, and transferring to some degree decision-making about the town's future from the residents and local decision-makers to the project operators.

Second, the international attention and the growth and development that could result from the project could transform the town into a city with few of the same values, qualities and characteristics. And if the laboratory's mission evolves into national security-related activities, and it is managed with less openness and higher levels of security, the culture of the community could change, too, into one that is less welcoming, open and accessible.

- ***Environmental protection:*** Resolving uncertainties about potential environmental impacts is not possible until construction of the project is well underway. By then damage to the environment, such as a reduction of surface and sub-surface water quality or yield, may have resulted. Should this occur, there does not appear to be an "exit strategy" for ending the process of building the laboratory and restoring the environment. The experiences of other similar projects, such as the laboratory at Grand Sasso, Italy, indicate that the risk to the environment of placing the laboratory at Mt. Cashmere is too great.

A related environmental concern is the potential for accidents, including toxic spills. A certain amount of risk is involved in any construction project, particularly one of this magnitude. The concern about potential risk is heightened by: the close proximity of the site to Icicle Creek; the fact that the creek is the water source for Leavenworth and the nearby national fish hatchery; and the fact that flows from this creek eventually empty into the Columbia River. Thus, the result of an accidental toxic spill into this water system could be devastating.

Furthermore, the potential for toxic spills to find their way into the community's water supply appears to remain even after construction because of the nature of the work that will be conducted in the laboratory. The "pre-proposal" does not adequately address or resolve uncertainties about the potential for accidents, thus leaving many in the community and a number of the Committee members with great concerns that there is insufficient attention and effort to anticipating and preventing or significantly reducing the possibility of chemical spills and other types of accidents that could result in environmental degradation.

- ***Distrust of government:*** This discussion focused on three concerns:
 - a. Despite the myriad laws to protect the environment and the numerous federal, state and local agencies involved in implementing them, the "functional silo" or "turf protecting" culture of bureaucracies does not ensure that the environment would be protected during construction or operations.
 - b. The project's mission could evolve into homeland security-related operations over the estimated forty years of its lifespan. If this were the case, the open, accessible nature of the project might be replaced by secretive, closed management that could not be scrutinized by the public.
 - c. The cost of the Cascades DUSEL proposal is enormous, particularly given that there are no existing mines or other facilities from which to begin, so the project would need to be "built from scratch." Yet the sustainability of funding for the project is not demonstrated. Questions remain about whether there would be adequate funding for the project, leading to community concerns that at some point in the future, including, possibly, during construction, the project will be halted unexpectedly. Without assurances that the

funding for construction and operations is sufficient and sustainable, and that funding would be provided to close operations and restore the area around the laboratory, the community will remain concerned that it may someday be saddled with responsibility for addressing these issues.

- ***Possible precedent:*** Allowing the laboratory to be constructed in a National Forest might set a precedent for the future construction of light industrial projects in other protected areas throughout the nation.

Another group of Committee members reached the conclusion that the proposal deserves the Port's support.

This conclusion is based on these three findings:

- ***Economic development and education:*** The potential benefits of the project to economic development and education are compelling. The proposal represents an opportunity to diversify the economy, raise the standard of living in the area, and provide the kinds of job opportunities for our young people that would enable them to remain in the region. It also presents an opportunity to increase and expand interest in science, mathematics and related fields, and to capitalize on that renewed interest to benefit the public education system. Partnerships between the employees of the DUSEL facilities and educators and students in K-12 and at Wenatchee Valley College could improve classroom education as well as school facilities.
- ***Environmental protection:*** There is reason to expect that the environmental questions raised by the University of Washington's "pre-proposal" will be answered at various stages of the process, including the initial testing of the rock at Mt. Cashmere (the proposed site for the laboratory), the environmental assessment and the Environmental Impact Statement (EIS). Environmental concerns will be addressed as more information is gathered, and through the permitting processes that will involve federal, state and local government agencies. With reasonable assurances that the environmental issues can be addressed, the focus becomes the potential economic and educational interests, opportunities and benefits.
- ***The "community of interest":*** The "community of interest" in this proposal is larger than the town of Leavenworth; it includes the Wenatchee Valley, Chelan County, the State of Washington and, perhaps, the nation. It is in the region's interests to protect Leavenworth's sense of place, and the Port, other local government agencies, and the University of Washington bear responsibility for ensuring that it is protected and preserved during construction and operations of the DUSEL facilities. From countywide and statewide perspectives, the DUSEL proposal is an opportunity and should become a catalyst to effectively manage change so that it enhances the sense of place.

The third group of Committee members concluded that the process of analyzing the DUSEL proposal's potential impacts on and benefits to the community should continue. This group believes that it is incumbent upon the Port to hold the University of Washington accountable at every step of the process. Both the Port and the University of Washington should strive to continually demonstrate that placing the DUSEL in the Icicle Valley will not degrade the environment or undermine Leavenworth's sense of place, and will achieve the community's long-term interests.

The primary findings that resulted in this group's conclusion are:

- ***Answer unanswered questions:*** The “pre-proposal” raises questions about impacts on Leavenworth's sense of place, the environment, and the adequacy and sustainability of funding for construction, operation and maintenance. Of major concern is the question of funding environmental restoration and economic revitalization if the project were abandoned before completion or at the end of its useful life. The Port has the responsibility to challenge the University of Washington and the National Science Foundation over the next few years to provide the community with information and assurances that resolve these and future unanswered questions. In negotiating with the University of Washington—not just over the contents of the University's proposal to the NSF that will be submitted in January 2005, but at every stage of the process—the Port needs to hold the proponents and all involved regulatory agencies accountable.

The Port should initially recommend that the University of Washington: 1) more thoroughly investigate the feasibility of obtaining the required permits and legal authority for exploring drilling in a Congressionally-designated Wilderness Area; 2) thoroughly evaluate the geological competency of the rock; 3) gather and analyze additional data about groundwater characteristics and potential impacts on water quality and yield in the vicinity of and downstream from the laboratory; 4) address through specific strategies and actions how they propose to preserve the town's sense of place; and 5) address funding environmental restoration and economic revitalization should the project be abandoned before completion.

- ***Inform, educate and involve the public:*** Continuous public involvement needs to be a hallmark of the process of analyzing the DUSEL Cascades proposal. The Committee's work from July through December 2004 is a good start, but because of the numerous unanswered questions raised by the “pre-proposal,” it is essential to continuously inform, educate and involve citizens in the analysis and refinement of this proposal to ensure it addresses and achieves community interests. This group believes it is imperative that the Port hire an independent consultant to monitor the permitting and construction processes, and that a citizens' advisory committee be established to participate in the construction and operation of the DUSEL facilities.

ADDITIONAL KEY FINDINGS

As the Committee delved deeper and more extensively into its review of the proposal, the number of questions raised by the group increased, as did the number of members who feel that the proposed location in the Icicle Valley is not appropriate. Whether Committee members oppose or support placing the DUSEL facilities in the area, or remain neutral on that question and instead propose that the process continue so that more information can be obtained and analyzed, they all agree that:

- The community's concerns and interests are valid.
- The proposal contains enormous risks and opportunities.
- ***IF*** the DUSEL facilities are placed in the vicinity of the Icicle Valley, the Port, working with other key stakeholders, including the public, must carefully monitor the process to ensure that the community's interests are addressed and achieved

I. SENSE OF PLACE

CONCERNS AND INTERESTS

Early in the Committee process, as the members began to group the issues into categories, one issue that emerged was “sense of place.” As Committee members discussed it, they began to define it a bit differently. This explains why there are different levels of concern about the issue among Committee members.

For those who define it as protecting and preserving the economy, environment and culture of the town of Leavenworth, the issue grew in importance, with some members concluding that the DUSEL proposal would disrupt or alter Leavenworth’s sense of place so dramatically that the project should not be placed here. Those who define “sense of place” as countywide concluded that the project might stimulate a renewal of the County’s sense of place through new economic and educational opportunities.

No matter the Committee members’ positions, they agree that the sense of place of Chelan County’s communities, including Leavenworth, should be protected and preserved.

“Sense of place” is defined as the factors that contribute to the residents’ collective well being and quality of life. Some factors are tangible. Safe neighborhoods and homes, hiking in the Enchantments, cultural events and community festivals, and friendships forged among neighbors and colleagues by proximity and common experiences—all contribute to the sense of place. Other tangibles such as forestry, mining, agriculture, fisheries and outdoor recreation underscore the community’s deep connections to its physical environment. These connections to the environment are central to the sense of place. The importance of the community’s connection to the physical environment was further strengthened when Leavenworth was transformed into a Bavarian Village forty years ago and began to attract visitors from around the world to share in its stunning alpine setting. For residents and visitors alike, the area is synonymous with outdoor beauty. The transformation of Leavenworth into a Bavarian village has changed Leavenworth’s economy from one founded on a couple industries in decline to one based primarily on tourism, outdoor recreation, and arts and culture.

Other factors that constitute “sense of place” are less quantifiable: feelings, memories, traditions cultural conventions and civic pride. The appreciation and love of the regions’ mountains, rivers and forests has given many—tourists and recreationalists from outside the region as well as the local residents—a strong spiritual connection to nature. The relaxing and recuperative qualities of nature help define the community’s quality of life, even according to those who are not recreationalists. Social scientists have written and commented that societies with a strong sense of place are stewards of cultural histories and the natural environment. These communities are what today we call “sustainable.”

Committee members heard from Leavenworth residents that they take pride in striving to make their town a sustainable community. Committee members who reside outside the Leavenworth area reported that their communities—Cashmere, Wenatchee and East Wenatchee—also desire to be more sustainable, as illustrated by their interest in broader economic and educational opportunities.

The Committee recognizes that changes are already occurring in the region, including in the Wenatchee National Forest and Alpine Lakes Wilderness Area. Population growth has contributed to the loss of agricultural lands throughout the Wenatchee Valley. The influx of new permanent residents and weekend residents in the Leavenworth area has created sociological pressure and division based on people's perceived differences in wealth, expectations, and commitment to community. In the past ten years the desire on the part of many to escape the high costs and stresses of urban life has had the tangible effect of far more homes in the Leavenworth area than existed previously. The increasing volumes of vehicle traffic along Icicle Road and of human traffic along the trails of the Wenatchee National Forest testify to the growing popularity of the area for recreation.

Actions by various public and private interests reflect the community's desire to be good stewards of the land and natural resources, and to address these changes. For example, the recreational permits system instituted by the United States Forest Service (USFS) strives to prevent the National Forest from "being loved to death." The USFS also maintains public campgrounds and trails, and seeks to purchase private "checkerboard" land to consolidate its holdings in large tracts to prevent over-development of Icicle Canyon. Chelan County's implementation of the State's Growth Management Act has helped preserve agricultural lands, natural resources and the rural and recreational character of the region. The County's zoning restrictions also maintain large lot sizes, thus preserving open, green spaces. Preserving trees and natural areas, and "screening" homes with landscaping are illustrations of the desire by private citizens to protect the natural environment.

While change is inevitable, these efforts of citizens and public entities help preserve the community's sense of place. Many in Leavenworth are particularly concerned that the DUSEL project could exacerbate problems caused by change, and might irrevocably alter the community's sense of place. Might the DUSEL project, as a major employer, overwhelm and dominate not just the economy but the community's culture? Would tourism and recreation be undermined? Might the DUSEL project accelerate growth and development pressures, and the loss of agricultural lands? If these scenarios transpired, might the town's economy revert to the era before the 1960s when it was narrowly based on a couple industries, and was, therefore, not as diverse as it has since become?

Could the placement of a laboratory requiring some measure of security change the open, hospitable character of the community? If the laboratory's mission evolved over the years to focus more on national security, might that require a secretive, closed management approach that would affect not just the operations of the facility but the culture of the town and accessibility to its surrounding recreational offerings? Can government agencies responsible for overseeing the facilities be trusted to fulfill their obligations to the public? If the lab were to become more focused on homeland security, would government need to play a bigger role in the region's daily life, thus making the public too dependent on government to preserve and protect the sense of place?

For others on the Committee and throughout the Wenatchee Valley, these dimensions of sense of place are important, but do not completely define the issue. They are also concerned about the inability of two or three generations of a family to live in close proximity within the region. The loss of young people to the region in search of higher paying jobs is cited as a major cause of the separation of families. They are interested in increasing the quality of life and standard of living by providing the Chelan County residents with more educational and economic choices. Expanding the choices available to people could create a more diverse, vibrant community. They are concerned that the current changes transforming the region are not being addressed in a

comprehensive manner. They are interested in using the DUSEL proposal as a catalyst for more cooperation among public agencies at the federal, state and local levels, and between the public and private sectors, to comprehensively address regional economic, housing, transportation, environmental and educational needs and interests.

Despite different definitions of and conclusions about the sense of place, the Committee members agree that effectively managing change and strengthening the sense of place of Leavenworth and other communities in Chelan County depends on these factors:

- new economies that compliment existing economies, and together are stable and sustainable;
- growth that does not exceed the area’s “carrying capacity”;
- a reduction in migratory populations and absentee ownership;
- functioning natural ecosystems, including restoration of those which have been damaged or destroyed;
- continued expansion of science, music, art and culture;
- shared values and experiences among community members;
- people getting to know the area intimately;
- generational ties;
- repeated verbal and written accounts of the area’s history;
- social and cultural empowerment;
- balancing the needs of humans and of our natural resources;
- preservation of each community’s uniqueness, such as Leavenworth’s rural, small town qualities and characteristics;
- preserving, protecting and enhancing the uniqueness of the region’s natural environment, and the special relaxing, recuperative qualities of its outdoor recreational opportunities; and
- the appeal of Leavenworth and Chelan County to tourists and recreationalists.

THE COMMITTEE’S RECOMMENDATIONS

One group of Committee members recommends to the Port that it not invite the University of Washington and the NSF to construct the DUSEL project in this area because it could dramatically and drastically alter Leavenworth’s sense of place.

Other members believe that the following recommendations, found in the next four sections of the report, could help preserve and protect Leavenworth’s sense of place:

<u><i>Section</i></u>	<u><i>Recommendation</i></u>	<u><i>Page</i></u>
Environmental Protection	2	13
Economic Development	1	15
Economic Development	3	15
Economic Development	10	17
Economic Development	12	17
Economic Development	13	17
Economic Development	15	18
Economic Development	16	18
Education	1	19
Education	11	21
Education	13	21

<u><i>Section</i></u>	<u><i>Recommendation</i></u>	<u><i>Page</i></u>
Education	15	22
Project Scope and Management	1	25
Project Scope and Management	2	25
Project Scope and Management	3	25
Project Scope and Management	6	25
Project Scope and Management	7	26
Project Scope and Management	9	26

II. ENVIRONMENTAL PROTECTION

CONCERNS AND INTERESTS

One of the Committee's five major findings (Introduction, p. 2) is that the environmental concerns, considerations and interests of the community with regard to this proposal are of critical importance.

In the short term, the concerns are focused on the environmental impacts of the construction of the tunnel. Is it worth the environmental risks and costs to construct facilities where today there are none? Will the quality of Icicle Creek—the water supply for Leavenworth and the life support system for native species in the watershed—be harmed? What does the estimated ninety-two truck trips up and down Icicle Road per day during the construction period mean for air quality? How might the digging of the tunnels impact groundwater? Is it even too risky to conduct experimental drilling to determine the quality of rock? Given uncertainties about the mountain's geological properties, might this drilling result in damaging the groundwater's quality?

In the long term, the concern is that the operations of the laboratory could possibly adversely affect both water quality and quantity. Will the laboratory require an amount of water that endangers fish in Icicle Creek? Will the release of water from laboratory operations devalue groundwater and/or the Creek? How might chemicals used to operate the lab or in experiments, such as the half-million gallons of scintillator fluid that may be used to conduct neutrino experiments, affect water? Could a catastrophic event ruin the environment of the region, and take generations to repair? If there were a catastrophic event would restoration protocols and procedures succeed in erasing any long term effects and restoring the area to pre-event conditions?

The 155,000-acre Upper Icicle Creek Watershed is one of the most cherished in Washington State. It is among the least developed in the interior of the Pacific Northwest. The lower half of the watershed carries very low road densities compared to other nearby watersheds, while the upper half is completely without roads. It looks and functions like a watershed should. The quality of its water, air and geological structure make it absolutely unique. So, too, does its proximity and accessibility to a major metropolitan area. Few places like it are left in the United States. It is a perfect place from which to learn about the preservation and conservation of naturally functioning environments.

Therefore, the principal interest of the community is to preserve and protect the Upper Icicle Watershed. More specifically, the Committee is interested in ensuring that:

- Water quality and quantity, both in the Creek and ground, are maintained.
- Fish, wildlife and their habitats are preserved and protected.
- Air quality is protected from dust, fuels and other pollutants.
- Groundwater flow and quality are protected and preserved.

Related to the quality of water, air, fish and wildlife habitats and geology are two other issues. First, the United States Forest Service (USFS) considers the Wenatchee National Forest to be one of the nation's most appealing and popular national forests for recreation. The USFS has invested in making the area welcoming to outdoor recreation users, and in striking a balance between

recreation and conservation. Second, the area's scenic beauty is almost unparalleled. The community is interested in ensuring that the National Forest continues to offer a variety of recreational opportunities for locals and tourists in a breathtakingly scenic setting of uncommon environmental quality.

THE COMMITTEE'S RECOMMENDATIONS

As stated in the Introduction, one group of Committee members concluded that the Port should not invite the University of Washington and the National Science Foundation to construct the DUSEL facilities in the Wenatchee Valley. This group believes the project should be built elsewhere in the United States. One of the four reasons for this conclusion is concern for the environment.

Another group of the Committee concluded that while environmental concerns are of critical importance, the unanswered questions of the "pre-proposal" will be answered at various stages of the process of analyzing the DUSEL proposal. Therefore, they concluded that the Port should support the proposal based on its potential economic development and educational benefits.

The third group of Committee members concluded that the process of analyzing the DUSEL proposal's potential impacts, including the environmental impacts, should continue.

The Committee recommends to the Port that ***IF*** the DUSEL Cascades proposal is selected by the NSF, the Port should:

1. Hire an independent consultant to monitor the permitting and construction processes. One of the consultant's key responsibilities will be to report to and advise the Port on compliance with applicable environmental laws, policies and procedures.
2. Establish a citizens' advisory committee to participate in the construction and operation of the DUSEL facilities. "Seed money" to launch the committee and support its early operation should be provided by the NSF. Among the committee's duties should be reviewing and commenting on the consultant's findings and reports and advocating for community interests pertaining to the environmental impacts of the DUSEL.
3. Recommend to the University of Washington and the NSF that an annual monitoring report be published to: a) highlight the areas of compliance, and those in which compliance has not been achieved or proven to be a greater challenge than expected; and b) analyze and recommend strategies to more effectively and efficiently achieve compliance. These reports should be published every six months throughout the lifespan of the project under the authority of the independent coordinator.
4. Recommend to the University and NSF that in addition to the independent coordinator and the annual monitoring reports, an independent consulting firm from outside the region should be hired every few years to audit the impact of the laboratory's operations on the environment. The company or individual should be hired by the multi-agency team with input and advice of the citizens of the community.

III. ECONOMIC DEVELOPMENT

CONCERNS AND INTERESTS

Throughout this early public involvement process, the Committee expressed three principal concerns about the potential economic impacts of the DUSEL project on the Upper Wenatchee Valley. They were:

- The recipients of the economic benefits of the DUSEL project may be primarily outside Chelan County. The scientific community across the nation and perhaps even the world appears to be a potential beneficiary of the economic as well as scientific gains that could be derived from the project. The federal government, national and international research institutes, and companies with experience building and/or operating similar projects appear to be other likely economic beneficiaries of the project.
- There may not be sufficient recognition, analysis and understanding of the potential impacts of the proposal on existing jobs. Two of the pillars of the community's economy, agriculture and recreation/tourism, may be undermined by the project, either temporarily or permanently. Has the potential loss of jobs been factored into the equation to determine if the DUSEL project would produce a net gain in the number of jobs? Or is there a chance that it could result in a net loss because the number of agricultural and tourism jobs that is lost is greater than the number of new jobs produced by DUSEL? If the current foundation of Leavenworth's economy is undermined, might the community revert to a period when its economy was based on failing industries?
- The potential impacts on the supply and cost of housing may not yet be assessed and addressed. Where will the people who occupy the new jobs generated by the DUSEL project come from? What if most of them hail from outside the area? Where might they and their families live? Might their need for housing drive up land and housing prices in the Leavenworth area? But if they live in neighborhoods throughout Chelan and Douglas Counties, might this mean the region does not experience much impact on housing supply and costs? But then, what might be the impacts on roads and bridges, LINK Transit's services, and the environment? And if construction workers came primarily from outside the region, might there be a "boom" in the construction of new homes, followed by a "glut" of housing on the market as they depart for the next construction project?

The residents of the Wenatchee Valley are interested in ensuring that the DUSEL facilities make a long-term, sustainable contribution to the community's economic health and vitality. For many who have already endorsed locating the DUSEL facilities at Mt. Cashmere and in the nearby communities, including some who have expressed misgivings about its potential impacts on the environment, the principal reason is the project's potential to raise the overall standard of living in the Valley, and directly benefit workers and families who already reside in the area.

More specifically, these are the community's economic interests that need to be achieved *IF* the DUSEL facilities are sited in the Valley:

- The construction and on-going management of the DUSEL facilities stimulate economic vitality throughout the Wenatchee Valley, thus improving the region's standard of living and diversity.

- The project strengthens and enhances economic benefits to the Valley that are currently derived from the region's unique natural resources.
- The project enables our children and grandchildren to continue to live in the area as adults through family-wage jobs.
- The project provides a greater variety of affordable housing choices for the Valley's residents, particularly in Leavenworth and the Upper Valley.
- The project stimulates partnerships between government and citizens and between the public and private sectors to ensure economic growth and vitality, and sufficient and effective services, and the efficient delivery of them.

THE COMMITTEE'S RECOMMENDATIONS

Having identified and discussed the concerns and interests listed above, one group of Committee members concluded that because of the potential economic benefits to the region, the Port should support placing the DUSEL project here. While the other two groups of the members do not make that recommendation, they agree on the following recommendations to ensure that the community's economic interests are achieved *IF* the DUSEL facilities are placed in the Wenatchee Valley. These recommendations are not listed in order of importance; the Committee made no attempt to prioritize them.

High Paying Jobs for Residents of the Area

The Committee recommends that the Port:

1. Emphasize hiring qualified local residents to fill the jobs (not just service-level, but professional and managerial jobs) generated by the construction and operations phases of the DUSEL project.
2. Assume lead responsibility for helping make local workers competitive. This may mean developing employment training programs and working with the NSF, the State of Washington and other entities to secure the funds required to conduct them. It may also translate into working in tandem with local labor unions to ensure that local companies can compete to serve as primary contractors or subcontractors.

The Visitors' Experience Center

Regarding the Visitor's Experience Center that is described in the University of Washington's pre-proposal, the Committee recommends:

3. The Visitors' Experience Center must be built because it is the facility most likely to directly benefit the citizens of the Wenatchee Valley. *If, because of the lack of funding or some other reason, the Center were eliminated from the Cascades DUSEL proposal, the community probably would not support placing the DUSEL laboratory and research center in the area.*
4. To ensure that there is adequate funding to build and operate/maintain the Center, the NSF should provide the funds for its construction so that it is completed before the laboratory.

This will demonstrate: a) the DUSEL proponents are serious about constructing the Visitors' Experience Center, thus alleviating community concerns that this is not the case; b) their commitment to the community's educational and economic vitality; and c) their commitment to educating the public—both local residents and tourists—about progress in building the laboratory.

5. The Port, University of Washington, NSF and other interested parties should establish a public-private partnership to fund and oversee the Center's operations and maintenance.
6. The emphasis or focus of the Center should be education, as indicated by the University of Washington's pre-proposal. The community is interested in the Center helping to stimulate an interest in and strengthen the education of Valley residents in the physical and biological sciences and related fields. More specifically, the community wants to see the Center play a key role in the science education of students from K-12 through college. Opportunities for all residents to learn and benefit from the Center should be identified and provided. To that end, the Committee recommends that the University of Washington, as the proponent of the Cascades DUSEL proposal, and the entity that operates the Center work in partnership with local School Districts, the Wenatchee Valley College, the Educational Service District and the business community to develop and offer educational programs that will benefit students and the public-at-large.
7. Because the Center could strengthen the Valley economically by serving as an attraction for tourists, it should include tourist offerings and educational programs that help to increase understanding of and strengthen appreciation for the region's unique and treasured environment.
8. Because the community has a stake in how the Center benefits the Valley both educationally and economically, the input of local residents should be solicited and used to determine where the Center is located. This could be an early responsibility of the citizens' advisory committee that is recommended throughout this report. One of the principle criteria that should be used is this: The Center should be sited where it best "fits" with a neighborhood. Thus, its impacts on the traffic, environment, economy and quality of life of a neighborhood must be considered and analyzed.
9. Wherever the Center is placed, the community is interested in ensuring that there are a variety of transportation options for accessing it. Pathways to enable walkers and bicyclists to reach it are strongly recommended by the community. A shuttle connecting it to downtown Leavenworth, Cashmere and/or Wenatchee should also be considered and analyzed. In addition to providing a variety of ways to reach the Center, the community is interested in strategies that help connect the Center to other business, cultural and tourist activities throughout the Valley.

Workforce Housing

The DUSEL proposal could be an opportunity to strengthen neighborhoods by ensuring that they are comprised of a diversity of people and a mixture of housing types and costs. The Committee recommends that the Port:

10. Work in partnership with the University of Washington, NSF, the Counties and Cities of the region, and State agencies such as the Department of Community, Trade and Economic Development (CTED) to more precisely and accurately assess the impacts of the DUSEL project on the regional economy, including on, land supply, housing and social services. Existing formulas should be used to make this assessment as efficient as possible. The results of this analysis could be a regional housing plan to address the needs of DUSEL employees, current residents of the Wenatchee Valley, and the region's future residents.
11. Work with the NSF to ensure it provides funding and other kinds of support to local organizations such as SHARE to create workforce housing throughout the area.

Infrastructure

The Committee anticipates the need for major infrastructure improvements across the area to help facilitate DUSEL operations. It is the community's interest that these costs are borne by numerous parties, including the NSF, the University of Washington and other federal and state agencies, not just by the citizens of the Wenatchee Valley. In other words, locating the DUSEL facilities in the Valley should not become an "unfunded mandate" for local governments, including the County, Port and Chelan County Public Utilities District (PUD). Therefore, the Committee recommends:

12. The local community cannot and should not be expected to bear responsibility for paying for major infrastructure improvements that will be needed. Therefore, federal and state agencies must provide funding for infrastructure improvements that benefit both the DUSEL project as well as the citizens of the region. Transportation corridors, including roads, bridges, bikeways and walking paths, water and sewer pipelines and related infrastructure, emergency management services facilities, and fiber optics are among the primary infrastructure needs that must be addressed.

Agriculture

The Wenatchee Valley is one of the State of Washington's most productive agricultural regions. The community is interested in retaining this quality and reputation, maintaining the livelihood of farmers, orchardists and ranchers, and maintaining the existing agricultural landbase. To achieve this interest, the Committee recommends that:

13. The Port work with the University and NSF to ensure the quality and quantity of water in Icicle Creek and other sources, including groundwater, are maintained for use by the agricultural interests of the Valley.
14. The economic analysis proposed under Housing (recommendation #10) should also assess the impacts of the DUSEL project on agriculture.

Recreation

The potential loss of recreation during the construction of the DUSEL facilities, particularly the laboratory at Mt. Cashmere, and the possibility that that loss could be permanent, are among the principal economic concerns about the proposal. Outdoor recreation users are going to be affected if campgrounds, climbing rocks and trails are closed or access to them is curtailed during the construction period. And if these amenities cannot be enjoyed for a number of years, might people find alternatives, meaning there may not be much demand for them by the time they reopen? And would that not devastate the growing part of Leavenworth's recreation industry that depends on these outdoor attractions and activities?

The community has expressed an interest in preserving recreation opportunities during both construction and operations of the DUSEL laboratory. To achieve that interest, the Committee recommends:

15. There is "no net loss" of recreation as a result of constructing and operating the laboratory.
16. The Port should work with the University of Washington, the State of Washington, the USFS and the public to expand recreation opportunities in the Upper Valley during construction of the DUSEL facilities to offset any lost recreation opportunities. One of its responsibilities should be to help identify strategies that will achieve the "no net loss" of recreation.
17. As part of those strategies, the citizens' advisory committee, University of Washington, NSF and LINK Transit should analyze the potential for shuttle service from Leavenworth or the adjacent area to Icicle Valley and the Wenatchee National Forest campgrounds, climbing rocks and trails.

IV. EDUCATION

CONCERNS AND INTERESTS

In discussing and analyzing the project “pre-proposal” issued by the University of Washington last spring, the Citizens’ Advisory Committee identified this community interest:

- Ensure that educational benefits derived from placing the DUSEL facilities in the Upper Wenatchee Valley are enjoyed by residents of the local area, not just by the scientific community across the nation, and indirectly and generally, by the American public.

The community is concerned that the DUSEL facilities and their operators and employees will remain apart from the community, and that discoveries in the physical, chemical and biological sciences, as well as lessons learned in the social sciences, will not be shared with the community.

The Committee is interested in ensuring that *IF* the DUSEL project were to be built here, it would serve as a catalyst to create world class science education for students in the region. This interest can be achieved through two goals:

- Ensure that scientists who come to the Valley to work at the DUSEL facilities become part of the community by sharing their expertise and discoveries with local residents, particularly students.
- Increase the amount of funding that is directed to science education at both the K-12 and college levels.

The Committee recognizes a linkage between the community’s educational interests and its economic and social interests. If the DUSEL project serves as a catalyst for stimulating increased awareness, understanding and interest in science and related fields among the young people of the Valley, and if it helps generate family wage jobs throughout the region in science and related fields, and in “spin off” industries and businesses, there would be greater employment opportunities for young adults who were born and raised in this region and increased potential for them to occupy those jobs. Thus, the interest expressed by many parents and grandparents in the Valley to have their children and grandchildren return here after college graduation, so that families are physically closer together, might be attained.

The Committee is interested in advancing these goals through infrastructure and curriculum improvements, the establishment of partnerships, and increases in funding from a variety of funding sources.

THE COMMITTEE’S RECOMMENDATIONS

The principal education recommendation of the Committee to the Port is this:

1. A coordinator should be hired to take the lead responsibility for orchestrating, coordinating and implementing the other educational recommendations of this section of the report. The position (1 FTE) should be funded by the NSF for at least the first five years; the citizens’ advisory committee recommended throughout this report, working with key education

stakeholders, should play a major role in recruiting candidates for the position, reviewing their qualifications and hiring the coordinator. The coordinator should be housed at the offices of the Educational Service District (ESD) or at the Wenatchee Valley College.

The additional recommendations of the Committee listed below constitute the job description of the coordinator, and the expectations for that person's accomplishments.

Improve Infrastructure

Under Economic Development, the Committee recommended that the proposed Visitors' Experience Center be focused on education, both for local residents and tourists. To expand on and define more precisely this recommendation, the Committee also recommends that:

2. The Visitors' Center contain an auditorium or meeting room that holds approximately 50-100 people so that it can host lectures, symposiums, conferences and other educational forums.
3. The Center should be equipped with laboratories for use by students in the Educational Services District (ESD) and from Wenatchee Valley College.
4. Telecommunications links—videos and teleconferencing, for example—be created between the Center, the College and schools within the ESD (and possibly, across the state).

Improve Science and Mathematics Curricula

To achieve the goals of stimulating greater interest in and awareness and understanding of the sciences among young people, and of generating employment opportunities in scientific fields, the Committee recommends:

5. Establish an educational foundation or endowment to strengthen the science curriculum of ESD schools and Wenatchee Valley College. The fund should receive "seed money" from the sponsors of the DUSEL project, including the National Science Foundation, but should also compete for grants from public and private sources throughout the nation.
6. Procure additional through grants and other funding sources to enhance school facilities and textbooks, as well as fund the four programs recommended immediately below.
7. Establish a scholarship program in which qualified seniors from local high schools are awarded scholarships to Wenatchee Valley College, the University of Washington, Washington State University, and other universities and colleges so that they may pursue degrees in science, engineering, mathematics and other related fields.
8. Establish internships for Wenatchee Valley College students and, perhaps, high school juniors and seniors, to work at the DUSEL facilities.
9. Enhance teacher learning by creating two programs: a) Provide opportunities for local science teachers to work closely in classrooms or one-on-one with DUSEL scientists; b) Offer opportunities for area science teachers to advance their educations by pursuing

advanced degrees (most likely in the case of public school teachers) or research opportunities (most likely the science faculty at WVC).

10. Take advantage of the enormous wealth of experience and scholarship represented by the DUSEL scientists by creating opportunities for them to be guest lecturers at the Visitors Center and in local classrooms, and to serve as mentors, teachers, “coaches” and role models for local students and teachers.

Create Enduring Partnerships

11. To achieve the community’s interests and the Committee’s vision and goals for education, create partnerships among public and private agencies and organizations. The NSF should contribute funds to help identify the partnerships that are needed and to initially fund work to create and sustain them.

Examples of the dynamic, on-going collaborations the Committee envisions include:

- a partnership between the University of Washington, the NSF, the State’s Office of Public Instruction and the region’s educational leaders to design the improvements in the local schools’ science curriculum;
 - partnerships between local educational, business and environmental communities and the University of Washington to secure grants for the foundation or endowment;
 - cooperation between educators and the operators of the DUSEL facilities, including the Visitors’ Experience Center, to sponsor and host educational forums, programs and conferences;
 - partnerships between various educational leaders, the NSF and the local branch of the Association of University Women (AAUW) to advance the AAUW’s long-standing goal of increasing the number of young women who choose a career in science;
 - partnerships between such institutions as the local Audubon Center and/or the Chelan-Douglas Land Trust, local educational and environmental leaders, the University of Washington, federal agencies such as the USFS and the Bureau of Land Management (BLM) and various State agencies to produce environmental education programs for the benefit of residents and tourists; and
 - an alliance between the NSF, the University of Washington and Wenatchee Valley College to ensure the success of the College’s environmental education curriculum.
12. Create a partnership among education stakeholders to use the DUSEL proposal as an opportunity to serve under-represented populations, including young women and minorities, by attracting members of those communities to careers in science, mathematics and related fields.

Increase Funding

13. The NSF should play a role in helping to increase funding available to local schools, Wenatchee Valley College and the community in general to implement the recommendations of the educational section of this report.

The establishment of a foundation or endowment should help provide additional funding through its ability to secure grants from state-wide, regional and national private, public and non-profit sources.

14. The State of Washington, if it is truly committed to having the DUSEL facilities in this region, must also step forward to play a key role in funding these educational initiatives. Likewise, there is a role for County, City and other local governments to play in encouraging and ensuring the achievement of these recommendations.

Learn from the Experience

IF the DUSEL facilities are placed in this area, there should be a concerted effort to learn lessons from the experience. What are the long-term environmental impacts on Mt. Cashmere and the surrounding Alpine Wilderness of placing the laboratory in that vicinity? What are some of the social and economic changes to the region that result directly and indirectly from placing the DUSEL facilities here? In what ways was the sense of place altered, and how? What lessons about environmental restoration or economic revitalization were learned following closure of the facilities? How might lessons learned from this experience be applied elsewhere?

Because these lessons would be too valuable to be lost or ignored:

15. The Port should work in partnership with the University of Washington, the National Science Foundation, representatives of State and local organizations and the citizens' advisory committee to design and implement an on-going study that monitors and analyzes the impacts of the project on the region's environmental, economic, political, educational, social and cultural life.

V. PROJECT SCOPE AND MANAGEMENT

CONCERNS AND INTERESTS

The Citizens' Advisory Committee has defined "project scope and management" to include these issues and impacts:

- The construction period, particularly truck trips along Icicle Road. According to the University of Washington's pre-proposal, there will be over ninety construction vehicle trips per day on Icicle Road (forty-six down the road with rock, and an equal number of return trips up the road to collect more rock). Construction is likely to impact the sense of place for those living along Icicle Road, the environment, outdoor recreation and the safety of those who travel on and/or live along or near Icicle Road.
- The size, configuration, capacity and impact of the portal, the entrance to the tunnel that leads to the laboratory.
- Oversight of activities at the laboratory. The nature of experiments conducted in the laboratory, and the possibility that over time the experiments could change, thus changing the purpose of the project.
- Citizen involvement in decisions pertaining to construction and on-going operations and maintenance of the DUSEL facilities.
- The cost to taxpayers of the facilities, particularly since the area to be developed is currently undeveloped and contains no existing mines or similar facilities that would be expanded or improved.
- Sustainable funding throughout the lifespan of the project.
- Contingency plans to address unanticipated events, issues and/or impacts.

Among these issues, the community's greatest concern is construction; specifically, the trucking of rock on Icicle Road nearly everyday for more than thirty months. (Many in the community believe this phase of construction will last longer because of factors such as the temporary closure each winter of Icicle Road. That does not appear to have been factored into the time estimates by the proponents.) The impact on those who live along Icicle Road, many of whom are retirees who moved there for peace and quiet, will be devastating. As mentioned earlier, the trucking of rock on the road is also likely to severely impact outdoor recreation users as they drive or bicycle to the climbing rocks, campgrounds and trailheads that are adjacent to or near the road.

Within the community, many have stated that if this were not an issue, opposition to the proposal would be considerably reduced. While many acknowledge and appreciate the University of Washington's proposals to lessen the impact of the trucking through proposals such as truck "caravans," nearly everyone, including DUSEL project advocates, has expressed an interest in finding alternatives to trucking the rock down Icicle Road and near or through Leavenworth.

The concern of next greatest importance is the involvement of the residents of the area in decisions pertaining to the construction and operations and management of the laboratory and its related facilities. If the federal government decides to construct the DUSEL facilities, and if the Cascades site emerges as the preferred location, it is in the community's interest to be well informed about the project. It also appears to the Committee that it would be in the National Science Foundation's and the University of Washington's best interests to maintain a high level of local public and elected official support for the project and rely on local expertise and

knowledge to make both correct and cost-effective decisions. To achieve these interests, the public needs to be involved in key decisions about construction and on-going management.

A third major concern of the community is funding for the project. The cost to taxpayers of placing the DUSEL in this area appears to be tremendous, particularly because the land upon which the laboratory would be built is currently undeveloped. Furthermore, at Committee meetings both CAC members and citizens have expressed concern that the project could lose funding during the construction period or while operating because of changes in national political leadership and direction or because scientific discoveries could make it obsolete. What then happens to the facilities if construction is abandoned or if they are no longer needed sooner than their expected lifespan of forty years? Is the community left with unusable facilities and environmental damage?

Related to this concern is the issue of funding to “shut down” the laboratory once it is no longer needed. According to the pre-proposal and a conversation the Committee had with the University of Washington’s representatives, the laboratory will no longer be viable after approximately forty years. Would funding be made available to shut down its operations? Would funds be provided to restore the area to its pre-DUSEL condition? Might funding be needed to help retrain workers who are unemployed as a result of its closure? If the Visitors’ Experience Center could continue to function beyond this forty-year timeframe, who pays for its continuing operations? Might the community be handed a facility that it cannot afford to maintain?

Thus, the community has expressed interest in ensuring that the funding for the project is sustainable; i.e., there is continual, sufficient funding throughout its existence as well as for closing down its operations, restoring the area in and around the laboratory to pre-laboratory conditions, and assisting potentially displaced workers.

Finally, the fourth major concern voiced throughout the community and during the Committee’s deliberations was the nature of the experiments conducted in the laboratory. During this early public involvement process citizens did not express opposition to the experiments on neutrinos that are described in the “pre-proposal.” But concerns were voiced about the possibility that over the lifespan of the laboratory other kinds of experiments may be conducted, thereby altering the primary mission of the project. The community has expressed fears that if these experiments involve nuclear or national security issues, the Upper Wenatchee Valley could become susceptible to international or domestic terrorism. This would in turn impact Leavenworth’s sense of place.

The Committee understands from having discussed this issue with the University of Washington’s representatives that the scientific community does not favor using the DUSEL facilities for such experiments. One reason for this is that scientists favor maintaining an “open” lab that welcomes scientists from such nations as Russia and China. But many in the community are looking for assurances from federal agencies that the purpose and mission of the laboratory will not change from what is proposed today and that the work of the laboratory will not become veiled in secrecy.

THE COMMITTEE’S RECOMMENDATIONS

To achieve the interests of the community that are described above, the Committee recommends to the Port that:

1. The Port and citizens of the community should work with the University and the U.S. Forest Service to make every effort to find an alternative to transporting rock from Mt. Cashmere down Icicle Road. One alternative that should be analyzed is storing the rock on USFS property above the proposed portal. There may be other ways to dispose of the rock, but transporting it down Icicle Creek and along Highway 2 through Leavenworth or Tumwater Canyon does not serve the community's interests.
2. The citizens advisory committee proposed throughout this report needs to be involved in key decisions regarding construction and management of the DUSEL facilities. One model for this committee is that which is used by the USFS to involve "grassroots" interests, including tribal nations, local governments, and citizens, to oversee management of the Wenatchee National Forest. Another model could be the one used by Chelan County to involve the community in watershed planning and management.
3. As part of the enabling legislation authorizing the DUSEL project, a fund should be established with funding provided by the NSF to remove the laboratory and restore the surrounding environment to pre-construction conditions if construction of the laboratory were abandoned before completion. This fund should also be maintained to fund the costs of:
 - a. closing the laboratory, whether after its expected forty years of operations or earlier;
 - b. restoring the area, particularly around the lab, to pre-DUSEL conditions; and
 - c. maintaining the operations of the Visitors' Experience Center and research facility, or reconfiguring them for other purposes that meet community and/or scientific interests.
4. The National Science Foundation, as part of funding the DUSEL facilities, should provide funds to local governments for five purposes:
 - a. enable local governments to review and comment on the Environmental Impact Statement that will be issued to assess the environmental impacts of the proposal;
 - b. enable local governments to issue the necessary permits for the facilities;
 - c. establish and maintain the position of "community liaison" to coordinate the public involvement in the key decisions pertaining construction and management of the facilities;
 - d. fund the work of the proposed citizens' advisory committee, including "per diem" allowances for the members; and
 - e. fund enhanced operations and services by local emergency management agencies to ensure that they are properly equipped and trained to meet the needs of the community for emergency management services related to the construction and operations of the laboratory.
5. The NSF should also provide funding during construction to:
 - a. ensure that Chelan County roads that are used during construction of the DUSEL facilities, particularly the laboratory, operate at the same standards as federal roads, particularly in light of the fact that the USFS is planning to improve the roadbed on that part of Icicle Road under its jurisdiction; and
 - b. routinely monitor and periodically report on the impacts of construction on environmental, health and safety issues and factors.
6. Once construction of the laboratory is completed, the area around the portal should be restored to pre-portal conditions so that the portal is as unobtrusive—in terms of visual, noise, light and other environmental impacts—as possible. The portal should be as unobtrusive as

the one pictured by the University of Washington in drawings that were developed to give the Committee and community an idea of how it would appear.

7. Support the scientific community in urging the federal government to declare that the purpose of the proposed laboratory will not be changed to allow for uses that make the lab a security presence/risk above and beyond what could be considered “normal.” Work with the Office of the Governor and the State’s congressional delegation to pass a resolution in Congress that forbids such uses.
8. The NSF should fund an annual evaluation of the consistency of the laboratory’s uses with the permits which govern its construction and/or operations. A “performance bond” should be established to hold the University of Washington and the laboratory’s operators accountable for accurately implementing the terms and conditions of all permits.
9. Additional permits should be required for uses that differ from those originally proposed, analyzed and authorized by permitting authorities. If the mission of the laboratory changes because, for example, different types of experiments are conducted than originally allowed, the responsible parties should fund and/or conduct additional environmental assessments and analyses to assess the potential environmental impacts of the additional or new experiments.

s