

Appendix G

Response to Comments



***Klickitat County
Energy Overlay***

Environmental Impact Statement

RESPONSE TO COMMENTS

Klickitat County Energy Overlay

Final Environmental Impact Statement

Included in this document are responses to comments received on the Energy Overlay Draft EIS issued August 1, 2003. The County extended the public comment period to October 3, 2003, to ensure adequate time for the public to review and comment on the proposal. Comments received on the proposal were through letters submitted to the County and comments made at a public hearing held on August 26, 2003.

This document is organized into three major sections: 1) general responses, 2) responses to comments in individual letters, and 3) responses to comments made at the public hearing.

General responses – There were common themes to some of the comments made during the public comment period. Similar comments were grouped together into one general comment and then a general response was formulated to address these comments. There are 18 general comments and responses in this section.

Individual letters – Individual letters were organized by the type of author. There are four general types of authors: 1) Agencies, 2) Businesses, 3) Citizens, and 4) Groups. Each letter was given a unique identifying number such as A-1 for the first Agency letter, or C-24 for the twenty-fourth citizen letter. Each comment within each letter was also given a unique number. Therefore, B-2 #4 would represent the fourth comment in the B-2 letter, or G-6 #21 would represent the twenty-first comment in the sixth letter from a Group. Using this level of organization, all comments within all letters have a unique identifying number.

Hearing – Each person who testified at the public hearing on the proposal was given a unique number preceded by an 'H' to denote Hearing. Each comment made by an individual at the hearing was given a unique number, similar to the format for individual letters. H-2 #4 would be the fourth comment by the second speaker at the hearing.

Some responses to individual comments may direct the reader elsewhere where their comment has already been addressed. Examples include: See General Response #5, or see response to A-2 #14.

GENERAL RESPONSES

General Comment #1 – Public Involvement

General Comment #2 – EOZ Boundaries

General Comment #3 – Columbia Hills Important Bird Area

General Comment #4 – Programmatic EIS

General Comment #5 – Future Project Review

General Comment #6 – Purpose of the Energy Overlay Zone

General Comment #7 – Reasonable Range of Alternatives

General Comment #8 – Avian Sampling

General Comment #9 – Radon

General Comment #10 – Draft EIS Availability

General Comments #11 – EIS Planning Horizon

General Comment #12 – No-Action Alternative

General Comment #13 – Columbia Ridge Line For Analyzing Avian Impacts

General Comment #14 – Critical Areas Ordinance

General Comment #15 – Fish Distribution Data

General Comment #16 – Habitat Restoration Projects

General Comment #17 – Wind Projects Benefitting Fish

General Comment #18 – Use of Yakama Nation Cultural Data

General Comment #1 – Public Involvement

Many commentors were critical of the public involvement component of the DEIS process. The need for more information in the timeframe between scoping and DEIS publication and the need for longer document review timeframes were often cited. Assertions were made that the County failed to consider public input. There is also concern that future public outreach and feedback mechanisms may be further reduced with EOZ. People were told communities could opt out of the EOZ. Finally, many commentors objected to the marketing materials currently distributed by the Economic Development Department that advertise "accelerated siting" for energy plants, in advance of FEIS or comp plan amendments

General Response #1

There has been and will continue to be ample opportunities for public comment and participation associated with the adoption and implementation of the proposed Energy Overlay. Opportunity for public involvement has been made available over the last several years, and has included meetings, hearings, and considerable public notice. This has been, and will continue to be, a four-part process. This four-part process is briefly summarized, and then followed by specific examples of the many public participation opportunities provided.

First, public meetings occurred to discuss energy issues within the County. These meetings resulted in a decision to develop an Environmental Impact Statement (EIS) to assist in the evaluation of how and whether to amend the comprehensive plan and development regulations to provide for the development of energy resources in Klickitat County. Numerous public presentations on the Energy Overlay process were held once it was underway.

Second, a programmatic EIS has been prepared and issued. So far, this process has included two public hearings and the opportunity for public comment, both oral and written.

Third, following issuance of the EIS, hearings will be held before both the Planning Commission and Board of County Commissioners on the proposed Energy Overlay comprehensive plan and development regulation amendments, and an opportunity for oral and written public comment will be provided. The amendments may be adopted as proposed, substantially revised, or not adopted. Communities may request that their areas be dropped from the Energy Overlay Zone during this stage of the process.

Fourth, if the proposed Energy Overlay is adopted, implementing projects will require additional environmental review under the State Environmental Policy Act (SEPA). Compliance with Energy Overlay requirements and all other code provisions would be required. In the event a conditional use process is provided, projects requiring a conditional use permit would also require a further hearing.

Part I – Public Meetings Considering the Challenge of How to Better Plan for Energy Development

Date	Meeting
May 30, 2001	First EDA Board discussion of energy overlay zone concept
July 25, 2001	EDA Board public meeting, energy overlay zone project update
September 19, 2001	EDA Board public meeting, energy overlay zone project update
September 24, 2001	Board of County Commissioners public meeting action on resolution approving County funding participation in NW SEED wind mapping project
December 5, 2001	EDA Board public meeting, energy overlay zone project update
January 2002	EDA Board Strategic Plan for Economic Development, including Goal 2, Objective 2 "Energy Overlay Zone creation," goes into effect
February 12, 2002	Public notice of request for qualifications to develop a programmatic environmental impact statement published
February 19, 2002	White Salmon Rotary presentation
March 5, 2002	Snowden Community Council presentation
March 11, 2002	Board of County Commissioners public meeting action passing resolution appointing the Energy Overlay Zone Advisory Board
March 27, 2002	EDA Board public meeting, energy overlay zone project update
April 11, 2002	Press release announces beginning of County-wide avian study
April 22, 2002	Board of County Commissioners public meeting action passing resolutions and sign contracts related to development of the programmatic environmental impact statement
May 1, 2002	KLCK Radio/Goldendale presentation
May 22, 2002	EDA Board public meeting, energy overlay zone project update
June 12, 2003	Goldendale Kiwanis presentation
July 31, 2002	EDA Board public meeting, energy overlay zone project update
August 20, 2002	Centerville Fire District presentation
September 9, 2002	Vancouver Audubon meeting presentation on Klickitat County avian study design by consultants
September 25, 2002	EDA Board public meeting, energy overlay zone project update

October 24, 2002	Joint presentation to Lyle School District, Lyle Fire District, Dallesport Fire District, High Prairie Fire District, Appleton Fire District at Lyle School District
November 1, 2002	Presentation to Seniors luncheon, Dallesport
November 20, 2002	EDA Board public meeting, energy overlay zone project update
December 5, 2002	Centerville Grange meeting presentation
January 7, 2003	Klickitat Community Council presentation
February 11, 2003	NRCS Bickleton presentation
February 20, 2003	NRCS Centerville presentation
March 20, 2003	Goldendale Chamber of Commerce presentation
March 26, 2003	EDA Board public meeting, energy overlay zone project update
May 28, 2003	EDA Board public meeting, energy overlay zone project update
July 28, 2003	Goldendale Chamber of Commerce presentation

Part II - Public Process for Development of Environmental Impact Statement

Development of the Draft EIS has included two public hearings, opportunities for written comment from agencies and the public, as well as ample public notice on the EIS. These opportunities for public participation are described below:

- Pre-scoping Notice on EIS mailed to numerous agencies - May, 2003
- Issuance of Determination of Significance and Scoping Notice (published in newspaper; mailed to numerous agencies) - June 6, 2002
- Scoping Hearing - June 27, 2002
- Comments on Scoping accepted until July 5, 2002
- Issuance of Draft EIS - August 6, 2003 (circulation to agencies and other groups; publication in newspaper)
- Hearing on Draft EIS - August 26, 2003
- Public Comment Period closes - September 5, 2003
- Public Comment Period extended to October 3, 2003
- The EIS will be revised in response to public comment.

Part III - Public Process for Adoption of Proposed Development Regulation and Comprehensive Plan Amendments

Considerable opportunity for public participation will be provided after issuance of the EIS. This will include at least two public hearings before the Planning Commission and Board of County Commissioners, and the opportunity to provide written and oral comment on draft amendments to the development regulations and comprehensive plan policies. This process is briefly summarized below:

- Notice issued of Planning Commission hearing on proposed amendments to development regulations and comprehensive plan
- Hearing, including opportunity for public comment, before Planning Commission on proposed amendments
- Notice issued of hearing before Board of County Commissioners on proposed amendments
- Hearing before Board of County Commissioners on proposed amendments, and final decision on whether to amend the development regulations and comprehensive plan is made.

The EIS does not “decide” the boundaries of the EOZ, or make any “decision” to adopt any particular permitting process for energy projects. Rather, the EIS is designed to inform decision makers of the probable, significant, adverse environmental impacts of adoption of the EOZ, and other alternatives to the EOZ. The decision on the location of the EOZ, and whether to adopt it, is made by the Board of County Commissioners, following review and a public hearing before the Planning Commission. There will be opportunity for public comment during that legislative process.

Neither the FEIS, nor individual County departments, such as the Economic Development Department, make legislative decisions. That authority rests solely with the Board of County Commissioners.

Part IV - Public Process for Individual Energy Projects

If an energy project is sited through the Energy Overlay it will be subject to environmental review. It is likely the environmental review in the EIS on the Energy Overlay will be reviewed in conjunction with environmental analysis prepared consistent with both SEPA and the Overlay regulations. Any project would have to adhere to local, state, and federal requirements. In the event a conditional use process is provided outside the Overlay, a conditional use permit would also be required.

General Comment #2 – EOZ Boundaries

How were the boundaries of the EOZ established, and why wasn't the data in the DEIS regarding existing resources not used in refining the EOZ boundary. Why weren't priority habitats excluded from the EOZ? Why aren't all lands under different government jurisdiction removed from the EOZ? Why aren't all timberlands removed from the EOZ? There is a sense among these commentors that the study area boundary just became the geographic boundary for the EOZ. Clarify how EOZ would establish which energy facilities are most appropriate in various locations.

General Response #2

The boundary of the EOZ was initially established through knowledge of the County and knowledge of energy industry requirements. The northern part of the County was eliminated for three primary reasons: 1) a majority of the land is owned by state, Tribal, or federal government, 2) most of the northern part of the County provides important habitat value because it is forested, and 3) the northern part of the County is too far from existing infrastructure to realistically expect energy development.

One aspect of the EIS was to identify and consolidate information on sensitive areas and resources so the County and energy developers would have an initial baseline of information to determine appropriate sites for future development. The scope of the EIS was to provide reasonable identification of possible sensitive habitats. For example, significant wetland areas within the County were identified in the EIS using USFWS maps, but all wetland areas could not be identified within the scope of the EIS. Smaller wetlands that exist within the County, but are not on USFWS maps, would be identified during the site-specific review conducted when a facility is proposed at a specific location. Similarly, site-specific habitat issues would be identified during site-specific review.

General Comment #3 – Columbia Hills Important Bird Area

Many local and regional Audubon Society groups request that the Columbia Hills Important Bird Area be excluded from the EOZ, and from consideration for siting wind power, and/or that turbines be sited with extra sensitivity in this area.

General Response #3

The Columbia Hills IBA extends approximately 41 miles from the Klickitat River eastward to Rock Creek, and north from the Columbia River approximately 6.25 miles. It encompasses 125,390 acres, which is a significant portion of the area available for wind power development in the county.

With regard to energy development within the IBA, the WEST study did show higher raptor use of the IBA and other areas west of Rock Creek than areas east of Rock Creek. Assuming 500 MW of wind development in the area west of U.S. 97 and greater than 1.5 miles from the

Columbia using 1.5 MW turbines, impact predictions from the WEST report indicate that this level of development would result in approximately 33 raptor fatalities per year. This was based on raptor use estimates in this area as well as results of numerous studies that have shown raptor mortality at modern wind farms outside of California pose little risk to raptors (see Erickson et al. 2001). Therefore, with appropriate mitigation development could occur within portions of the IBA without significant impacts to raptors using the area. Pre-construction studies should be conducted for any development in the IBA to assist with siting wind farms as well as micrositing turbines within wind farms to minimize risk to raptors.

With regard to threatened and sensitive species within the IBA, wind development in the IBA can be accomplished without posing significant risk to these species. Again, pre-construction studies should be conducted to determine where important habitats are for these species and these areas should be avoided. For known sites used by sensitive species (e.g., bald eagle winter roosts), appropriate buffers can be established to eliminate impacts. An appropriate buffer around the Swale Creek wetlands would also eliminate the potential impacts on waterfowl using this area.

After the Draft EIS was issued, Klickitat County contacted the Audubon Society to have further discussions on how the County could help avoid significant adverse impacts to birds and wildlife during energy development. In a March 17, 2004, letter to the County (attached at the end of comment letters on the DEIS), Tim Cullinan of the Audubon Society proposed a conceptual regulatory framework for wind energy development that establishes “zones” or areas within the EOZ based on the relative risk to the environment. These zones would be based on criteria such as habitat type and value, presence of sensitive species, and the relative abundance of vulnerable species. Regulatory requirements would be highest for energy proposals in the highest risk zone, lowest in the lowest risk zone. Areas with the highest risk would require the most extensive preliminary data collection, most mitigation, and most post-construction monitoring. Within each risk zone, areas with high habitat value such as native habitat would have greater regulatory requirements than areas with lower habitat value such as agricultural or developed lands.

In summary, project-specific pre-construction studies and surveys can be used to identify areas to avoid, to help establish appropriate buffers, and to determine appropriate areas within the IBA for wind farm development that would not diminish the integrity or purpose of the IBA. Specific siting and mitigation criteria such as the Audubon framework could be incorporated into development regulations during the legislative process.

General Comment #4 – Programmatic EIS

What is a non-project EIS and what is the purpose of such a document. The DEIS appears to have project or site-specific elements within the discussion of alternatives and impacts.

General Response #4

A non-project, or programmatic, EIS is intended to broadly evaluate impacts associated with an action such as plans, policies, and programs rather than a single site-specific project. The purpose of the programmatic Energy Overlay EIS is to broadly evaluate the potential impacts of amending the Comprehensive Plan and establishing development regulations for siting new energy facilities in the County. When a specific energy facility is proposed at a specific site in the County, further environmental review under the State Environmental Policy Act will be required. If, based on information provided and specific knowledge of the site, there is potential for significant adverse impacts associated with the proposed project, the proponent of the energy facility may be required to complete a site-specific EIS.

The Draft EIS contained analyses for water availability at multiple sites related to thermal energy projects. Since adequate availability of water is critical for these types of energy facilities, it was important to evaluate whether those resources were present in the areas most likely to be developed.

General Comment #5 – Future Project Review

There is a concern among many DEIS commentors that fuel-based energy plants will have automatic green light under EOZ. There is also a concern that siting could occur without opportunities for public review and comment. What opportunities are there for appeal.

General Response #5

No energy project of any type will be automatically permitted in the County without significant prior review. Regardless of the Energy Overlay Zone, all energy projects proposed in Klickitat County will still have to comply with all federal, state, and local laws.

Implementing the Energy Overlay Zone will establish a consistent body of environmental information that will be required with the SEPA checklist at the outset with each proposal. This information will be the minimum amount of information required. Upon review of the SEPA checklist, required studies, and proposed mitigation, as well as knowledge of the specific site where the facility is being proposed, the County may require additional environmental studies to be completed as part of the SEPA process. If after further review of the information the County determines there may be potential significant impacts associated with a specific proposal at a specific site, the County can require additional mitigation measures or a site-specific EIS.

The following description outlines a typical environmental review process for a future energy proposal if the County adopts the Energy Overlay Zone.

1. Applicant reviews existing relevant environmental information (including this EIS) and then designs a facility that incorporates mitigation measures identified in this EIS and with the EOZ requirements. The applicant then completes a SEPA checklist with the additional environmental studies required by the new regulations.
2. If the County feels the amount of information supplied with the SEPA checklist is inadequate to determine if there are potential significant impacts associated with the project at its proposed site, the County can determine the application is incomplete and request that additional environmental studies be completed and submitted. If the County feels the amount of information is adequate, the SEPA Responsible Official will then make what is known under SEPA as a Threshold Determination.
3. A Threshold Determination is a public declaration of whether the SEPA Responsible Official believes the project may have a probable significant adverse impact on the environment. If the Responsible Official believes the project would not have a potential for significant impacts because of the project design with any mitigation measures incorporated into the design of the facility at a specific site, the Responsible Official would issue a Determination of Non-Significance. If the Responsible Official believes after reviewing the SEPA checklist, mitigation measures incorporated into the design, and all the additional required environmental information an MDNS may be issued. If there were a potential for probable significant adverse impacts on the environment, the Responsible Official would issue a Determination of Significance and require that a site-specific EIS be completed.

4. Once a Threshold Determination is made, the County provides public notice of the Threshold Determination.
5. The County has an administrative appeals process for SEPA determinations. This administrative appeal process must be used before any judicial appeal process.
6. The County decision on the Threshold Determination appeal for a specific project may be appealed to Superior Court.

General Comment #6 – Purpose of the Energy Overlay Zone

Many commentors appeared to be unclear about the purpose of the EOZ; and how the EOZ could improve energy project siting in Klickitat County over existing conditions. Why do we need the EOZ?

General Response #6

Whether or not to adopt the EOZ is a legislative decision that is not made in the EIS. However, the EIS was developed because Klickitat County has certain features that are attractive to energy developers. These include a predictable wind regime, solar energy resources, an extensive electric transmission grid, a high-capacity natural gas pipeline, and biomass resources. These features have resulted in developer interest in siting energy projects in Klickitat County. With this interest come certain challenges, such as how to plan for and mitigate environmental impacts of proposed energy projects, which the Draft EIS addresses.

The adoption of an EOZ, with appropriate implementing regulations, would allow the County to engage in “up front” planning and determine how and where energy projects should be sited. Another reason is to fulfill SEPA requirements for evaluating cumulative impacts. With the current permitting regime, conditions are developed on a project-by-project basis, and projects are, for the most part, not encouraged to locate in any particular area of the County. An EOZ regulatory structure could give the County greater control over the siting and appropriate mitigation of energy projects. See Section 1.3 of the FEIS, which explains the purpose of amending the existing regulatory and policy structure in greater detail.

General Comment #7 – Reasonable Range of Alternatives

Many commentors did not feel the range of alternatives evaluated in the DEIS met the criteria for 'reasonable range' under SEPA. According to one commentor (C-36), "the DEIS should have offered more than one regulatory alternative--an improved CUP process, or an EOZ that dealt with one technology at a time, or an EOZ that specified certain zone for certain technologies, or an EOZ that looked at specifying certain processes for each technology at the various suitable sites..."

General Response #7

SEPA requires that an EIS include a reasonable range of alternatives. The alternatives originally reviewed in the DEIS included:

- Technology Alternative
- Geographic Alternative
- Procedural Alternative 1
- Procedural Alternative 2
- No-Action Alternative

The alternative that changed the most significantly in the FEIS is the geographic alternative. This alternative now includes a “sub-alternative,” called the Limited Geographic Alternative, for biomass and natural gas resources that covers a more limited area of the County. In addition, mitigation measures, which could be incorporated into the EOZ regulatory process, were elaborated upon, as described below.

The geographic alternative evaluated the entire County for energy development, and was narrowed based on the location of energy resources, infrastructure, and the location of concentrations of particularly environmentally sensitive areas. In response to comments, a subset of the Geographic Alternative (Limited Geographic Alternative) was developed for natural gas and biomass technologies. The geographic area covered was narrowed to areas within the County that are near necessary water resources and close to existing gas pipelines. This Limited Geographic Alternative, as shown in Figures 2-6A through 2-6E, covers a more limited area of the County.

The technology alternative was used to narrow the EIS to the types of energy projects likely to be sited within the County, and which, if properly sited and conditioned, would have potential adverse impacts that can be mitigated below a level of probable significance.

The procedural alternatives provide a range of permitting mechanisms. With Procedural Alternative 1, energy development is permitted outside the EOZ through the County’s existing Conditional Use process. With Procedural Alternative 2, energy development is excluded outside the EOZ.

With the No-Action Alternative, the County would maintain its existing permitting process.

In response to comments, the mitigation alternatives have been elaborated on, consolidated into one document, and are included in the FEIS as Appendix F. These mitigation conditions could be built into the County’s existing permitting process, applied to projects through SEPA on a case-by-case basis, or tailored to the EOZ.

With the technology, geographic, procedural, no-action, and mitigation alternatives, a reasonable range of options for permitting energy development is analyzed. While it is always possible to develop a wider range of alternatives, all SEPA requires is a reasonable range of alternatives that achieve the project objectives. However, this does not mean that the County is limited to any particular alternative. For example, the County is free to adopt a combination of the alternatives, or make additional changes to any particular alternative before adopting it.

General Comment #8 – Avian Sampling

Why wasn’t avian point data collected in my community? Why was sampling only done for four months of the year instead of year round?

General Response #8

In addition to the avian surveys conducted specifically for the DEIS, the DEIS evaluated extensive site-specific analyses conducted for other projects in the County and other comparable habitat areas (see Documents Incorporated By Reference at pages xvi and xvii of the DEIS). Substantial data on avian use previously collected in Klickitat County were summarized in the DEIS. This included data collected for energy projects, Christmas Bird Counts, North American Migration Counts, Breeding Bird Surveys, and Columbia Hills Raptor Surveys. Many of these studies examined raptor use in winter, which were analyzed in the

WEST report and considered in the impact predictions. Available information also suggests that this kind of extensive data collection may not be necessary to predict impacts to birds.

As stated in the WEST report, an extensive analysis of avian use and mortality data collected at wind plants across the U.S. showed that baseline avian use data collected during one season (usually spring, summer or fall) appear adequate for making impact predictions (e.g., low, moderate or high relative mortality). Therefore, the data collected on raptors in the WEST report should be sufficient to predict mortality without conducting extensive studies of raptor migration in the county. Moderate to high correlations between seasonal use estimates and overall use estimates exist for most of the raptor groups considered. Sites can be accurately ranked in terms of use by these groups/species based on one season of data. Furthermore, the general results of the new studies corroborated the results from the other data sources.

The need for extensive raptor migration studies to site windpower developments is questionable, as raptor mortality is very low at wind plants outside California, and the high raptor mortality observed at the Altamont Pass wind plant in California involves resident birds that collide with older, outdated turbines while foraging, not migrating raptors. No studies have documented high levels of mortality to migrating raptors at any U.S. wind plant.

Several studies of North American songbird migration have found that nocturnal migrants generally follow a broadfront migration pattern, flying at high altitudes where they are not affected by variation in surface topography. Possible exceptions to this may occur along large, prominent ridgelines oriented from north to south, such as the Appalachian Front in the eastern U.S. There are no similar features in Klickitat County, and the utility of conducting radar studies of nocturnal migrants for siting wind plants in the county is questionable.

A radar study conducted for the Stateline Wind Plant found that 87% of birds were flying above 100 m (i.e., beyond the zone of risk of most modern wind turbines) during the spring of 2001 and 94% were flying above 100 m in the fall of 2001. There were no differences in migration rates between stations, suggesting no distinct differences in migration patterns throughout the project site. The overall migration rates were considered moderate compared to rates observed in other parts of the U.S. Subsequent carcass searching has shown low avian collision mortality during migration periods at this wind plant as well as at other windplants in the Pacific Northwest. Based on the above data, it was concluded that conducting extensive studies of avian migration for the Klickitat County overlay project would not greatly assist with developing the energy overlay.

General Comment #9 – Radon

There were several comments raising concern about the presence of radon in natural gas supplies used for thermal combustion. The comments mentioned direct exposure to radon and accumulation of fallout of non-gaseous daughter products such as radioactive lead in the area of a thermal power plant. Why weren't potential health effects evaluated from dirty Canadian gas; why wasn't Canadian gas analyzed for carcinogens/contaminants.

General Response #9

Radon is a gaseous product of radioactive decay of parent products present in some formation materials (rock and sediment). Radon 222 (^{222}Rn) and Radon 220 (^{220}Rn) has been measured in some natural gas reservoirs. These daughter products come from the decay of Radium 226 (^{226}Ra), which is a solid. According to the CRC Press, the half-life of Radon 222 is 3.8 days while that of ^{220}Rn (from the Thorium series) is 56 seconds. Thus most radon activity in natural gas has decayed into non-gaseous daughter products by the time it is processed and delivered

to the point of use. There is a potential for the long-lived daughter decay products ^{210}Pb and ^{210}Po to accumulate in processing equipment. Radon has a boiling point of -61.8°C between that of Ethane (-88.6°C) and Propane (-42.1°C). Consequently Radon tends to follow the Propane stream in separators.

Radon tends to accumulate in the depropanizer reflux circuits of gas plants. Over time accumulations of ^{210}Pb , ^{210}Bi and ^{210}Po can accumulate on pumps and valves. Activities of ^{210}Pb in natural gas processing, storage and transportation facilities may take many years to build up to significant levels due to the 22-year half-life of ^{210}Pb . The gamma-rays emitted by this radionuclide are of low-energy and do not easily penetrate steel.

These non-gaseous decay products of radon are commonly referred to as Naturally Occurring Radioactive Materials (NORM). In Washington State, NORM is managed under WAC 246-249-080. Before disposing of naturally occurring and accelerator produced NORM radioactive material, a generator has to obtain approval from Ecology. Hence, radioactive decay products of Radon are removed from the process stream and managed appropriately.

In October 2003, Kennedy/Jenks Consultants contacted Williams Energy about the potential radon concentrations in end-user natural gas. Williams Energy provided the following response:

“Some natural gas brought to the surface at a gas wellhead may contain radon in low concentrations.

Small amounts of radium may also be contained in liquids and sludge produced at the wellhead with the natural gas. Such liquids and sludge are subsequently separated from the natural gas stream, carrying the radium with it. Some additional small amount of radon may be introduced into the natural gas from radium decay during the period when liquid and sludge are in contact with the gas.

In either case, the concentration of radon is further diluted as the natural gas from different wells is mixed together in the pipelines. Radon itself naturally decays with a half life of about 4 days, further reducing the radon concentration before reaching the end user or burner tip.

...Williams does not test for radon. It is not a common practice in the natural gas transmission industry to test for radon.”

[Source: e-mail communications with Williams Energy Community Relations 29 October 2003

Kennedy/Jenks Consultants was unable to locate data on radon in U.S. or Canadian natural gas. According to the Australian Uranium Information Centre, "Radon also occurs in natural gas at up to 37,000 Bq/m³ [Becquerels per cubic meter, equivalent to 1,000 pico-curies per liter], but by the time it gets to consumers the radon has largely decayed." (UIC Nuclear Issues Briefing Paper #59, May 2003, <http://www.uic.com.au/nip59.htm>, Uranium Information Centre Ltd A.B.N. 30 005 503 828 GPO Box 1649N, Melbourne 3001, Australia).

Kennedy/Jenks Consultants calculated that, using the radon concentration number above and typical turbine emission dispersion modeling, the exposure from the Klickitat projects would be about one one-millionth percent of the US EPA indoor air goal of less than 4 picocuries per liter at the point of maximum exposure.

In conclusion, the potential radon in natural gas does not present an exposure risk to residents through direct inhalation of radon or accumulation of daughter products. Increased natural gas use could result in a slight increase in the quantity of NORM generated through processing and transmission of the natural gas; however, management of the NORM is well regulated under state and federal programs.

In regards to other potential contaminants in natural gas, air quality permits and monitoring requirements are set to assure that air quality standards are met. The permit to construct air quality permit includes calculation of conventional air pollutant emission and emissions air toxics based on the quality of the fuel being used. Regulated air toxics include known or suspected carcinogens such as: acetaldehyde, benzene, ethylbenzene, formaldehyde, polyaromatic hydrocarbons, toluene, and xylenes. Theoretical emission calculations can be updated when new information about the fuel quality becomes available, as was the case with sulfur emissions in Calpine's Goldendale Energy permit. Once operating, most air quality permits include requirements for periodic stack testing for toxics to assure that emission limits– and hence air quality standards– are met.

General Comment #10 – Draft EIS Availability

Why wasn't the Draft EIS made more available? Why was the cost of a copy so high? Why didn't the Planning Department have copies available for purchase in Goldendale? The CD was hard to use.

General Response #10

Copies of the DEIS were available for review at the Goldendale and White Salmon libraries and at the County Planning Department. Because the number of requests for hard copies exceeded the copies the County had on hand, the EIS consultants were instructed to print additional copies. However, to ensure adequate time for public comment, the comment period on the DEIS was extended.

The cost of the DEIS was based on the costs of reproduction. The DEIS includes a number of 11x17 inch color graphics and numerous technical appendices, which increases copying costs. Copies of the EIS were also available on CD for \$5.00. Because computers vary in the level of current technology and software upgrades, and the CD was designed to be used utilizing current technology, use of the CD may have been more difficult on computers that were not up to date.

General Comments #11 – EIS Planning Horizon

Many commentors felt the impact assessment was short-term only. They stated that the EOZ went beyond 15 years used in projections (e.g. economic), and therefore the impacts, particularly long-term cumulative impacts, have not been fully addressed. DEIS fails to estimate maximum development.

General Response #11

The EIS has been revised to incorporate a twenty-year planning horizon. This is a typical planning period for local jurisdictions and must be used by counties planning for population growth under the Growth Management Act. Klickitat County does not plan under GMA, however, twenty years provides a reasonable benchmark for assessing long-term impacts and estimating development potential.

General Comment #12 – No-Action Alternative

Commentors felt that the No-Action Alternative would have fewer impacts.

General Response #12

The No-Action Alternative would leave the County with its existing permitting process. This process typically requires a conditional use permit and SEPA review. Project conditions are developed on a project-by-project basis. Project proponents are not encouraged to locate their projects in any particular location within the County.

With the development of the EOZ, projects can be encouraged to locate in areas of the County proximate to energy resources and infrastructure and at the same time generally avoid areas of greater environmental sensitivity. Conditions based on the alternative mitigation measures developed in the FEIS could be incorporated into the EOZ, or other alternative permitting processes.

The EOZ could result in more energy projects being developed in the County, as addressed in the cumulative impacts analysis. However, those projects would likely be better sited and mitigated than if the No-Action Alternative were adopted, thus reducing their total cumulative impacts.

General Comment #13 – Columbia Ridge Line For Analyzing Avian Impacts

Many commenters suggested that the Columbia Ridge line would have been a better cutoff for analyzing avian impacts than the 1.5-mile buffer from the Columbia River.

General Response #13

Maps of the avian survey points were reexamined, and it was determined that use of the 1.5 mile buffer or the Columbia Hills ridgeline would both provide equal results. All points <1.5 miles from the Columbia River were also south of the Columbia Hills ridgeline, and all points >1.5 miles from the Columbia River were north of the Columbia Hills ridgeline.

General Comment #14 – Critical Areas Ordinance

Existing CAO is inadequate to protect sensitive habitats; County is currently in litigation over CAO; EOZ should be delayed until the CAO is revised to ensure protection.

General Response #14

The County's original CAO was designed to protect critical areas, as required by the Growth Management Act. It was appealed to Klickitat County Superior Court. To settle this litigation, the County adopted a new critical areas ordinance that is supported by the Department of Ecology, Department of Fish and Wildlife, and Department of Community, Trade and Economic Development. As a result of this settlement, the CAO litigation was dismissed. Project applicants will be required to comply with all applicable regulatory requirements in effect at the time of application, including the CAO.

General Comment #15 – Fish Distribution Data

Many commentors stated that the Draft EIS lacked sufficient fish distribution and research data within the boundaries of the EOZ. Specifically, steelhead trout presence in many streams was believed to be understated. The Yakama Nation Fisheries Program believes it should have been contacted for current fish distribution data in Klickitat County.

General Response #15

Data and information were received from WDFW, WDFW Priority Habitats and Species database, USFWS, Klickitat County, StreamNet, WDOE, fish hatchery operators, and the USGS. In addition, information was obtained through discussions with resource professionals

and relied on their professional judgment and knowledge of the area. Information was also requested from the Yakama Indian Nation, but the Nation provided no response. These data sources provided the best available data and information for the preparation of the DEIS (Section 3.4.4.5.3 Existing Conditions).

The County also solicited input from the Yakama Indian Nation for this EIS. In addition to the public notices related to the DEIS, the County sent a specific pre-scoping request to the Yakama Indian Nation in May 2002, for any comments prior to issuing the Determination of Significance. The County also sent a scoping letter with the Determination of Significance to the Yakama Indian Nation in June.

After the Draft EIS was issued, efforts were made (personal communication with Bill Sharp, Yakama Nation Fisheries Program, February 9, 2004, February 17, 2004, phone call to Bill Weiler, WDFW Habitat Biologist, February 17, 2004) to update fisheries data within the boundaries of the EOZ. No fisheries data or validation of fisheries data presented in the DEIS comments were obtained as a result of these efforts.

General Comment #16 – Habitat Restoration Projects

Multiple comments were directed towards a lack of effort at acquiring data on current steelhead distribution and habitat restoration projects in the Klickitat River Basin. Several of these projects were developed with the intent of improving anadromous fish habitat in tributaries of the Klickitat River that were not represented on Figure 3-2A or Figure 3-2B.

General Response #16

Validation of steelhead trout and coho salmon presence in Logging Camp and Dillacort Creeks was obtained through verbal communication with Klickitat County Planning Department and Columbia Land Trust (Kearney, 2004). The restoration projects are funded by the Washington State Salmon Recovery Funding Board. Revised Figure 3-2A now shows Logging Camp and Dillacort Creeks as being utilized by steelhead trout and coho salmon. Wheeler Creek is now shown in Figure 3-2A as being utilized by steelhead trout. The EIS (text, tables and figures (3-2B)) was revised to show resident and anadromous fish distribution in portions of the Little Klickitat River and tributaries not previously recognized in the DEIS.

Though contact efforts were made (see the response to G-1), the Yakama Nation Fisheries Program did not provide validation of steelhead distribution throughout the lower 13 miles of Swale Creek, nor provide information regarding watershed assessment and restoration projects currently underway in Swale Creek. Sharp et al (2000), briefly discussed restoration efforts on Swale Creek and this information was included in revised section 3.4.4.5.3.2.

General Comment #17 – Wind Projects Benefitting Fish

Many commentators believe it is unreasonable to assume that more wind power projects could potentially benefit fish.

General Response #17

Thermal or hydroelectric projects are more likely to negatively impact fish habitat than wind energy projects. Wind energy projects are generally located on ridge tops near the headwaters of lower order streams and do not require water intake or discharge for operation. Wind energy could provide a benefit to fish resources by lessening the dependency on energy production from sources with greater detrimental impacts to fish. Energy generation from wind power projects could potentially replace the need to construct new thermal or hydroelectric projects.

General Comment #18 – Use of Yakama Nation Cultural Data

Several commentors stated that the Draft EIS should have used information on cultural resources maintained by the Yakama Nation.

General Response #18

It is recognized that the Yakama Nation maintains information for archaeological and cultural sites. The programmatic document did not attempt to measure specific impacts because no projects at specific sites are yet proposed. Any project level investigation and analysis will require consultation with the affected tribes. Section 3.7.3.2 has been revised.

RESPONSES TO INDIVIDUAL LETTERS

A-1 Washington Department of Trade and Economic Development

1. Comment noted. State agencies that received a copy of the Draft Environmental Impact Statement (DEIS) are shown on page 5-7 of the DEIS. The Department of Trade and Economic Development has confirmed that Growth Management Act notification requirements do not apply to Klickitat County, as the County does not plan under the Growth Management Act.

A-2 Washington Department of Fish and Wildlife

1. See General Responses #2, #4, and #7.
2. While the development of the overlay may increase the overall number of projects within Klickitat County, the objective of the overlay is to site these projects in locations that minimize environmental and infrastructure impacts. Because of the proximity to wind, gas transmission, and electrical transmission resources in the County, many projects are likely to be sited in the County with or without the overlay. The overall impacts to the County would be lessened through the comprehensive siting process of an overlay.
3. The DEIS identifies potential impacts associated with the proposed energy development and suggests potential mitigation. However, the final mitigation measures are developed by the County to address identified impacts. Smaller wind turbines have potential impacts to birds and the County may take that into consideration in the final energy overlay ordinance.
4. The DEIS used published information from USFWS Federally Listed Endangered or Threatened Species as published in the Endangered and Threatened Wildlife and Plants, WDFW Priority Habitat and Species (PHS) database, Washington State Natural Heritage Database, and priority habitat database information for Klickitat County in GIS format to identify the potential impacts of the proposed overlay to sensitive species and priority habitats. However, because of the sensitivity of some of the information and data use agreements, the locations of concentrations of sensitive species were not disclosed in the DEIS. However, Klickitat County has access to the compiled data in the form of GIS maps and will use these maps in evaluating energy siting.
5. Section 3.4.4.4.2.3 of the DEIS discusses the 200-foot regulatory jurisdiction under the Shoreline Management Act, and provides a general discussion of riparian buffers in Section 3.4.5.2.10. However, the DEIS does not specify required buffers such as those recommended in "Management Recommendations for Washington's Priority Habitats" because riparian impacts should be evaluated on a case-by case basis. The County should consider the recommended buffers in connection with each site-specific siting evaluation. Buffers are addressed in the Shoreline Master Program and the Critical Areas Ordinance.
6. The DEIS considered the presence of large concentrations of forested habitats as one of many factors in setting the boundary of the proposed energy overlay. The intent was to exclude large concentrations of areas of forest habitat because forest habitats tend to be more complex, have higher biodiversity, and lack ideal siting conditions for energy development. It was never the intention of the DEIS alternatives to fully exclude all

forested habitats. As it turns out, these habitats are more concentrated in the northern portions of the County in areas of more rugged terrain, and consist mostly of mixed conifer forests and some oak habitat in the lower elevations. Setting the boundary involved a compromise of many factors which led to including some mixed conifer forested areas near the southwest corner of the County (included because of proximity to existing development and infrastructure) and some oak habitat. The impacts to these areas that are included in the overlay would be considered through the site-specific evaluation process described in the proposed overlay ordinance.

7. The DEIS included the western gray squirrel in its terrestrial habitat evaluation because it is the only non-avian terrestrial state listed species that was believed to be potentially impacted by energy development. There appear to be a few areas within the identified overlay zone (i.e. Dallesport area) that may be suitable habitat for the Western Pond Turtle. Site-specific analysis and published information on known Western Pond turtle nesting habitat and site-specific studies would be used to evaluate potential impacts to nesting activities.

Avian impacts analysis did consider listed endangered bird species and proposed site-specific studies and mitigation would address any potential impacts.

Site-specific habitat studies should include significant wildlife impacts; however, impacts to game animals such as deer and bighorn sheep should be considered in the context to overall wildlife management and may not require special protection. Overall habitat impacts from the proposed energy developments are likely to be minimal when considered relative to the large areas of existing habitat available to game animals in the County.

8. The DEIS provides information on streams where sensitive fish habitats exist, and information on the locations of sensitive terrestrial habitats has been provided to the County. The County will make site-specific decisions on permitting energy development using this information.
9. The DEIS can only provide general mitigation measures for identified impacts due to the lack of site-specific data. Instead, it recommends site-specific studies and mitigation plans to address actual identified project impacts. This approach is proposed for adoption in the draft Overlay Ordinance. The third general mitigation suggested in Section 3.4.5.2.4 reads “deterrence methods” not deference methods. Deterrence methods for reducing potential harm to terrestrial animals could include fencing or design to eliminate attractive structures. The other general mitigation measures provided in comment A-2 #9 may be considered, along with others, on a site-specific basis by the County during the permit review process.
10. The DEIS attempted to use the best available published, peer reviewed data to evaluate general impacts of the proposed overlay. Site-specific and current data is incorporated into the EIS. Further, site-specific habitat studies will be used to evaluate specific project impacts. This recommendation was included in the draft Overlay Ordinance. See General Response #15.
11. The DEIS includes general narrative about the types of habitats present within the proposed Energy Overlay in Section 3.4. Because the area of the overlay is so large, the discussions focus on sensitive habitats such as wetlands and riparian zones and

special status species. Considerable discussion of salmonids present within the overlay is provided in Section 3.4.4.5. As a programmatic EIS, a reasonable description of all habitats and species present within the overlay is described in the EIS. However, the following habitat types are included in the proposed overlay:

- Major Ecozones
- Forested Areas
- Douglas Fir
- Oak
- Shrubland/Grassland
- Klickitat Meadow Steppe
- Central Arid Steppe
- Canyon Grasslands
- Land Cover
- Agricultural Land, Irrigated and non-irrigated
- Arid Steppe, including grassland, scrubland in central arid steppe and canyon grassland zones
- Mesic steppe and grass/shrub meadows in low, open forest. Includes grassland, scrubland, tree savanna in ponderosa pine and oak zones and in all steppe zones except Central Arid and Canyon Grassland
- Non-forested shrub fields and meadows in interior Douglas fir, grand fir, interior western hemlock, and interior red cedar forests
- Hardwood forests, oak dominated
- Mixed hardwood/conifer forest, mostly oak/Douglas fir or oak/ponderosa pine.

(Source: Washington GAP Analysis)

Generalized Priority Habitats within the Overlay:

- Riparian Zones - fish, amphibian, reptile and bird habitat
- Wetlands- various types, bird, amphibian, reptile, mammal, and invertebrate habitat
- Palustrine (lakes and ponds) - waterfowl concentration areas and habitat for western pond turtles
- Grassland - black-tail deer winter range, bird, mammal, reptile, invertebrate habitat

- Cliff habitat - birds and bats
- Canyon shrub-steppe habitat; includes cliff and talus; large sage in bottom; raptor nesting and feeding, chuckar, quail, mule deer
- Steppe ecozones - elk winter range, rocky mountain and Roosevelt elk winter range. Mount St Helens and Mount Rainier herds
- Klickitat drainage oak woodlands - bird, mammal, reptile, invertebrates
- Caves - bat habitat
- Oak and Oregon white oak habitat
- Shrub-steppe, includes cliff and talus; large sage in bottom; raptor nesting and feeding, chukar, quail, mule deer.

(Source: Washington Department of Fish and Wildlife Priority Habitat Database 2003.)

12. The intent of the Energy Overlay was to set overall boundaries within which energy development could be considered. Site-specific studies within the boundary and the overlay permitting process would be used to assess impacts and make decisions about project siting. The avian study provides the County with an excellent resource for making siting decisions and assessing overall impacts to birds, compared to the existing process of site-by site permitting that does not assess overall and cumulative impacts.
13. According to the Northwest Power and Conservation Council's 5th Pacific Northwest Conservation and Power Plan, total consumption of electricity is forecast to grow from 20,442 average megawatts in 2000 to 28,464 average megawatts by 2025, an average yearly rate of growth of 1.33 percent. This implies an addition of 320 megawatts of consumption a year, requiring about 350 megawatts of additional electricity generation each year when transmission and distribution losses are accounted for.

To address this projected growth in demand for electricity, several regional utilities in the Pacific Northwest have completed Integrated Resource Plans or Least Cost Plans. As a result of those plans, Requests for Proposals emphasizing wind power and other renewable energy purchases have been issued by Avista, Puget Sound Energy, and Pacific Power. Avista is seeking to acquire 50 megawatts, Puget Sound Energy at least 150 megawatts, and Pacific Power has solicited for 500 megawatts.

These solicitations by local utilities, combined with the American Wind Energy Associations Outlook 2004 projection that annual wind generating capacity is growing 28% annually nationwide, suggest that wind energy project development will continue at an aggressive pace.

Washington State was recently included in a region-wide windpower mapping project overseen by Northwest Sustainable Energy for Economic Development (NWSEED). Klickitat County is one of three broadly defined wind resource areas

within Washington State where windpower development appears economically feasible with existing technologies.

The National Renewable Energy Laboratory (NREL) produced an assessment of windpower potential on a state-by-state basis in 1994 (*US Wind Resources Accessible to Transmission Lines*, 5 August 1994). That analysis suggested that Washington State had the potential to generate approximately 3,500 megawatts of windpower using technologies available in the near-term. The Washington Public Interest Research Group Foundation's (WashPIRG) February 2003 report, *Clean, Affordable, Reliable*, projects a 20% windpower growth factor for Washington State through 2010, leading to 1,890 megawatts of new capacity, with a 15% growth factor from 2011-2015 producing a total expansion of 3,802 megawatts.

These reports and analyses, collectively suggesting that windpower development is accelerating on a nation-wide basis, that Klickitat County has approximately one-third of the State of Washington's windpower development potential, and that the state's estimated potential for windpower development is approximately 3,500 megawatts provide the basis for the estimate that 1,000 megawatts of windpower projects could be expected to be sited in Klickitat County in the near-term.

14. The DEIS addresses impacts from concentrated energy development such as wind farms and thermal plants because these impacts have the potential to be significant compared to individual projects. The DEIS and proposed overlay is not intended to discourage individual small alternative and sustainable energy projects. The DEIS acknowledges impacts are not considered substantial for such projects. For example, there are numerous individual turbines servicing farms and ranches within the County. The proposed overlay ordinance specifically excludes some siting requirements for small energy projects to encourage their development in the County.
15. The DEIS includes information on the habitat restoration efforts and sensitive aquatic habitats in the area of the former Klickitat Mill and Snyder Creek in section 3.4.4.5.3.2. The County will use this information when considering any energy development in this area.
16. Generally, the mitigation measures proposed here are appropriate and should be considered for most wind projects. A partial exception, however, should be made to the recommendation #5 for diurnal and nocturnal pre-project surveys covering a full year. That recommendation is not consistent with the WDFW's wind power siting guidelines (issued in August, 2003), which state that the number of seasons of diurnal surveys should be determined based on site characteristics and available information.
17. See General Response #5.
18. Comment noted; please see General Responses #5, #6, and #14 for additional information on the proposed project review process with the EOZ.

A-3 Confederated Tribes and Bands of the Yakama Nation

1. Comments noted.

2. The State Environmental Policy Act (SEPA) does not require a preferred alternative be identified. A preferred alternative has been identified for the Final EIS and the County Commissioners will decide which alternative is chosen.
3. See General Response #15.
4. See General Response #2.
5. See General Response #8.
6. See response to A-2 #7. Wind energy development is not anticipated to impact big game habitat any more than existing ranching activities. Other energy development will have a very small footprint and is not anticipated to affect large mammal populations given the large areas of habitat available to them.
7. The cumulative impact to birds and bats from wind energy projects was identified in the DEIS. Avian and bat impacts were considered in the DEIS and were the subject of focused study. Potential impacts to fish from water usage were also identified and may lead to limiting thermal energy development to areas where there is sufficient water supply. The DEIS did not identify potential cumulative impacts to terrestrial species because wind farms are generally compatible with terrestrial wildlife and because thermal and other power facilities have very small footprint, leaving much of the existing habitat available to wildlife.
8. See General Response #18.
9. The statement that cultural information in the Draft EIS is unsupported by references is not correct; references are provided throughout Section 3.7. This additional reference is added.

Ames, K.M., D.E. Dumond, J.R. Galm, and R.Minor. 1998. Prehistory of the Southern Plateau. In, D.E. Walker, Jr., *Plateau*. Volume 12, Handbook of North American Indians. Smithsonian Institution, Washington.
10. This programmatic document does not attempt to assess specific project effects because it does not propose specific projects. This document identifies a range of possible energy project types, and the range of possible impacts resulting from their development and operations.
11. See General Response #18.
12. Please see the response to A-3 #9.
13. Some sites and their locations have been reported, but never professionally and formally documented. Thus, there are more site reports, or records of their site locations, than there are actual site form documents. Specific impact determinations are not the intent of this document. Because this is a programmatic document, and no specific projects are proposed, no specific impacts can be determined. When specific projects are proposed, an evaluation of the potential impacts to cultural resources will be required.

14. The referenced letter was submitted to Buzz Cobell, BPA Tribal Liaison, Bonneville Power Administration by Carroll E. Palmer, Deputy Director YN-DNR, of the Confederated Tribes and Bands of the Yakima Nation, and is dated June 19, 2003.
15. The County extended the end of the public comment period from September 5, 2003, to October 3, 2003, to ensure an adequate amount of time to review the DEIS. The cost of the document was related to the volume of pages that comprise the document and the actual cost of reproduction. Copies of the DEIS were available for review at libraries and the County Planning Department.
16. See response #2 above. A preferred alternative has not been selected. Public comments and responses to those comments are included in the Final EIS (FEIS).
17. See General Responses #15 and #16.
18. See General Responses #4 and #5.
19. See General Response #5. Site-specific environmental evaluation of any potential future project is already required under the State Environmental Policy Act (SEPA).
20. Both statements are true. Under Procedural Alternative 2, energy development would be excluded from outside the Overlay area, and therefore that development would concentrate within the Overlay area.
21. See General Response #5.
22. A preferred alternative has been identified for the Final EIS.
23. Any proposed thermal facility with the potential to release large quantities of potential pollutants will be required to obtain a Prevention of Significant Deterioration (PSD) permit from the Washington Department of Ecology. This permitting process evaluates potential emissions from a specific facility at a specific site and then determines the appropriate technologies to reduce emissions.
24. The process for determining potential impacts to wetlands is the same process that currently exists. The SEPA checklist requires disclosure of information related to wetlands in sufficient detail to determine whether further investigation of potential impacts to wetlands is warranted. Delineation of wetland areas has to be done in accordance with state and federal standards by someone certified through state or federal training as being qualified to undertake wetland delineations.
25. Section 1.6, Graphic 1-1 has been updated to state "Review most current priority habitat data." See General Response #16.
26. Water recovery efficiency (i.e., consumptive water use) would be a function of multiple factors including the type of energy facility, design of the facility cooling system if needed, and the quality of input water used for cooling. Total water use and the consumptive component (water efficiency) are project-specific design elements that cannot be specified in this non-project EIS.

27. Table 2-2 was intended as a screening tool to evaluate energy technologies that, as a whole, are not feasible in the County and hence were not included in the proposed overlay. As such, the definitions allow latitude for a preponderance of arguments for or against including any given technology. This is a screening tool to eliminate technologies for further consideration— not to outright accept technologies that were included. The impacts analysis was then used to help develop the overlay ordinance, which ultimately decides what technologies to include, and how to mitigate impacts. Nuclear power and coal-fired plants were considered to have potential adverse impacts to habitat because, to be economically feasible, they require much larger capacity, a larger foot print, and have higher cooling water demands.
28. This DEIS focuses on energy facility development, and does not consider other types of development, which may also have habitat impacts. Nuclear power development was found to have greater habitat impacts relative to other energy technologies because of the size of the facility, cooling water demands, and waste generated. This is one of many reasons that nuclear power was rejected for inclusion in the energy overlay.
29. Natural gas prices have fluctuated widely from 2001 through the present. The Energy Information Administration (EIA) projects that natural gas prices will remain high through the rest of 2004 ([Short-Term Energy Outlook](http://www.eia.doe.gov/emeu/steo/pub/contents.html), July 2004, <http://www.eia.doe.gov/emeu/steo/pub/contents.html>). Wellhead prices are expected to average \$5.85 per MMBtu from July through December, while composite spot prices will likely stay well above \$6.00. Spot prices at the Henry Hub averaged \$6.34 per MMBtu in May and \$6.27 in June, as strong demand for natural gas coupled with high petroleum prices has led to higher gas prices despite nearly normal storage inventory levels. Storage stocks at the end of June, based on monthly data, were almost 3 percent higher than the 5-year average and 14 percent higher than last year at the same time. Overall in 2004, spot prices at the Henry Hub likely will average about \$6.12 per MMBtu, which is 9 percent higher than the 2003 average. In 2005, prices are expected to decrease only slightly as production gains are expected to be relatively low.

Natural gas production is expected to increase by only about 0.5 percent in 2004 and 2005. Despite increases in new natural gas well completions, which are estimated at close to 20,000 in 2003 and will likely grow to more than 23,000 wells per year through 2005, production growth will be modest because of apparently high decline rates from existing wells. Natural gas demand is expected to increase by about 1.1 percent in 2004, owing to increasing economic growth, the continuing rise in electricity demand, and below-average hydroelectric power levels in the Pacific Northwest. Demand growth in 2005 is expected to be limited by the prevailing relatively high natural gas end-use prices.

30. Nuclear and coal fired power plants were the only technologies that produce solid waste byproducts in significant quantities that would require special offsite disposal (although biomass also produces ash, it does so in much smaller quantities because of the smaller scale). Other technologies were given further detailed consideration and impacts such as air emissions and thermal loading were evaluated in detail.
31. See General Response #2.

32. Comment acknowledged. The purpose of the discussion in the referenced section was to recognize there may be unidentified sites that may be suitable for development under certain conditions (i.e. changed economic conditions).
33. See General Responses #15 and #16.
34. Section 3.4.4.5.3 has been modified to discuss tributaries located exclusively within the proposed overlay boundaries. Fish distribution data has been updated in text and figures to include additional fish distribution in the main stem Little Klickitat River and important tributaries of the Klickitat and Little Klickitat Rivers.
35. Based on information obtained from the Confederated Tribes and Bands of the Yakama Nation (2003b), the text of section 3.4.4.5.3.2 has been modified to recognize only the lower 150 feet of Silvas Creek as being accessible to anadromous fish.
36. Section 3.4.4.5.3.2 has been modified to recognize the presence of cutthroat trout resident and anadromous life history types in the Klickitat River basin.
37. See text for reference.
38. Graphic 3-19 has been updated to include all anadromous fish supported by the Columbia River that are likely to be present in the EOZ.
39. See General Response #17.
40. This paragraph indicates that there are no impacts specific to thermal power technologies that are not already discussed in the general impacts statements in section 3.4.5. There are considerable discussions of general impacts to habitat in section 3.4.5 that apply to thermal power plants.
41. Section 3.4.5.4.5.2 has been updated to mention thermal impacts of wastewater effluent on fish. Discharge of wastewater is discussed in greater detail in section 3.4.5.4.5.
42. Section 3.4.5.4.5.2 has been modified to include Washington State Law RCW 77.16.220, which states that no person shall divert water containing game fish without placing a guard or screen over the intake.
43. Section 3.4.4.5.3.2 has been modified to exclude comments about upper reaches in streams being used as migration corridors, while lower reaches are used primarily for rearing and spawning.
44. Section 3.4.5.5.5 has been updated to mention potential thermal impacts on fish.
45. See General Response #17.
46. This paragraph refers to water supply demand for prospective gas-fired power facility, which range from 500 to 9,200 acre-feet/year for such plants in Oregon and Washington (Table 2-1 in DEIS) and typically exceed 1,000 acre-feet/year. Because of the large water demand associated with this facility type, and the time and cost associated with completing water right transfers, it is reasonable to assume that rights smaller than 100 acre-feet/year would not be considered for transfer.

47. The difference is a matter of facility scale. Based on comparison of water demand for planned or constructed biomass vs. gas-fired generation facilities, a typical biomass plant is generally smaller (less energy produced) and therefore would require less water than a typical gas-fired plant. Biomass facilities typically would use less water than gas-fired facilities because of their smaller scale; however, they may use more water per unit of energy produced than a gas-fired plant.
48. Comment noted. Transfer of existing water rights downstream within the watershed can provide environmental benefit to the watershed that can largely mitigate potential impacts associated with the change, depending on the size of the right and the water bodies affected.
49. See response to A-3 #47.
50. If a power plant discharged wastewater to a publicly owned treatment works (POTW) operating under a NPDES permit, the POTW would still need to comply with the terms of that permit. Water quality protection afforded under the NPDES process would not be circumvented. Compliance with regulations is assumed.
51. Comment noted. The County extended the public comment period for the DEIS by 30 days to ensure adequate time for review.
52. Project-specific evaluation for water supply would be required in siting a power facility within the energy overlay. SEPA review will still be required on a project-specific basis, as stated throughout the DEIS. The comment refers specifically to the DEIS' lack of detail regarding potential impacts to water resources. For wind and solar energy projects, water demand and wastewater generation would be small. Therefore, the magnitude and scope of potential water resource impacts are considered small and could be readily addressed through SEPA review. Biomass and gas-fired projects have greater water demands and potential for greater wastewater generation. For such projects, potential impacts associated with water supply would be addressed through SEPA review in conjunction with the process of permitting a water right for the supply source (either new right or, more likely, transfer of existing right). The water right permitting process considers water availability and potential for impacts on the watershed scale.
53. A new geographic alternative, called the Limited Geographic Alternative, has been added to the FEIS. This alternative limits thermal energy development to areas within the EOZ that have at least 500 acre-feet of water rights and within two miles of an existing gas pipeline.
54. Comment noted. Efforts were made through contact with WDFW to identify priority habitat areas
55. Table 3-3B has been included to mention special status fish species present in the proposed EOZ.
56. This statement was included on figures to assure that agreements for data security between the County and the data sources will be honored. Klickitat County is subject to use agreements intended to protect sensitive data such as critical habitat data.

57. See General Response #16.
58. Washington State Department of Natural Resources was also used as a source of seismic fault information.
59. See General Responses #4 and #5.
60. See response to A-3 #6.
61. See response to A-3 #7.
62. See General Response #18.
63. Please see the response to A-3 #9.
64. Some sites and their locations have been reported, but never professionally and formally documented. Thus, there are more site reports, or records of their site locations, than there are actual site form documents.
65. This is a letter dated 25 June 2003 from The Confederated Tribes and Bands of the Yakama Nation addressed to Buzz Cobell, Tribal Liaison, Bonneville Power Administration, regarding general policy regarding wind development. It was signed by Carroll Palmer, Deputy Director Yakama Nation- Director of Natural Resources. There may be some confusion regarding the letter date– the cover date is 19 June 2003 whereas the signed page is dated 25 June 2003.

A-4 Washington Department of Ecology

1. Comment noted. The SEPA form requires information on the presence of smaller wetland areas during the site-specific project SEPA review phase.
2. Comment noted.
3. Comment noted.
4. Comments noted. See General Response #5. Adopting the Energy Overlay Zone would still allow an opportunity for the public to comment on the acceptability of individual projects at specific sites before a final decision is made.
5. Comments noted.
6. To the extent not covered under other Ecology permitting, the County typically requires FDCP to address dust issues

B-1 Cannon Power

1. Comments noted.
2. Comments noted.

3. See General Response #13.

4. Comments noted.

B-2 American Machines

1. Comments noted.

2. See General Response #4.

3. The DEIS recognizes that hydrocarbon based energy generation is a necessary portion of the mixture of technologies needed to meet current and future energy demands. This is based on Department of Energy forecasts for meeting U.S. energy demands and currently proposed energy projects in the Pacific Northwest. Natural gas powered thermal plants were included in the proposed overlay because they are being sited in the area and require comprehensive planning. Of all hydrocarbon fueled energy generation technologies, natural gas has the least impacts to air quality and produces the least amount of greenhouse gas per kilowatt generated. There appear to be abundant sources of natural gas supplies in the U.S. and Canada, as well as the potential to import liquefied natural gas from offshore resources.

B-3 American Machines

1. Comments noted.

B-4 American Machines

1. See response to B-2 #3. The proposed overlay zone does not specifically identify or limit sites within the zone for development. Rather, areas likely to be impacted are identified, which will likely drive development to locations of minimum environmental and social impact. Based on impact mitigation requirements and available infrastructure, hydrocarbon plants are more likely to be located in industrial or remote areas than elsewhere.

B-5 SDS Lumber

1. Comments noted.

2. Comments noted.

3. The socioeconomic section of the EIS was developed to provide a general evaluation of impacts in the County. A detailed economic study was not completed as part of the EIS and is not required under SEPA regulations.

4. Comments noted.

5. Comments noted.

6. Comments noted.

C-1 Phyllis Clausen

1. See General Response #1.
2. Hydroelectric power was considered initially as one of many potential energy development technologies, but not evaluated in the DEIS because it did not meet a preponderance of the energy development goals articulated in Section 2.2. Section 2.2.7 provides further details why hydroelectric power has limited opportunities for development in Klickitat County.
3. See General Responses #1 and #6.

C-2 Chris Connolly

1. See General Responses #2, #5, and #6.
2. See General Responses #4, #5, and #6.
3. See General Responses #4 and #5.
4. Section 1.3 describes the purpose and benefits of an Energy Overlay.
5. Although the electric and gas transmission facilities located in the County may be constrained by their current management or design capacities, Section 3.13.2 of the Draft EIS discusses available capacity and describes planned upgrades to both the electric and gas transmission facilities. Those upgrades and potential changes in system management have the potential to increase the amount of new generation seeking to be sited in the County.
6. See General Responses #4 and #5.
7. See General Responses #4 and #5.
8. Any non-wind energy facility proposed in the County will have to demonstrate that there are adequate water resources available through water rights or other mechanisms to successfully operate the facility without impacting water resources in the area.
9. See General Response #7, which addresses the alternatives reviewed in the FEIS and revised in response to comments.
10. See General Responses #4 and #5. Alternative 1 differs from the current CUP process in many ways including requiring specific siting studies and other requirements as outlined in the draft Overlay Ordinance. The Calpine (Goldendale Energy) natural gas powered facility has been approved and is part of the current baseline for air quality in the region. This project was used as the model for future emissions from additional natural gas plants.
11. The EIS does not make legislative decisions on behalf of the County. It is designed merely to inform decision makers of the probable, significant, adverse environmental impacts of their decisions. If the Board of County Commissioners, following review and public hearing by the Planning Commission, elected to prohibit certain energy

development in portions of the County, this would be accomplished through the adoption of an ordinance, not through EIS issuance.

The existing variance process includes set criteria for granting variances. Decisions may not be based on “whim” and may be appealed if inconsistent with regulatory requirements.

It is remote and speculative that “the entire County” would ever be covered by the EOZ. It is correct that if the EOZ were adopted, the County could conceivably rezone other areas of the County to be included or excluded from the EOZ. However, additional SEPA review would be required for such an action, and action could only occur through the County’s rezone process, following public notice.

12. The No-Action Alternative is not meant to imply any future rate of energy development. The No-Action Alternative is not taking action to create an Overlay Zone by amending the Comprehensive Plan. The process for reviewing future energy development projects would remain the same as it is today. The No-Action Alternative is established as a baseline to enable decision makers to compare the alternatives evaluated in the EIS against the current process for evaluating energy development projects.
13. See General Responses #4 and #5.
14. Due to an error in applying the GIS zoning maps for this analysis, the tables have been revised. The correct values are:
 - Open Space: Klickitat County has approximately 205,900 acres zoned as Open Space; approximately 62,900 acres would be within the proposed Overlay zone.
 - Extensive Agriculture: Klickitat County has approximately 455,100 acres zoned as Extensive Agriculture; approximately 420,000 acres would be within the proposed Overlay zone.
 - General Rural: Klickitat County has approximately 236,500 acres zoned as General Rural; approximately 134,200 acres would be within the proposed Overlay zone.

The discussion of areas affected in section 3.7.6 is correct. The total area of the proposed overlay is about 770,000 acres.

C-3 James Miller

1. Comments noted.
2. Comments noted.
3. Support for Procedural Alternative #1 is noted.
4. See General Response #13.
5. Comments noted.
6. Comments noted.

C-4 Louis Cosner

1. Comment noted.
2. Comment noted.
3. See General Response #13.
4. See General Response #5.
5. Comment noted.

C-5 Tim Southworth

1. See General Response #7.
2. Comments noted.
3. See Appendix F, Mitigation Summary.
4. See General Responses #1 and #5.
5. See General Response #2.
6. The economic benefits of energy development are necessarily speculative because of the uncertainties of the energy markets. However, the County has recognized a trend in siting energy projects in the County and is attempting to deal with these market driven forces through comprehensive, rather than piece-meal planning. The DEIS does not attempt to provide an economic benefit analysis of the proposed overlay. The DEIS does not preclude other types of development in the County allowed under existing land use regulations.
7. Future permitting of air emission sources by Ecology will take into account potential impacts from higher sulfur content in natural gas. See General Response #9 regarding radon, which concludes that gas fired emissions do not pose a radon hazard. Air quality impacts from biomass plants are identified in Section 3.2.3.3.1 of the FEIS. The County has provisions for assessing impacts from truck traffic from biomass plants in the draft Overlay Ordinance.
8. See General Response #2.
9. See General Response #2.
10. As mentioned in Section 3.3.2, background noise measurements are between 30 and 40 dBA. Graphic 3-10 illustrates maximum permissible receiver environmental noise levels. For residential areas, nighttime levels are 45 dBA and daytime levels are 55 dBA. As a reference, normal conversation levels are approximately 60 dBA (at a distance of 3 feet).
11. Noise produced by wind turbines has several sources, including the drive-train/gear box, as well as the blades themselves. Wind turbine design is continually evolving, and newer

designs include modifications to gearing and sound insulation to reduce noise. Limiting tip speed to reduce noise would not always be effective, and doesn't address the noise issue directly, which is more appropriately addressed directly, by the State noise standards, and by siting standards such as minimum distances to houses, as suggested in section 3.3.4.1.2 of the Draft EIS. Limiting rotor speed would not necessarily reduce avian impacts. Recent studies suggest that the newer generation of turbines, which have slower RPMs, but whose blade tip speed is equivalent to older, smaller, turbines with higher RPMs, have lower avian mortality.

12. As described in Section 1.6 of the EIS, the County will require non-wind energy projects to demonstrate that they will minimize water use through recycling and efficient closed loop cooling systems.
13. Comments noted.
14. The introductory paragraphs on socioeconomic impacts is intended to describe the facts of the economic history of the County, not to place blame for the County's economic conditions on Federal policy. It is not within the scope of the DEIS to evaluate policy regarding revenue or taxation.
15. Project siting is an important part of energy project development. This is further discussed in Section 1.3. Energy projects like wind energy, which make royalty payments to landowners, facilitate the continuation of agricultural land use.
16. Comments noted.
17. These projects have filed with BPA to get consideration for tying into power lines. No applications for any of the 13 projects have been received by the County. Any energy projects proposed in Klickitat County will require environmental review under the existing state, federal, and local laws and regulations.
18. See General Responses #2 and #7.
19. See General Response #5.
20. Comments noted.
21. Comments noted. See General Response #5 and Appendix F, Mitigation Summary.

C-6 Phyllis Clausen

1. See General Response #1.
2. See General Responses #5 and #6.
3. The energy demand projections are based in part on available information from BPA and U.S. Department of Energy, which provided reasonable projections to 2025. According to the Northwest Power and Conservation Council's 5th Pacific Northwest Conservation and Power Plan, total consumption of electricity is forecast to grow from 20,442 average megawatts in 2000 to 28,464 average megawatts by 2025, an average yearly rate of growth of 1.33 percent. This implies an addition of 320

megawatts of consumption a year, requiring about 350 megawatts of additional electricity generation each year when transmission and distribution losses are accounted for. These demands were used to provide a basis for projecting the number of energy projects that could be built in the County under the proposed Overlay within a manageable time period. The County has the ability to evaluate the success of the planning process and adapt it to existing demands and impacts over time. The County will consider existing land uses when siting energy facilities as required in the draft Overlay Ordinance.

C-7 Michael Wellman

1. Comments noted.

C-8 Dawn Stover

1. See General Response #2.
2. See General Response #5.
3. The overall boundaries of the Overlay were intended to provide a study area in which to focus the impacts analysis. The boundaries were set based on habitat, proximity to infrastructure and land use. Within these boundaries, the DEIS identifies scores of potential impacts including habitat, wildlife, water resource limitations, land use, visual resources, etc. The information on these impacts will be used by the County to plan siting of energy development. See General Response #2.
4. See response C-6 #3. See General Response #11.
5. See General Response #7.
6. The DEIS posits that unplanned project-by-project energy development will likely have greater impact on the local environment compared to careful planned siting based on identified impacts and knowledge of cumulative impacts. The number of power facilities located in the region will be determined by overall energy demands. Regional conditions such as air quality will be affected by the overall number of plants located in the region whether or not they are located in the County. For these reasons, the No-Action Alternative could have greater impacts even if the other alternatives result in more development in the County.
7. Comments noted.

C-9 Rachel Haymon

1. See General Response #5.
2. Positive indirect effects during construction phase of projects can include support of local businesses, especially when local services, labor, and materials are used. County-wide direct impacts can accrue in forms of road improvements, law enforcement enhancement, and library funding enhancements due to increased revenue by the taxing district.

Negative impacts and potential mitigation measures are discussed in Section 3 of the EIS.

3. See General Responses #1 and #5.
4. See General Response #7, which summarized the alternatives reviewed, and describes the more restricted subset to the Geographic Alternative which was developed in response to comments. Note that the Technology Alternative evaluated and excluded energy technologies that would be particularly difficult to mitigate. Also, in response to comments, mitigation alternatives were more fully developed for each energy technology evaluated.
5. The DEIS determined that nuclear power was not likely to be sited in the County and that its impacts are difficult to mitigate. As a result, it is not included in the proposed EOZ. Hydroelectric power was also not studied in the DEIS, as it was deemed unlikely that additional facilities would be built in the County. However, those hydroelectric facilities that already operate within the County are not considered by the EIS as inappropriate.

The County could elect to prohibit certain technologies in certain areas of the County. For example, Procedural Alternative 2 would prohibit energy development outside of the Energy Overlay. However, the ultimate decision on where to permit energy development is a legislative one, and is made by the County, not the EIS.

6. See General Response #7, which summarizes the alternatives reviewed. Through the Procedural Alternatives, both the existing conditional use process was evaluated, as well as the EOZ, which would be implemented through the adoption of development regulations with more tailored conditions. However, the County could, as suggested, combine the conditions contemplated under the EOZ with the existing conditional use permitting process. The County could also revise its critical areas ordinance to further mitigate development. But see General Response #14. Of course, without the EOZ, energy development would not be encouraged to locate in favored areas of the County.
7. See General Response #8.
8. Comments noted.
9. Comment noted.

C-10 Patricia Arnold

1. See General Response #1.
2. Because this is a non-project EIS, water uses for potential future projects can not be provided. Actual and planned water uses for existing power plant projects in the Northwest are listed in Table 2-1, and discussed in Section 3.6.3, of the DEIS. Those ranges of values may represent reasonable water uses for projects potentially proposed within the energy overlay. As stated in the DEIS, water demand for solar or wind plants would be small, and thus associated impacts are expected to be negligible. The source of water supply would depend on the project location and local (watershed) conditions. The amount of water available to meet that demand could depend on the quantity of

water appropriated in the watershed and the feasibility/willingness to transfer existing water rights to power use. Whether seeking new water rights or transferring existing water rights to provide a larger water supply needed for a specific biomass or gas-fired plant, potential water-related impacts would be identified and mitigated as a condition of obtaining water rights for that project.

3. A site-specific noise analysis can be used as part of mitigation measures. Each site is unique with specific conditions, such as landscape, proximity to residences, natural buffers, and background noise levels that affect local noise conditions. A typical noise analysis is discussed in Section 3.3. Ecology noise regulations are illustrated in Graphic 3-10.
4. The DEIS does not specifically exclude any areas within the proposed energy overlay boundaries. It does provide an assessment of potential impact to sensitive areas within the zone for consideration by the County when reviewing project siting. The proposed draft Overlay Ordinance does not supercede the existing Critical Areas Ordinance or state regulations including those that protect wetlands and other sensitive habitats such as riparian zones. See General Response #2.
5. See General Response #1, which addresses the public process required before the adoption of any zoning code or comprehensive plan or legislative amendments may occur. Although the public comment period has closed on the EIS, there is an opportunity for public comment during this legislative process.
6. See General Response #1. No decision has been made on which alternative, or combination of alternatives is to be adopted. If the development regulations and comprehensive plan policies are amended, they will be considered through the legislative process. If Procedural Alternative 2 were adopted, the County would adopt an ordinance providing that energy development is prohibited outside of the EOZ.
7. Draft Chapter 19.39 provides an example of the type of regulatory requirements, or siting standards, that could accompany the EOZ. Also, as the comment notes, all applicable County requirements must be complied with. Which requirements are applicable are determined by reviewing the zoning code, as with any project. These types of requirements are likely to include compliance with the building code, critical areas ordinance, SEPA requirements, etc.
8. Chapter 19.39 is simply a draft, and comments regarding its details can be made through the County's legislative adoption process. However, note that with the EOZ, projects are encouraged to choose certain areas of the County over other areas. With respect to the decision on where to locate a project on a particular property, that decision will likely be made based upon the location of the energy resource and other considerations, such as the environmental sensitivity of the site. Because draft Chapter 19.39 would require mitigation for numerous impacts, such as stormwater, vegetation, cultural resources, etc., such mitigation may dictate the location of certain aspects of the development. For most small energy systems, even if exempted from requirements in draft Chapter 19.39, which are applicable to larger projects, building code and SEPA review would typically be required.

C-11 Steve Stampfli

1. Comment noted. See General Response #12, which summarizes the alternatives reviewed, including the No-Action Alternative. The No-Action Alternative would leave the County's existing conditional use permit process in place.
2. Comment noted. See also General Response #7, which explains the alternatives evaluated in the EIS. The EIS focuses on energy technologies likely to be sited within the County. To focus on technologies that may or may not be sited within the County in the future would result in a lengthy, speculative document with less practical use. The proposed draft Overlay Ordinance does not prohibit other types of energy development in the County. Other energy projects could be developed through the conditional use process. The DEIS focused on identifying impacts from technologies that are currently well understood and in demand in the County and region.
3. See General Responses #5 and #11.

C-12 Jim White

1. The County extended the public comment period for the DEIS by 30 days.
2. See General Responses #2, #4, and #7.
3. It is not within the scope of the DEIS to provide an economic analysis of the viability of any energy technology in the energy market. The County's efforts to manage energy development is a response for the current demand for siting energy projects (principally wind and thermal plants) coupled with a general understanding that U.S. energy demands are projected to increase. According to the U.S. Department of Energy's Natural Gas Strategic Plan (<http://www.netl.doe.gov/scng/policy/planning/NGSP.pdf>), the natural gas supply is expected to accommodate the anticipated market demand of more than 28 Tcf by 2010. Technology is a vital contributing factor that will shape the industry's ability to find and develop resources and to manage costs to supply gas at reasonable prices. For domestic supply, the increase is projected to come primarily from offshore and unconventional sources. Innovative, cost-saving technology and large finds, particularly in the deep waters of the Gulf of Mexico, have renewed interest in these offshore areas. Additional supply will come from the North Slope Alaska, Canada, and Mexico.
4. Comments noted.
5. As stated in Section 3.6.3.5.4, prospects are poor for obtaining adequate water supply for a typical biomass or gas-fired power plant in the Rattlesnake Creek area. Water resources in that area might be adequate to supply either wind or solar power facilities, if other factors support their consideration in that area.
6. Comment noted. For alternatives evaluated, see General Response #7. Note that a subset of the Geographic Alternative (the Limited Geographic Alternative) was incorporated into the FEIS in response to comments. On the public process, see General Response #1, which explains that there will be further opportunities for public comment during the legislative process.

C-13 Lynn Bergeron

1. See General Response #5.
2. Comments noted.

C-14 Bob and Sandra Powers

1. Comments noted.

C-15 Undetermined

1. See response to C-12 #5.

C-16 John and Iva Grobner

1. Comments noted.
2. Comments noted.
3. Comments noted.

C-17 Fred & Marian McMahon

1. The DEIS does not site any specific locations as preferred locations. It does include the Rattlesnake Creek area within the overall boundaries of the Energy Overlay. Additionally the FEIS considers the Limited Geographic Alternative that would exclude energy technologies that require water (e.g., thermal power plants) from areas that lack adequate water resources. Under this alternative, thermal energy development would be excluded from the Rattlesnake Creek area. See C-17 #2.
2. The FEIS proposes a new alternative (Limited Geographic Alternative) that would exclude thermal energy development from areas that lack sufficient water resources. Initial analysis of water resources in the Rattlesnake Creek area indicate that thermal energy development would be excluded from this area if this alternative is adopted. In addition, air impacts would be thoroughly evaluated during the air contaminant permitting process. Wind energy would likely be compatible with existing orchards and ranching activities in the area, and would likely have minimal impacts on wildlife if appropriate avian impacts are evaluated and mitigated.

C-18 H.A. and Susan Stevens

1. Comments noted.
2. Water right transfers are governed by Washington State water law. It is not within the scope of the DEIS to predict how individual water rights may be affected. However, the FEIS includes a new alternative (Limited Geographic Alternative) that would exclude thermal energy development in areas that lack sufficient water rights (sufficient water rights are defined as a single water right greater than 500 acre-feet per year in a section). Rattlesnake Creek does not meet this criterion. If this alternative were adopted, thermal energy development would be excluded in the Rattlesnake Creek area.

C-19 Donald, Nancy, and Max Slater

1. Comments noted.

C-20 Donald Garner

1. Comments noted.
2. See General Response #10.
3. See General Response #5.

C-21 Doug and Helen Grabner

1. Comments noted.

C-22 Tom and Nancy McMahon

1. See response to comment C-17 #2.
2. See Response to C-17 #2.

C-23 Debie Garner

1. Section 5 of the EIS provides information on the public notices, scoping meeting, and distribution of the DEIS. In addition, a public hearing was held on August 26, 2003, to receive comments on the DEIS (see the hearing transcript after the comment letters in this Appendix). See General Response #1.

C-24 Group Petition

1. See response to C-12 #5.
2. The DEIS determined that water resources may be insufficient to support thermal power development in the area. This information would be used by potential energy developers and the County in making decisions about siting in the Rattlesnake Creek area. Additionally, the FEIS includes the Limited Geographic Alternative that would limit thermal power development in areas lacking sufficient water resources, including the Rattlesnake Creek area.
3. Many areas in the Rattlesnake Creek area may be considered areas subject to landslides. Mitigation measures for construction in areas at higher risk for landslides are outlined in Section 3.5.3.2 and reviewed under the CAO.
4. Diesel fired thermal power was rejected from the overlay because of potential air and infrastructure impacts. Air quality impacts would be evaluated on a project specific basis by Ecology and would include assessment of localized conditions.
5. See response to comment C-17 #2.

6. Noise mitigation measures, including locating major noise sources within acoustically treated buildings, are discussed in further detail in Section 3.3.4 and its subsections.

7. Comment noted.

C-25 Phyllis Clausen

1. See General Responses #4 and #5.

2. Comment noted. Note that a subset of the Geographic Alternative was incorporated into the EIS in response to comments that would result in a smaller EOZ area. See General Response #7. Also, impacts to agriculture, land use and recreation, were addressed in the Draft EIS. See Section 3.10. Note that wind development supports agricultural uses because comparatively little land is taken out of production while the land owner receives extra funding, which can further support farming operations.

3. See General Response #5.

4. Total water demand for a power plant varies considerably depending on the type, energy output, and cooling system design. As stated in the DEIS, water supplies for gas-fired power plants would very likely be obtained by transferring water from an existing use to the power plant use (likely through transfer of existing water rights). Consequently, a power plant would likely not represent an additional demand on water use within a watershed, rather a re-allocation in purpose and place of an existing use in that watershed. Any such re-allocation of water would occur through Ecology's processing of an application for water right change, which includes Ecology's determination of whether the change is in the public interest, and which includes mandatory public comment on the proposed change.

5. Comment noted.

6. Comment noted. Note that this comment can also be directed to the legislative process. See General Response #1.

7. Klickitat County does have a Critical Areas Ordinance in force. See General Response #14.

8. Cumulative impacts of the proposed alternatives are discussed in the following Sections of the DEIS:

- 3.2.6 – Air Quality
- 3.3.7 – Noise
- 3.4.6 – Habitat and Wildlife
- 3.5.7 – Geologic and Flood Hazards
- 3.6.6 – Water Resources
- 3.7.6 – Cultural Resources
- 3.8.7 – Visual Resources
- 3.9.7 – Public Health and Safety
- 3.10.7 – Recreation
- 3.11.7 – Socioeconomics
- 3.12.7 – Transportation

3.13.7 – Public Services

9. See General Response #5.
10. Comment noted. Note that this comment can also be directed to the legislative process. See General Response #1.
11. See response #7 above.
12. Comment noted. Note that it is not unusual for a planning department to be able to modify irrelevant or unnecessary application requirements where appropriate. Note that this comment can also be directed to the legislative process. See General Response #1.
13. The setback in the proposed Overlay Ordinance is a minimum distance from residential structures. The setback was used in considering impacts in the DEIS (e.g., for noise impacts since this distance parallels existing noise regulations). However, the DEIS identified many other siting considerations that should be taken into account when locating an energy facility. The proposed overlay ordinance requires a site-specific analysis of impacts. A 200-foot setback may be appropriate for some energy technologies such as wind power on a private ranch, but inappropriate for other situations.
14. The height refers to the average height of the permanent roof height of the structure. It does not include limitations on appurtenances such as antennae or chimneys.
15. The proposed Overlay ordinance includes requirements for project-specific and site-specific evaluations including requiring special studies such as noise evaluations prior to permitting an energy development. Part 19.39:9 B.1 of the proposed Ordinance specifically requires that projects:
 - (a) Maintain sound levels at project boundaries that are under the maximum levels for the adjacent receiving properties based on the receiving properties' environmental designation for noise abatement per state regulations.
 - (b) Comply with all state noise control regulations.
16. As stated in the WEST report, an extensive analysis of avian use and mortality data collected at wind plants across the U.S. showed that baseline avian use data collected during one season (usually spring, summer or fall) appear adequate for making impact predictions (e.g., low, moderate or high relative mortality). Therefore, the data collected on raptors in the WEST report should be sufficient to predict mortality without conducting extensive studies of raptor migration in the county. The need for extensive raptor migration studies to site windpower developments is questionable, as raptor mortality is very low at wind plants outside California, and the high raptor mortality observed at the Altamont Pass wind plant in California involves resident birds that collide with turbines while foraging, not migrating raptors. No studies have documented high levels of mortality to migrating raptors at any U.S. wind plant. Several studies of North American songbird migration have found that nocturnal migrants generally follow a broadfront migration pattern, flying at high altitudes where they are not affected by variation in surface topography. Possible exceptions to this may occur along large, prominent ridgelines oriented from north to south, such as the Appalachian Front in the eastern

U.S. There are no similar features in Klickitat County, and the utility of conducting radar studies of nocturnal migrants for siting wind plants in the county is questionable. A radar study conducted for the Stateline Wind Plant found that 87% of birds were flying above 100 m (i.e., beyond the zone of risk of most modern wind turbines) during the spring of 2001 and 94% were flying above 100 m in the fall of 2001. There were no differences in migration rates between stations, suggesting no distinct differences in migration patterns throughout the project site. The overall migration rates were considered moderate compared to rates observed in other parts of the U.S. Subsequent carcass searching has shown low avian collision mortality during migration periods at this wind plant as well as at other windplants in the Pacific Northwest. Based on the above data, it was concluded that conducting extensive studies of avian migration for the Klickitat County overlay project would not greatly assist with developing the energy overlay.

17. Although the Rattlesnake Creek area may be likely to contain significant cultural resource sites of many varieties, any proposed project would require site-specific cultural resource investigations to minimize or eliminate impacts to those resources before any permits could be issued.

C-26 Luisa Lucero

1. Comments noted.

C-27 Robert Gosman

1. Comments noted.

C-28 Tim Young

1. See General Response #1.
2. See General Response #7, which summarizes the alternatives evaluated, and notes the addition of the Limited Geographic Alternative, which would site gas-fired and biomass energy facilities in a more narrow area of the County. Separate EISs may lead to a fragmented review and loss of opportunity to address cumulative impacts.
3. Comment noted. See General Response #7, which summarizes the alternatives evaluated and General Response #6. Note that the EIS will be available to review future energy projects even if the No-Action Alternative were retained by the County. This has been clarified in the FEIS.
4. See General Response #5.

C-29 LD Robertson

1. It was recognized in the EIS that energy facilities are generally not large employers.
2. If a biomass or gas-fired power plant were considered for the Klickitat area, a change/transfer of an existing water right change would almost certainly be required to obtain a suitable water supply for it. In applying for a water right change, the applicant must demonstrate to the satisfaction of Ecology that the proposed change/transfer would

not impair existing water rights or pending applications, instream flows, or water quality, and is in the public interest (with regard to change to a groundwater right).

3. The Comment period was extended 30 days.

C-30 Ed Kennell

1. Comments noted.

C-31 Carli Palmer

1. See General Response #1.
2. Comment noted.

C-32 Patricia Arnold

1. The Fact Sheet, and Sections 1.1 and 2.2 should be read in conjunction with one another. The general goal of the EIS is to (1) identify areas of the County with energy resources; (2) identify areas with adequate infrastructure for energy development or where such infrastructure can be provided; (3) consider compatibility with existing and planned land use and how to minimize environmental impacts; and (4) facilitate development in appropriate areas by providing a predictable regulatory regime. These goals were re-stated in several ways throughout the EIS, as each goal involves a variety of assessments. However, some clarification has been provided in the FEIS, in response to comments.
2. Project-specific information on available solar or biomass resources would be needed for the County to evaluate a specific proposal. See General Response #6.
3. See General Response #7.
4. In response to comments, a more detailed set of mitigation measures was developed and included in the FEIS as Appendix F. These can be incorporated into the regulatory process, referred to by the public in commenting on projects, or used to mitigate projects through SEPA. Note, however, that existing requirements can be relied on when appropriate to avoid duplicative mitigation. The draft Ordinance provides the County with the ability to require additional mitigation of impacts that go beyond its current regulatory authority.
5. The EIS is designed to evaluate the location of energy resources and infrastructure, including transmission lines. It is also designed to evaluate current land uses, and the environmental impacts of locating energy projects in various areas of the County. While all energy projects have environmental impacts, the northern portions of the County tend to contain more heavily forested habitat, while the southern portions tend to have better energy resources and infrastructure. Because of this, it is possible for the EOZ to be located to take advantage of both energy resources, but also avoid some of the more forested areas of the County. No location will be impact free, but the EOZ can be located with a sensitivity to environmental impacts. To further tailor the location of the EOZ, the Limited Geographic Alternative was developed in response to comments. See General Response #7.

6. See General Response #7.
7. The prospective water supply source is project- and location-specific. The total water demand depends on the type, energy output, and cooling system design for a prospective power plant. For thermal power plants with large water demands, re-allocation of existing water rights is anticipated. The water right transfer application process would require Ecology's detailed evaluation of potential impacts based on the specifics of the existing water right and the proposed use. In addition, consumptive water use permitted under an existing water right could not increase as a result of changing that right to use at a power plant.
8. Instream flow regulations are established by Ecology and would be considered in evaluating water supply options for any prospective power facilities.
9. Section 3.4.4.5.3.2 has been modified to include habitat restoration projects funded by Washington State through the Salmon Recovery Funding Board on Dillacort, Logging Camp and Swale Creeks. See General Response #16.
10. Much of the water used for cooling is closed cycle and is lost through evaporation as opposed to single pass cooling. The volume estimates used in the DEIS are based on the current Goldendale energy project flows. Hence there is typically a much lower discharge volume compared to overall water use. However, the discharge may contain concentrated minerals that are discharged to a sanitary sewer system. The individual sewer treatment plants will have to evaluate the impacts to the plant before approving such a discharge.
11. For thermal plants, actual consumptive water use is a function of the cooling technology employed (e.g. dry cooled, wet cooled, or hybrid). Although it varies, typical consumptive use for thermal facilities is on the order of 80 percent.
12. Identification of existing power transmission infrastructure is a necessary element of the analysis of the potential impacts to transmission capacity as well as identification of potential impacts to habitat through construction of additional ties to the transmission system.
13. See response to B-5 #3.
14. See General Response #5.
15. The Comment period was extended 30 days.
16. Comment noted. See also General Response #1 regarding the public process and General Response #6, which addresses the purpose of the EIS. Also, a comprehensive list of mitigation measures were compiled that can be used to mitigate energy development. These measures may be useful to the public when commenting on future projects.

C-33 Cheryl Davenport

1. See General Response #13.

2. See General Response #9.

3. Comment noted.

C-34 Nelson Grabner

1. Comments noted.

C-35 Ruth Davenport

1. Comments noted.

C-36 M&J Wellmand; C&T Ludwig

1. Comments noted.

2. Comments noted.

3. The DEIS used current information on natural gas emissions, including the revised sulfur dioxide emissions potentially emitted from the Goldendale Energy Project to assess cumulative impacts to air quality. The quality of the natural gas may vary over time, but is likely to be close to what is currently being delivered through the existing pipelines from Canada. Individual air quality permits are required to assure compliance with regional air quality standards, and emission standards will be set to maintain these standards.

4. Comments noted.

5. See General Response #1.

6. Comments noted.

7. The heading in Table 2-1 should read carbon monoxide (CO), not carbon dioxide (CO₂). This has been corrected in the FEIS. The CO value of 84 tons per year is correct and has not changed in the revised permit for Goldendale Energy Project issued August 2003. Carbon dioxide is not regulated under Ecology permitting.

8. Calpine prepared its emission estimates for its permit to construct based on natural gas quality information provided by Williams Energy Company. Natural gas is piped to Washington state primarily from three geographic areas: British Columbia and Alberta, Canada, and from gas fields throughout the western U.S. British Columbia natural gas contains more sulfur than the natural gas coming from Alberta or the U.S. west. Depending on market conditions, the Goldendale energy plant may burn natural gas from British Columbia or gas from western U.S. pipelines. Hence the Goldendale Energy Project revised its permit to reflect this potential, not actual increase in sulfur emissions.

9. Radon in natural gas was not initially considered in the DEIS because it is not a regulated air pollutant under state or federal air quality programs for point-source emissions. Radon is not considered a concern for outdoor air quality because of the

extreme low levels expected in combustion products of natural gas. See General Response #9.

C-37 Rachel Haymon

1. See General Response #7.
2. The DEIS takes a reasonable approach in framing expected development in the County for evaluation. The DEIS assessed the likely number of projects to be sited in Klickitat County. It is correct that although energy development is driven by market demand, the regulatory environment does influence the number of plants that are ultimately built. That is why the DEIS assessed environmental impacts both with and without an Overlay. The County can then make a policy decision on where development should be located and encouraged, and where it should be discouraged, or prohibited. Once the impacts are disclosed, how to regulate development is a legislative decision, rather than a decision made by the drafters of the environmental review documents.
3. The DEIS provides baseline air quality data in Section 3.2.6.1. Baseline air quality conditions are summarized on Graphic 3-6. The Calpine Goldendale energy emissions were used to model cumulative future impacts from gas fired thermal power plants. See General Response #1 regarding radon. Project specific air quality permitting under existing state and federal regulations are protective of air quality standards, which are set to assure public health and safety.
4. A cost-benefit analysis is not required by SEPA (WAC 197-11-450).

C-38 Sarah Burr Arnold

1. The County Commissioners will hold public hearings before adopting an amendment to the County Code. See General Response #5.

C-39 Daniel Lichtenwald

1. In addition to the avian surveys conducted specifically for the DEIS, the DEIS evaluated extensive site-specific analyses conducted for other projects in the County and other comparable habitat areas (see Documents Incorporated By Reference at pages xvi and xvii of the DEIS). Substantial data on avian use previously collected in Klickitat County were summarized in the DEIS. This included data collected for energy projects, Christmas Bird Counts, North American Migration Counts, Breeding Bird Surveys, and Columbia Hills Raptor Surveys. Many of these studies examined raptor use in winter, which were analyzed in the WEST report and considered in the impact predictions. Available information also suggests that this kind of extensive data collection may not be necessary to predict impacts to birds. As stated in the WEST report, an extensive analysis of avian use and mortality data collected at wind plants across the U.S. suggested that baseline avian use data collected during one season (usually spring, summer or fall) appear reasonably adequate for making overall wind plant direct impact predictions (e.g., low, moderate or high relative mortality). Moderate to high correlations between seasonal use estimates and overall use estimates exist for most of the raptor groups considered. Sites can be accurately ranked in terms of use by these groups/species reasonably well based on one season of data. Furthermore, the general results of the new studies corroborated the results from the other data sources.

2. The WEST study does discuss rough-legged hawks in the “Impact Predictions” portion of the “Discussion” Section. That section acknowledges differences in raptor assemblages among seasons, with Swainson’s hawks occurring only in summer and rough-legged hawks occurring only during the winter. Available data from the WEST study as well as other studies in Klickitat County, including winter raptor surveys, show that red-tailed hawks are by far the most abundant buteo in the area. Therefore, it was concluded that because Swainson’s and rough-legged hawks comprise only a fraction of buteo use of Klickitat County, data collected on raptor use in the spring and summer supplemented with the other data sets that have been generated at other projects in Klickitat County should be suitable for assessing relative risk to raptors from turbine collisions for the Programmatic EIS. There is not a defined need to obtain specific data on rough-legged hawks, as there is no documentation at other wind plants that rough-legged hawks are more susceptible to turbine collisions than other buteos. Very few rough-legged hawk fatalities have been found in wind projects in the West, even where they are abundant winter residents.
3. The WEST report does not discuss potential locations where eagles might scavenge on winter kill and road mortality. These locations could likely be predicted based on mapped occurrence of big game winter ranges available from the WDFW and discussions with livestock operators to determine the locations of calving areas. However, available data indicate that eagles scavenging on carcasses would not be highly susceptible to turbine collisions. Bald eagles scavenge much more frequently than golden eagles, and there have been no documented bald eagle collisions with wind turbines anywhere in the country. A high incidence of golden eagle collision mortality has been documented only at Altamont Pass, California, and it is thought most of the collisions occur while eagles are conducting low-level flights to search for and attack live prey, principally ground squirrels. The turkey vulture, another scavenger, is one of the most common large birds observed at several wind plants, yet they do not seem susceptible to turbine collisions.
4. The risk index described in the WEST report is a reasonable approach to predicting risk to birds based on flight behavior and abundance. The index was based on observations of 1,073 flocks of birds containing 2,789 individuals. This sample size is reasonably adequate for describing typical flight heights of birds using the study area, and the results of the analysis are consistent with similar data collected at other wind projects.
5. The WEST report evaluated raptor habitat based on data collected during the study. The report concluded that for all raptor species combined, grasslands and shrub-steppe habitats had slightly higher use than agricultural or forested habitats, but that there were no statistically significant differences in raptor use among the four habitats evaluated. The data also showed that raptor use was significantly higher if the survey plot contained some riparian habitat. The WEST report did not make any conclusions regarding raptor habitat suitability in relation to any preferred project sites.
6. The “forested areas” analyzed in the EIS refer to linear riparian woodlands and small, isolated woodlands dominated primarily by oak. Prairie falcons prey primarily on other birds, and bird densities are usually much greater in and around riparian and other wooded areas than less suitable habitat such as agricultural fields. Therefore, prairie falcons would forage near those areas containing the highest prey densities and would tend not to use areas with lower prey densities such as agricultural fields. It is for these

reasons that prairie falcon use was highest on plots located in or near woody riparian and oak woodlot habitats.

7. See General Response #3.
8. See General Response #8.
9. The comment period was extended an additional 30 days. See General Response #10.

C-40 Craig Ludwig

1. The comment period was extended an additional 30 days.
2. See General Response #9.

C-41 L.D. Robertson

1. Comments noted.
2. Comments noted.
3. The comment period was extended an additional 30 days.

C-42 Jeannie Marshall

1. See General Response #1.

C-43 Victor & Phyllis Clausen

1. See General Response #1.
2. The purpose of the Energy Overlay is articulated in Section 1.3 of the EIS. The Energy Overlay Zone will provide a more consistent policy for siting energy development that is anticipated in the County. See General Response #6.
3. It is not within the scope of the DEIS to evaluate the economic viability of the energy technologies considered, only their impacts. If construction and operation of natural gas fired thermal energy plants is not economically viable, the energy companies will not go forward with construction. However, during the last decade, there has been increasing interest in constructing natural gas fired thermal plants. The DEIS identifies the potential impacts of construction so that they can be managed through an Overlay Ordinance.
4. The DEIS identifies water resources as a potential concern for siting thermal energy facilities in the County and provides extensive information on where these rights exist and are absent. The proposed Overlay Ordinance requires careful consideration of impacts to water quality when permitting an energy facility. Exchanges of existing water rights will also require an impact review by Ecology. As indicated in the DEIS, steady low-volume water use by a thermal power plant may have lower impacts compared to higher volume periodic use associated with agriculture. Also, water used for thermal plants has the potential for recycling for agricultural use.

5. Impacts and mitigation measures on land use and recreation are discussed in Section 3.10. The majority of the recreational impact would be within the Columbia River Gorge National Scenic Area, which is excluded from the Overlay boundaries.
6. The assumption that Klickitat County could provide up to 25 percent of the regional energy needs was a high-end assumption used as a basis for evaluating cumulative impacts. It is not possible to predict future energy needs or how competition from other areas may affect siting. However, based on past project demands for wind and thermal energy in the County, coupled with the unique proximity of gas pipeline and transmission infrastructure as well as areas of abundant potential wind energy, the County anticipates continued energy development in the County. Because the BPA transmits energy throughout the Pacific Northwest and western states, it is appropriate to include these areas in demand projections. BPA and Department of Energy projections of energy demands have inherent uncertainty; however, they are the best available projections of future energy needs.
7. Comments noted. See General Response #5.

C-44 Patricia Arnold

1. See response to comment B-5, #3.
2. Energy costs and markets that drive energy development in the County will continue to be subject to federal policy on many levels including U.S. Department of Energy's national energy policy, Bonneville Power Administration decisions that control regional energy markets and transmission, and Federal Energy Regulatory Commission energy licensing, to name a few. However, the DEIS and proposed Overlay Ordinance provide increased certainty about the siting process in the County, which will provide consistency in the energy development planning. The DEIS found that, without a comprehensive overlay ordinance and planning, energy development in the County will continue to be haphazard and subject to the vagaries of the permitting process as well as the energy markets. Added certainty in the permitting process will provide stability for energy developers and for other business enterprises in the County. A clear understanding of the energy siting process and its safeguards will help all businesses, including outdoor recreational businesses.
3. The DEIS considers impacts to existing land use in the County and provides information for making decisions when permitting energy projects. The proposed Overlay Ordinance will require an expanded checklist that includes identification and mitigation of impacts to land use.
4. See response to comment B-5 #3.
5. The DEIS identifies wetlands as special habitat requiring identification and protection under federal and state law. It also acknowledges that existing inventories in the County may not be complete. The DEIS identifies a site-specific survey as a possible mitigation measure to assure wetlands are protected. The site-specific survey has been adopted in the draft Overlay Ordinance.
6. The FEIS considers a new alternative that would exclude thermal energy development in areas lacking sufficient water resources and areas not near existing gas pipelines,

including the Rattlesnake Creek area. Comments regarding the Lower White Salmon River as a designated Wild and Scenic River are noted. The County has this information and will use it when considering any energy development in this area.

7. The DEIS can only provide general mitigation measures in the absence of site and project-specific information. That is why site-specific study, as proposed in the draft Overlay Ordinance, was identified as a means to overcome this lack of specific information. Additional mitigation suggestions for avian impacts and wildlife impacts were provided by agencies including the Washington Department of Fish and Wildlife. The County may use these suggestions and other current management practices when considering permitting a project.

C-45 Paul Moyer

1. Comments noted. See General Response #5.

C-46 Susan Benedict

1. Comments noted.

C-47 Jesse Burkhardt

1. See General Response #5.
2. Comments noted.

C-48 Diana Pafford

1. Comments noted.

C-49 Daniel Lichtenwald

1. Comments noted. See General Response #5.

C-50 Rachel Haymon

1. See General Response #1.

G-1 Centerville Grange #1

1. Comments noted.

G-2 Klickitat County School District

1. Comments noted.

G-3 Friends of the Columbia Gorge

1. Comment noted.

2. Comment noted. Note that it is typical to show the boundaries of different zones on zoning maps rather than in the text of a zoning ordinance, although the text can provide guidance on boundary locations. This comment can also be made during the legislative process.
3. Comment noted. The County acknowledges that the scale of maps used in the DEIS did not allow this exclusion to be shown, but the County is aware of the area that needs to be excluded. The boundaries of the proposed Overlay are based on a digital map of the Columbia River Gorge National Scenic Area provided by the U.S. Forest Service. At the scale produced in the DEIS, it may appear that some areas surrounding the Dallesport Urban area are included in the Overlay, however they are not. Klickitat County has detailed maps with sufficient scale to be aware of the boundary of the CRGNSA and will use these maps in siting evaluations.
4. The DEIS does not attempt to evaluate the impacts of Oregon and Washington's plans for improving air quality in the CRGNSA because these plans are in the early stages of study and development. Instead, the DEIS relies on Ecology's air permitting process to govern emissions and assumes that future permitting will incorporate standards that reflect the states plans for managing air quality in the Gorge.
5. The Overlay does not supercede existing federal regulation protecting Wild and Scenic Rivers. Wild and Scenic River designations are included in the DEIS. The DEIS and proposed Overlay Ordinance includes provisions to assess project impacts on water resources and cultural resources. Air quality is addressed through the existing Ecology air quality programs.

G-4 Snowden Community Council

1. Comments noted. See General Response #5.
2. See General Response #2.
3. Comments noted.
4. See General Response #11.
5. See General Response #11.
6. See General Response #8. The avian study was conducted to assist with siting only wind power developments. No avian use data were collected near Snowden because it was not within an area designated as Wind Class 3 or higher. A significant number of industrial size turbines is unlikely with current technology.R
7. Comments noted.
8. Comments noted.
9. Comments noted.
10. Comments noted.

11. Comments noted.
12. The Energy Overlay Zone only affects potential energy development. Other industrial siting and development would be evaluated in the same manner as it is today.
13. Specific analyses of the impacts to the Snowden area would be completed when there is a specific proposal for a facility in the Snowden area.

14. Comments noted.

G-5 Klickitat Fire District #12

1. Comments noted.

G-6. Columbia Riverkeeper

1. It is correct that each energy project sited in the County will add to the cumulative environmental impacts. However, where and how a project is sited also influences the degree of environmental impact. If projects are encouraged in areas of generally less environmental sensitivity, and where less infrastructure must be built, and are appropriately mitigated, the total cumulative impacts of development will be reduced. Also, in response to comments, a comprehensive list of alternative mitigation measures was developed, and included in the FEIS, which can be used to further minimize environmental impacts. See also Response to Comment C-37 #2 and General Response #7, which describes a more narrowly drawn subset of the geographic alternative developed in response to comments. See Section 1.2 regarding the total number of energy projects expected to occur.
2. See response to Comment C-32 #5 and General Response #7, which describes a more narrowly drawn subset of the geographic alternative developed in response to comments. See also the list of potential mitigation measures, which was developed in response to comments and is included in the FEIS.
3. See General Response #1.
4. See General Response #5.
5. See General Responses #2, #4, and #5.
6. See General Response #2.
7. Consideration was given in the EIS to the proximity of transmission lines to energy resources. For example, see Section 3.13.2.1, which addresses electrical transmission; attached mapping which shows the location of electrical infrastructure; and Section 2.3.2.
8. See General Response #2.
9. See Section 2.3.
10. See General Response #6.

11. The County has a Critical Areas Ordinance in place. See General Response #14.
12. See General Responses #4 and #5.
13. See General Response #2.
14. See General Response #3.
15. Any energy development proposed within the jurisdiction of the County's Shoreline Program would have to receive all necessary permit approvals, including a substantial shoreline development permit, before beginning construction.
16. See General Response #7, which summarizes the alternatives developed, and revisions made to those alternatives in response to comments.
17. Comment noted.
18. See General Response #7.
19. See General Response #5.
20. The draft overlay ordinance does not authorize nuclear, hydroelectric, diesel, and coal-fire plants. A legislative decision on whether energy uses evaluated in the EIS should be permitted through the EOZ, or other regulatory mechanisms, will be made by the County following FEIS issuance and review by the Planning Commission and the Klickitat Board of County Commissioners.
21. See General Response #4.
22. See General Responses #4 and #5. See Appendix F, Mitigation Summary.
23. The DEIS used current zoning to describe general land uses in the County. However, the commentator is correct that there are some mixed uses within these general land uses because of historical use prior to adopting current land use regulations. These exceptions will have to be considered when actual development proposals are made. Nevertheless, the conclusions about potential impacts used to set general overlay boundaries are still correct. Satellite or aerial photographs would not provide additional information about the historical zoning exceptions in the County.
24. Comments noted.
25. Energy demand projections, by their very nature, are forecasts that are subject to change. The BPA 2000 white book is the most current source of demand projections prepared by experts with the most knowledge about –and interest in– obtaining accurate energy demand forecasts. The variability in the regional energy demands does not change the conclusion that the regional and national energy demands will continue to increase over time. Many of the aluminum plant closures in the region are actually the result of increased regional energy demand, which has driven up energy costs making aluminum production uneconomically feasible. The closure of regional aluminum plants only resulted in shifting the available energy (and jobs) elsewhere.

26. See General Responses #11 and #4.

For the purpose of evaluating environmental impacts, an estimate of the type of quantity of energy development that may occur in the County was developed. Because energy development is driven in large part by market demand, it is impossible to predict exactly how many projects will be built, and when. (See Section 1.4, which notes significant areas of uncertainty of the FEIS.) However, best efforts were made to develop a reasonable estimate. This estimate provides a benchmark for analyzing cumulative impacts. See also response to G-10, #5

27. See General Response #11.

28. See General Response #11.

29. The intention of projecting potential energy development in the DEIS was to provide a basis for cumulative impacts of the proposed Overlay over time. It was not an attempt to provide an economic analysis of the probability of such development in the County. However, because of the County's unique convergence of transmission capacity, natural gas pipelines, and wind energy, these projections are not unreasonable. The projected impacts from the mix of energy technologies projected would decrease if the number of projected energy projects were not developed in the County.

30. The proposed Overlay Ordinance provides additional siting control beyond the jurisdiction of the State's Air Quality permitting regulations. With the Overlay, the County has the ability to avoid siting thermal power plants in locations where existing air quality impacts already exist or in areas subject to poor localized air quality.

31. The DEIS does not claim that the proposed overlay would reduce the number of natural gas plants in the region/county. However, the Overlay would provide greater certainty and information for the siting of alternative energy technologies such as wind power, increasing the overall mix of energy development in the County. Wind and peaking thermal power plants are not necessarily in competition for market share or transmission capacity since they often are complementary. Thermal plants provide peaking power and can make up for demand when the wind is not sufficient to meet power needs. Consumers also have an influence on the type of energy development that will occur by choosing to purchase alternative power through their regional utilities.

32. The air quality cumulative impacts analysis was conducted prior to the knowledge that the Williams Pipeline natural gas sulfur content may be higher than originally reported. The change to the Calpine Goldendale Energy project air permit was made to reflect potential emissions depending on the sources of the natural gas supply, not actual emissions. Nevertheless, the potential cumulative emissions for sulfur dioxide and PM10 was updated in Graphic 3-8 to reflect potential impacts based on Goldendale Energy emissions.

Calpine's Goldendale Energy estimated emissions for carbon monoxide and nitrogen oxides are actually lower than the River Road emissions used to estimate cumulative emissions. To be conservative, the higher emission estimates should be retained in Graphic 3-8. PM10 particulate emissions from the Goldendale Energy project are slightly higher (91 TPY instead of 82 TPY).

Ecology concluded that the higher potential sulfur dioxide emission rates for the Goldendale Energy project are acceptable to meet air quality standards. The increase in projected sulfur dioxide emissions makes a moderate difference in the percent increase of emissions in the County, but based on Ecology's evaluation, is not likely to have a significant impact on air quality. Hence the conclusions regarding cumulative air quality impacts in the DEIS remain unchanged.

33. The regulation of toxic air pollutants such as formaldehyde targets localized impacts in the immediate vicinity of the source. This is because these materials rapidly disperse and breakdown naturally, and have a toxicological dose-response to humans and wildlife. Hence it is not appropriate to consider cumulative impacts for these constituents. However, these impacts would be considered by Ecology during the air quality permitting process and would include existing sources of potential toxics to avoid localized impacts.
34. Graphic 1-1 summarizes mitigation measures that the County has proposed that would supplement existing regulations. Because air quality permitting is the jurisdiction of Washington Department of Ecology, no additional mitigation measures on the part of the County were identified as necessary.
35. The DEIS includes the most current published information for air quality in the region, which is a combination of Ecology and Oregon Department of Environmental Quality monitoring data. Individual air quality permitting by Ecology will likely require additional meteorological studies that would focus on localized effects including existing background conditions. As indicated, under response to comment G-6 #32, the cumulative impacts from the projected number of plants similar to the Goldendale Energy project would represent an 18 percent increase over existing conditions, not the 125 percent projected by the commenter.

Washington Department of Ecology and Oregon Department of Environmental Quality, along with other stakeholders are studying air quality in the Columbia River Gorge National Scenic Area and will recommend changes to regional air quality standards based on the study findings.

36. The purpose of the DEIS is to assess the impacts of the alternatives for the proposed overlay, not existing permitted activities. However, impacts from future projects will be considered by the County and other permitting agencies (Ecology air and water quality permits, for example) in context of the existing conditions.
37. The air quality impact analysis for the CGNSA has to be done on the project-specific basis and on a large-scale regional basis that incorporates all sources including industrial and transportation emissions. There is no specific project to model small-scale impacts in the DEIS, and as indicated in response to G-6 #35, Washington and Oregon are conducting a study of the large-scale regional impacts. The boundaries of the proposed Overlay were not limited by any individual potential impact; however the proposed ordinance requires site-specific evaluations for many types of impacts or relies on existing regulations such as air quality permitting by Ecology.
38. The potential sites for thermal power generation were identified based on available developable land, existing transportation infrastructure, proximity to natural gas supply,

and adequate power transmission and transferable water rights. These factors were evaluated by several contributors to the DEIS. Their areas of expertise and qualifications are provided in Section 6 of the DEIS.

The potential thermal energy siting locations were developed for the purposes of focusing the discussion of water rights in Section 3.6.3.5. The Rattlesnake Creek area should not have been included on this list because it was determined that water resources in Rattlesnake Creek area may be insufficient for thermal power. The FEIS has been revised to delete the Rattlesnake Creek area. The FEIS also includes a new alternative (Limited Geographic Alternative) that specifically limits thermal power plant development to areas that have sufficient water resources.

39. Final siting of any thermal power plant should also consider available developable land, existing transportation infrastructure, proximity to natural gas supply, and adequate power transmission. Siting any thermal project would also be subject to air quality permitting and other site-specific factors required in the proposed Overlay Ordinance.
40. Comment noted.
41. The WRTS data presented were the most current available from Ecology at the time of report preparation. According to Ecology, there are no warranties that the WRTS database records are complete or up to date (the official hardcopy records are kept at Ecology's Central Regional Office). Also note that "business/person name" is only updated by Ecology when some other change to the right is completed.
42. Specific water resource mitigation measures are not proposed, since specific projects are not considered in this EIS.
43. See General Response #8.
44. The purpose of the WEST study was to provide data on avian use of the county by region and habitat. Although no specific recommendations were made for siting future wind developments, the WEST report did summarize avian use and provide impact predictions for several regions and habitats within the county for use by the county in developing the energy overlay.
45. To minimize impacts to birds and bats associated with powerlines, powerlines will be buried when practical based on soil conditions and size of the powerline. Most modern wind plants constructed in the U.S. use buried transmission lines within the wind farm itself. Where it is not practical to bury lines, all transmission lines will be constructed following recommendations of the Avian Power Line Interaction Committee (see APLIC 1994, 1996) to minimize electrocution and collision mortality. Powerlines are not likely to pose a significant hazard to bats. Numerous studies have been conducted to assess effects of powerlines on birds, and only one bat fatality has been found at a powerline in the U.S.
46. The No-Action Alternative does not mean that wind plants or other energy facilities would not be developed. Under the No-Action Alternative, energy developments would still be permitted on a case-by-case basis through the county's conditional use permit process. Therefore, impacts could be greater to birds and bats under the No-Action Alternative. This is because the extensive data and other information used in the DEIS

to develop an energy overlay would not be available to guide selection of the most appropriate locations for energy developments.

47. To the extent that the EIS provides ready access to some of the basic information on environmental resources of the County, it should help to steer projects toward lower impact areas. Of course, the commenter is correct that state and federal environmental protections would be in place with or without the Overlay.
48. See General Response #5.
49. Section 19.39:6 of the proposed Overlay Ordinance includes a requirement for completing an expanded SEPA checklist and mitigation for any identified impacts, including impacts to vegetation and wildlife. Review of these studies may result in additional mitigation. In addition review would be required under the County CAO. Section 19.39:8 B.3 of the proposed Ordinance includes specific mitigation measure for vegetation and wildlife.
50. The noise evaluation conducted as a part of the EIS, as outlined in Section 3.3.1, summarizes impacts of similar sized projects constructed in the Pacific Northwest. The EIS recognizes that the impacts from these constructed facilities will differ from Klickitat County due to site-specific conditions such as proximity to residences, terrain and natural barriers, and other environmental factors.
51. The DEIS did not include analysis of the impacts of various set-back strategies because they would be too site-specific. Instead, the DEIS relies on individual siting evaluations provided in the proposed Overlay Ordinance.
52. Noise measurements are conducted to assess a number of factors including background noise levels and daytime and nighttime noise impacts. Noise levels are regulated by Washington State Department of Ecology (Ecology) through Washington Administrative Code WAC 173-60. Ecology noise regulations are outlined in Graphic 3-10.
53. See Appendix F, Mitigation Summary.
54. See Appendix F, Mitigation Summary.
55. Impacts and mitigation measures on health and safety issues related to each of the energy development types are discussed in Section 3.9.4 and its subsections.
56. See Appendix F, Mitigation Summary.
57. See General Responses #4 and #5.
58. Procedural Alternative 1 does not imply that all areas within the Energy Overlay Zone would be developed with industrial uses. Permitting energy development within the County does change land use in those areas where the facilities are permitted. When compared to the total area of the County, the relative land use change would be small.

Procedural Alternative 2 does not necessarily mean less land use impact on the County as a whole just because there are areas outside the EOZ where energy development would not occur. Facilities would be concentrated within the EOZ.

59. See General Response #12.
60. The 330 acres impacted in the DEIS projection refers to the actual footprint of development and associated transmission/gas lines used in the cumulative impacts analysis. With updated forecasts of energy development in the FEIS, the estimated footprint for the County has been revised to 543 acres. As stated, the mix of energy development technologies could change and these area estimates could change slightly. Even if the areas doubled, the actual impacted area is very small compared to the entire overlay or County.
61. A full economic analysis of the proposed Overlay is not within the scope of the DEIS and is not required under SEPA. The commenter is correct that there could be some loss of agricultural productivity in the County if water rights are transferred from actively irrigated lands to thermal energy production. However, the number of full-time agricultural jobs lost would likely be offset by the full-time jobs associated with the thermal power plant. Moreover, the additional income from wind energy plants on ranchlands may help keep these lands in agricultural use instead of being sold for other development such as residential conversion. Furthermore, re-use of cooling water for irrigation or conversion to dry land farming could help offset the loss of irrigated land caused by water right transfer. Hence, the transfer of water rights for thermal power generation is expected to have little or no significant negative impact on full time jobs in the County.
62. The vegetation and wildlife section may further address your concerns. Fisheries resources are discussed in Section 3.4.4.5. Impacts and mitigation measures for fisheries are discussed in Section 3.4.5 and its subsections.
63. Air quality impacts for gas fired generation projects are further discussed in Section 3.2.3.2.1, noise impacts in Section 3.3.4.2.1. Many of the sections within the EIS are related to others but were not repeated within the document to avoid lengthening the document further.
64. The potential impacts of wastewater effluent on water quality in the Klickitat Basin will be regulated under the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES permit program was established under section 402 of the Clean Water Act. Permits must be obtained for effluent discharge and permittees must verify compliance with permit requirements by monitoring their effluent, maintaining records, and filing periodic reports. Additionally, if the water body is identified on the 303(d) list for temperature, TMDLs will limit the thermal loading of the effluent. Additional mitigation may be required through the County Critical Areas Ordinance, Shoreline Master Program, EOZ, or SEPA.
65. Comments noted. See General Response #4.
66. A full economic analysis of the proposed Overlay is not within the scope of the DEIS and is not required under SEPA. The construction labor force for any energy development in the County will likely be a mixture of temporary labor from within and outside the County. The DEIS concluded that the number of temporary construction workers associated with an energy development project would not overwhelm the County's existing supply of temporary housing because the number of construction workers is relatively small. The Calpine Goldendale Energy Project SEPA expanded checklist projected that up to 150 to

200 workers per day would be at the construction site and up to 40 additional workers would be involved with pipeline and transmission line construction. Information on the number of these workers coming from outside the County is unknown; however, the influx of temporary construction workers did not appear to impact housing availability or cost in the Goldendale area. The Goldendale Energy Project is anticipated to employ up to 24 permanent full-time workers when operating.

67. Comment noted.

68. Comment noted.

69. Comments noted.

70. Please see the response to G-6 #47.

71. Your comment regarding the EIS remaining on file for future projects is noted.

The main determining factor for visual impacts is siting (especially clustered together), not necessarily the total number of facilities constructed.

72. The geographic alternative was developed using information on existing infrastructure, sensitive habitat and species, and areas under governmental management. The boundaries were established to reduce the impact on sensitive areas while using the existing infrastructure. The No-Action Alternative would not require energy project development within the geographic boundaries of the proposed overlay, therefore potentially increasing the impact on sensitive environments.

73. Procedural alternative 1 and the No-Action Alternative both allow energy development outside the boundaries of the proposed overlay. The impacts on transportation, such as new road development and existing road improvements would be similar in these areas.

74. Comments noted.

75. Without project specific information, it is not possible to evaluate the exact distances, paths, and impacts from gas and transmission line connections to existing power and pipeline corridors. As discussed in Section 3.4.6.1, the DEIS assumes that approximately 83 acres of land would be impacted by new roads, pipelines, and transmission lines. The DEIS also acknowledges that additional transmission capacity will be needed in the existing system; however, this additional capacity would likely be added to existing corridors with minimal long-term additional impacts. As discussed in section 3.13.2.1, BPA is planning to expand transmission capacity in the region to help meet additional transmission demand.

76. The mitigation measures suggested in section 3.13.4.2.1.2 are valid and should be considered by the County when evaluating project siting. Planned expansion of BPA and Klickitat PUD capacity will also help alleviate transmission capacity constraints. In reality, generation projects will not be developed unless there is adequate transmission capacity. The need for additional generation and transmission capacity is market driven; therefore, no additional external mitigation measures are necessary.

77. See Appendix F, Mitigation Summary.

78. See General Response 4. Section 1.4 of the EIS acknowledges that there is uncertainty about the number and type of energy projects that could occur in the County.
79. Energy proponents cannot violate state or federal laws because of the EOZ. Individual projects will have to show compliance with those laws during the site-specific SEPA review before they receive approval from the County for their project. See General Response #4 and #5.
80. See General Responses #4 and #2.
81. See General Response #1.
82. See General Response #1.
83. SEPA does not require a Preferred Alternative. When the County Commissioners act on the proposed amendment to the County Ordinance, they will choose an alternative based on the information presented to them from the EIS, public input, and any other sources of relevant information available to them.
84. See General Response #10. The amount charged for the DEIS was necessary to recoup the costs of reproduction. The County is authorized to determine the amount necessary to reimburse the agency for its actual copying costs. The DEIS included well over 400 pages, including the attached appendices, and over 30 pages of oversized fold outs, including colored mapping, and a notebook. The amount necessary to recoup reproduction costs for each document was \$100, as published in the DEIS. In the alternative, several copies were available for public review, and the CD was available for \$5.00.
85. See General Response #1, regarding public comment. SEPA requires that notice of DEIS issuance be published in a paper of general circulation. The notice provided by the County went beyond this requirement. The County provided notice to three separate newspapers (the Klickitat County Monitor, Goldendale Sentinel and White Salmon Enterprise):
- Notice of DEIS issuance and notice of the August 26, 2003 DEIS hearing was published in the County Monitor on August 4, 2003.
 - Courtesy notice of DEIS issuance and of the August 26, 2003 DEIS hearing was provided to the Goldendale Sentinel and White Salmon Enterprise on August 5, 2003.
 - Notice of the extended comment period on the DEIS was provided to all three newspapers. Publication occurred in the Klickitat County Monitor on September 17, 2003, and in the While Salmon Enterprise and Goldendale Sentinel on September 18, 2003.
- In addition, numerous newspaper articles and editorials about the DEIS were published in July and August of 2003.
86. This issue is outside the scope of the EIS.

87 The public comment period on the DEIS was extended. See General Response #1. The DEIS compiled extensive information about energy resources and their environmental impacts. However, efforts have been to simplify and shorten the FEIS. Revisions were made throughout to make it an easier read.

G-7 Columbia Gorge Audubon Society

1. See General Response #3.

G-8 Klickitat Trail Conservancy

1. Comments noted.

2. Comments noted.

3. Comments noted.

G-9 Renewable Northwest Project

1. Comments noted.

2. See General Response #5.

3. See General Response #5.

4. Comments noted. The Washington Department of Fish and Wildlife wind power guidelines can be used in evaluating appropriate mitigation.

5. Comments noted.

6. Comment noted. Note that the draft comprehensive plan policies and development regulations will be reviewed during the legislative process and public comment can be submitted to the County during that process. See General Response #1. Also, see Section 3.2.3.2 of the EIS, which addresses the climate change issue.

7. All proposed energy development projects in the County will be required to submit the studies cited in 19.39:6.A.3 as part of their Expanded Checklist; unless it can be shown that a specific study is not applicable or unnecessary (19.39:6.A.7).

8. Yes, additional studies beyond those identified in 19.39:6 may be required as part of the environmental review process. The level of detail and type of studies that may be required will depend upon specific characteristics of the proposed facility at a specific site, and the County cannot predetermine what that will entail until a specific facility is proposed.

9. Comments noted.

G-10 Stoel Rives

1. Comments noted.

2. See General Response #2.
3. Comments noted.
4. Uses are subject to the requirements of the zone in which they are located. However, the zoning code could provide that the construction of accessory or supporting uses outside the EOZ are permitted outright where necessary to support energy facilities sited within the EOZ. This comment may be more appropriately directed to the legislative process, although the EIS did consider the impacts of energy facilities whether developed inside or outside the EOZ.
5. See response to G-6, #26. The number and size of the wind energy projects projected for the County are based on the level of current and planned projects in the region. These estimates were increased during the preparation of the DEIS, which led to inconsistencies in the projections that were erroneously not reconciled. The wind energy cumulative impacts analysis should not be construed as a limiting factor on the number and size of wind production plants in the County because impacts can be assessed on a case-by-case basis, including revising cumulative impacts analyses, through the proposed Overlay Ordinance. However, because some comments on the DEIS expressed concern that the original estimates in the DEIS for energy development could be low, these estimates were revised. Potential energy development over a standard 20-year planning period, rather than a shorter 15-year period were developed. Wind development potential was boosted to a potential of 1,000 MW and potential natural gas development was boosted to 1,750 MW. These revised figures provide for the evaluation of a worst-case scenario of energy development potential. The revised estimates do not mean that this development will definitely occur. However, these figures were developed to address concerns that energy development not be underestimated.
6. The FEIS has been updated to address impacts of a combination of projects with total capacity of 1,000 MW in the County based on the latest demand projections for wind energy in the region.
7. Comment noted. The energy forecast has been revised for the FEIS.
8. See Response to G-10, #6. While estimates for expected energy development have been increased, as explained in Response to G-10, #6, if these estimates are met, that does not mean that the EIS can no longer be relied on for purposes of environmental review. If such estimates are met, the County would, during SEPA review of proposed projects, assess the cumulative impacts of such projects. It is expected that this EIS will be relied on in conjunction with the environmental review of individual projects as they are applied for. This will ensure that the environmental review for all projects remains current. The County could also elect to prepare a Supplemental EIS.
9. Comment noted.
10. The County recognizes that other energy development activity can result in much more significant habitat loss and degradation than wind power development. For example, a review of avian collision mortality associated with buildings, communication towers, vehicles, and other factors found that these structures may result in 100 million to over 1 billion avian fatalities per year in the U.S. In contrast, it was estimated that wind power

development would result in 10,000 to 40,000 avian deaths per year (see Erickson et al. 2001). In comparison to habitat impacts associated with subdivisions, highways, extractive energy developments and many other forms of development, wind power development has far fewer impacts because the footprint is small in relation to the total area within the development, and land uses that existed prior to development can continue following development. As a result, although there may be some habitat degradation associated with wind power development, many of the birds and other wildlife that inhabited the area prior to development can continue to use the area after development. In contrast, many other forms of development result in complete loss of wildlife habitats.

G-11 Klickitat Citizens Council

1. Comments noted. The comment period was extended by 30 days.

G-12 Lower Columbia Basin Audubon Society

1. See General Response #3.

G-13 Admiralty Audubon

1. See General Response #3.

G-14 Columbia Riverkeeper

1. See General Response #2.
2. See General Response #7, which summarizes the alternatives discussed in the FEIS. In response to comments, a subset of the geographic alternative was developed for biomass and natural gas resources. This alternative would limit the application of the Overlay for these resources to a smaller portion of the County.
3. Section 1.2 has been revised to read that the energy projections are based on having the proposed Overlay. It is very difficult to predict energy demands and the mix of technologies that will be used to meet them. The draft Overlay Ordinance has provisions for flexibility in project impact assessment to react to changes in the size and types of proposed development. The DEIS provides information and methods for assessing these impacts, but are not intended to cover all potential future impacts or limit the number or types of projects allowed in the County under the Overlay. See Response G-10 #6.
4. Comments noted.
5. The DEIS analysis assumes up to 83 acres in the county could be impacted by infrastructure development (roads, transmission lines, pipelines) associated with the Overlay. These impacts were included in the cumulative analysis for habitat and cultural resources impacts.
6. See General Response #1.

G-15 Audubon Society of Portland

1. See General Response #3.

G-16 Columbia Gorge Audubon Society

1. See General Response #3.

G-17 Central Basin Audubon Society

1. See General Response #3.

G-18 Lane County Audubon Society

1. See General Response #3.

G-19 Seattle Audubon Society

1. See General Response #3.
2. The WEST report estimated annual numbers of expected raptor fatalities per turbine for various regions within the energy overlay. On average, it was predicted that annual raptor mortality would average 0.06 per turbine west of Rock Creek and less than or equal to 1.5 miles from the Columbia, and 0.02 per turbine east of Rock Creek and greater than 1.5 miles from the Columbia. Using the 1,000 MW of wind energy predicted for the county (500 MW west of Rock Creek, 167 MW east of Rock Creek), and assuming 1.5 MW turbines, estimated annual raptor mortality would be 33 per year for the 1,000 MW of wind power development. It is unlikely that this low level of mortality would result in any long-term population consequences for raptors within the county.

G-20 Washington Audubon

1. See General Response #3.

G-21 Tahoma Audubon Center

1. See General Response #3.

G-22 Kittitas Audubon Society

1. See General Response #3.

Klickitat County Energy Overlay Draft EIS

Public Hearing

August 26, 2003

H-1 Dawn Stover

1. See General Response #2.
2. There is nothing in the DEIS that encourages fossil-fuel energy facilities over renewable energy sources.
3. The DEIS identifies potential impacts of various energy technologies and proposes a number of mitigation measures that could be used to minimize impacts to the environment. When a specific project is proposed at a specific site, further site-specific environmental review may identify additional mitigation measures to minimize impacts on the environment.
4. The purpose of an EIS is to evaluate potential environmental impacts of a range of alternatives.
5. See General Response #5.
6. See General Response #2.
7. See General Response #7.
8. The DEIS assumes that the energy overlay may increase the overall number of projects within Klickitat County; however, the objective of the overlay is to site these projects in locations that minimize environmental and infrastructure impacts. Because of the proximity to gas transmission and electrical transmission resources in the County, gas-fired thermal projects are likely to be sited in the County with or without the overlay. The overall impacts to the County would be decreased through the comprehensive siting process of an overlay.
9. Comments noted.

H-2 Jay Letto

1. The proposed energy overlay ordinance includes several provisions to assure site-specific evaluation of the potential impacts of energy development. These include:
 - Compliance with existing Critical Areas Ordinance
 - Completing a project-specific expanded checklist consistent with SEPA
 - Conducting site-specific studies for impacts to habitat/wildlife (including avian impacts), cultural resource impacts, and stormwater quality
 - Consulting with County Planning regarding the project

The Ordinance also includes many specific provisions regarding setbacks, structure height, noise limits, air quality, protection of vegetation and wildlife, stormwater management, control of geologic and flood hazards, impacts to water resources, evaluation of cultural resources, preservation of visual resources, and assurance of public safety.

These requirements will assure that energy facilities will be sited within the Overlay in locations with the least environmental and social impacts. See General Response #2.

2. The proposed regulations for an energy overlay include a minimum distance of 200 feet from any existing residential structure. This is only one of many criteria that control siting of an energy facility. The proposed ordinance requires an expanded project review checklist that also includes environmental impacts, air quality impacts, land use compatibility, and aesthetic impacts consistent with the SEPA Checklist required under Title 20 and Chapter 197-11 WAC. See General Response #1.
3. See General Response #5.
4. See General Response #1.
5. An economic analysis was not conducted in conjunction with the EIS because it is not required. However, water rights transferred from agricultural use to thermal power generation is not anticipated to cause a net loss of jobs in the county for the following reasons: Agricultural work tends to involve a small number of permanent laborers and seasonal itinerant workers whereas power plant jobs, while also not numerous, are permanent and generally have higher pay scales. Higher paying jobs tend to create economic stimulus in the region through greater demand for support services and discretionary spending. Less water-intensive agricultural practices such as dry land farming and cattle grazing can continue after transfer of water rights. The increased tax base from power projects helps stimulate the local economy creating additional jobs.
6. The EIS evaluates potential impacts of the proposed action, and does not dictate policy or zoning. The results of the impacts analysis were used by the County to develop an ordinance to mitigate the identified impacts. The proposed ordinance does address all impacts identified in the DEIS, and proposes mitigation measures to address site-specific concerns. See General Response #2.

H-3 Cheryl Davenport

1. Comment noted.

H-4 Tim Young

1. The comment period was extended by 30 days to provide additional time for review.
2. See General Responses #2 and #5.
3. The construction of wind farms on agricultural land facilitates the continuation of using the land for agricultural purposes. Wind farms have helped many farmers maintain their business practices by providing supplemental income.

4. Calpine's Goldendale Energy Project was considered in the DEIS and was used as an example for emissions, footprint, and other potential impacts for future thermal energy developments throughout much of the analysis. Calpine Goldendale Energy impacts are specifically discussed in sections:
 - 3.2.3.2.1
 - 3.13.2.1.2.3
 - 3.13.2.2
 - 3.13.4.2.2.1
5. The DEIS assumes that energy demands in the region and in the western U.S. will increase over time with population growth. Increased energy demands will place increasing pressure on the BPA to maximize output of its dams, leaving less water to spill to benefit fish out migration. Alternative sources of energy to hydropower will help relieve some of the increased energy demand, giving BPA more latitude in balancing energy and environmental needs. This should result in a net benefit to fish migrating through the dams. See General Response #17.

H-5 Mike Wellman

1. See General Response #9.

H-6 Jean Wellman

1. See General Response #9.

H-7 Ty Ross

1. See General Response #9.
2. Comment noted.
3. Please see General Response #9.
4. The EIS limited the number of energy technologies in the evaluation to those likely to be considered within the County and with impacts that could be mitigated. However, a broad spectrum of energy technologies was considered, and the impacts could be extended to include additional alternative energy sources. Energy technologies were selected based upon feasibility and available resources. For instance, geothermal energy was not considered because there are no known viable geothermal resources in the County that are sufficient to commercially generate energy. The impacts of thermal power plants are sufficiently generalized to include plants powered by manure and other sources of biomass. Alternatives evaluated include allowing development of any energy technology through the conditional use process.

H-8 Bill Weiler

1. See General Response #5.

2. The purpose of the WEST study was to provide data on avian use of the county by region and habitat. Although no specific recommendations were made for siting future wind developments, the WEST report did summarize avian use and provide impact predictions for several regions and habitats within the county for use by the county in developing the energy overlay.
3. The environmental impacts of siting energy development in the Klickitat Mill and Swale Creek areas would be considered through the individual project siting review process. In the absence of a specific project, it is not possible to evaluate specific impacts to these areas in the DEIS; however, the impacts to fish habitat and water are considered in general, and the analysis includes information on the sensitive species and restoration efforts in this area. The impacts to water resources and habitat will be a consideration in any energy facility siting in these areas.
4. The EIS provided a few general examples of the types of wind energy mitigation measures that could be implemented to offset impacts because there are no site-specific projects being evaluated. Individual projects will likely propose many specific mitigation measures that will draw upon the experience of existing wind plants and emerging technologies.

H-9 Rachel Haymon

1. See General Response #5.
2. Positive indirect effects during construction phase of projects can include support of local businesses, especially when local services, labor, and materials are used. County-wide direct impacts can accrue in forms of road improvements, law enforcement enhancement, and library funding enhancements due to increased revenue by the taxing district.

Negative impacts and potential mitigation measures are discussed in Section 3 of the EIS.

3. See General Responses #1 and #5.
4. See General Response #7 and response to C-9 #4.
5. See response to C-9 #5.
6. See General Response #7 and response to C-9 #6.
7. See General Response #8.
8. Comments noted.
9. Comment noted.

H-10 Pat Arnold

1. See General Response #1.

2. See response to C-10 #2.
3. See response to C-10 #3.
4. The energy overlay ordinance does not supercede the County's Critical Areas Ordinance. Development will not occur in critical areas without proper study and mitigation. The Energy Overlay Zone considered in the DEIS sets the overall boundaries of the overlay zone within the County; however, many areas will be excluded through the individual project review process from development based on Critical Areas, land use, and other factors.
5. See General Response #1 and response to C-10 #5.

H-11 Daniel Lichtenwald

1. The County produced and distributed copies of the DEIS to libraries in White Salmon and Goldendale as well as distributed numerous electronic copies. It also made paper copies available to agencies and individuals upon request. The distribution of the DEIS exceeds the distribution and public notice requirements under Washington SEPA regulations (WAC 197-11-455).
2. The comment period was extended by 30 days to allow additional time for review.
3. In addition to the avian surveys conducted specifically for the DEIS, the DEIS evaluated extensive site-specific analyses conducted for other projects in the County and other comparable habitat areas (see Documents Incorporated By Reference at pages xvi and xvii of the DEIS). Substantial data on avian use previously collected in Klickitat County were summarized in the DEIS. This included data collected for energy projects, Christmas Bird Counts, North American Migration Counts, Breeding Bird Surveys, and Columbia Hills Raptor Surveys. Many of these studies examined raptor use in winter, which were analyzed in the WEST report and considered in the impact predictions. Available information also suggests that this kind of extensive data collection may not be necessary to predict impacts to birds. As stated in the WEST report, an extensive analysis of avian use and mortality data collected at wind plants across the U.S. suggested that baseline avian use data collected during one season (usually spring, summer or fall) appear reasonably adequate for making overall wind plant direct impact predictions (e.g., low, moderate or high relative mortality). Moderate to high correlations between seasonal use estimates and overall use estimates exist for most of the raptor groups considered. Sites can be accurately ranked in terms of use by these groups/species reasonably well based on one season of data. Furthermore, the general results of the new studies corroborated the results from the other data sources.
4. The "forested areas" analyzed in the EIS refer to linear riparian woodlands and small, isolated woodlands dominated primarily by oak. Prairie falcons prey primarily on other birds, and bird densities are usually much greater in and around riparian and other wooded areas than less suitable habitat such as agricultural fields. Therefore, prairie falcons would forage near those areas containing the highest prey densities and would tend not to use areas with lower prey densities such as agricultural fields. It is for these reasons that prairie falcon use was highest on plots located in or near woody riparian and oak woodlot habitats.

5. One of the goals of the EIS is to identify locations for wind turbines where the best wind resources are and to consider the environmental impacts of locating turbines in those areas. There is not necessarily a correlation between the location of high wind areas and sensitive bird populations. Nevertheless, in areas where wind resources are likely to attract development, avian issues are always a consideration. Because of this, an extensive review of the probable, significant impacts to bird populations within the EOZ area has been completed. With appropriate siting and mitigation, impacts can be minimized so that they are not significant. See General Response #3 and General Response #8.
6. A variety of factors were considered when identifying appropriate areas for wind development. The primary limiting factor is the average annual wind speed which must be sufficient to make a project economically feasible. Other factors are also considered including land use, accessibility to transmission lines, willingness of landowners, etc. With regard to siting wind plants in areas that raptors use, please see General Response #3 regarding wind power development within the Columbia Hills IBA.

Literature Cited

APLIC (Avian Power Line Interaction Committee). 1994. Mitigating bird collisions with power lines: The state of the art in 1994. Edison Electric Institute, Washington, D.C.

APLIC (Avian Power Line Interaction Committee). 1996. Suggested practices for raptor protection on powerlines: The state of the art in 1996. Edison Electric Institute/Raptor Research Foundation, Washington, D.C.

Erickson, W.P., G.D. Johnson, M.D. Strickland, K.J. Sernka, and R.E. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States. Prepared for the National Wind Coordinating Committee. Available at <http://www.west-inc.com>

7. A section describing the Columbia Hills Important Bird Area has been added to the FEIS as follows:

Washington Audubon has designated much of the southwestern portion of Klickitat County as an Important Bird Area (IBA). An IBA is a site that provides essential habitat for one or more species of birds. The primary goal of the IBA program in Washington is to identify and describe areas essential for sustaining wild bird populations in the state. The aim is to provide landowners and managers, planners, developers, regulators, conservationists, and other interested parties with reliable information on where the birds are to support sound land use and management decisions (Cullinan, T. 2001. Important Bird Areas of Washington. Audubon Washington, Olympia). The Columbia Hills IBA extends approximately 41 miles from the Klickitat River eastward to Rock Creek, and north from the Columbia River approximately 6.25 miles. It encompasses 125,390 acres. The IBA excludes the Dallesport airport and the developed areas along State Route 14. According to Cullinan (2001), hundreds of raptors of 13 or more species, including bald eagle and peregrine falcon, have been recorded in winter. The IBA also contains five prairie falcon aeries, at least three golden eagle nests, Swainson's hawk

nests, nesting and wintering Lewis's woodpeckers, grasshopper, Brewer's and Harris's sparrows, and long-billed curlew. Over 2,000 waterfowl have been recorded at Swale Creek wetlands in winter. The criteria used to establish the IBA include the following:

Criteria 1: Site for endangered or threatened species, or species of special concern in Washington.

Criteria 3: Site containing species assemblages associated with a representative, rare, or threatened natural community type in Washington.

Criteria 5a: Over a short period of time during any season, at least 2,000 waterfowl regularly concentrate

Criteria 5e: A winter concentration area used by at least 100 raptors.

With regard to energy development within the IBA, the WEST study did show higher raptor use of the IBA and other areas west of Rock Creek than areas east of Rock Creek. However, the raptor collision impact predictions in the report did not indicate wind power developments in the area west of Rock Creek would result in substantial raptor mortality. Assuming 150 MW of wind development in this area using 1.5 MW turbines, impact predictions from the WEST report indicate that this level of development would result in approximately 4 raptor fatalities per year.

8. The WEST report estimated annual numbers of expected raptor fatalities per turbine for various regions within the energy overlay. On average, it was predicted that annual raptor mortality would average 0.06 per turbine west of Rock Creek and less than or equal to 1.5 miles from the Columbia, and 0.02 per turbine east of Rock Creek and greater than 1.5 miles from the Columbia. Using the 1,000 MW of wind energy predicted for the county (500 MW west of Rock Creek, 167 MW east of Rock Creek), and assuming 1.5 MW turbines, estimated annual raptor mortality would be 33 per year for the 1,000 MW of wind power development. It is unlikely that this low level of mortality would result in any long-term population consequences for raptors within the county.
9. The windpower scales used in the EIS and the WEST report were derived from different sources. The source the WEST report relied on had wind class 6 as the highest wind site. Therefore, the WEST survey covered the windiest areas of the county.
10. According to existing state and federal air quality regulations, each thermal plant will require individual air quality impact analysis and permits for any air emissions. Ecology and EPA are responsible for setting regional air quality standards and assuring that construction of new sources does not impact regional air quality through the permitting process. Potential localized impacts, such as possible air inversions in the town of Klickitat would be considered by Ecology through the air permitting process. Section 3.2.3.2.1 of the DEIS includes a discussion of the revision of the potential maximum sulfur dioxide emissions from the Calpine Goldendale facility. Ecology reviewed the potential increase and determined that it would not impact air quality.
11. The risk index described in the WEST report is a reasonable approach to predicting risk to birds based on flight behavior and abundance. The index was based on observations of 1,073 flocks of birds containing 2,789 individuals. This sample size is reasonably adequate for describing typical flight heights of birds using the study area, and the results of the analysis are consistent with similar data collected at other wind projects

H-12 Sonja Ling

1. Comment noted.
2. Comment noted.
3. See General Response #5.
4. Comment noted.
5. Limited socioeconomic impacts were addressed within the EIS (Section 3.11). However, a detailed economic study was not completed as part of the EIS and is not required under SEPA regulations.

H-13 Lance Powers

1. Comment noted.
2. Comment noted.
3. See General Response #5.

H-14 Chris Connolly

1. As discussed in Section 3.11.2, power-generating facilities create the most jobs during the construction phase. It was recognized in the EIS that energy facilities are generally not large employers.
2. Comment noted.
3. Comment noted. See also General Response #7 which summarizes a narrower geographic alternative. Note that wind energy development is typically compatible with agricultural and ranching uses.
4. See General Response #7 which explains that in response to comments, mitigation alternatives have been elaborated on. Note that the EIS does not dictate the language of any particular mitigation that may be required. That is why the document does not use words that imply that it somehow is “requiring” a certain type of mitigation. The decision on what mitigation will be imposed is made during the legislative and permitting processes. See General Response #1, which addresses the legislative process.
5. See General Response #7 and C-2, #11.
6. See response to H-4 #4.
7. At the time that the DEIS was prepared, the fate of the Goldendale aluminum smelting plant was uncertain. Energy demands projected by BPA may have included some smelting in the region; however BPA’s 2000 projections did note a downturn in regional energy demands for aluminum production. Moreover, many aluminum plants have closed or suspended operations because it is more profitable to resell the energy

because of higher regional and west-coast energy demand. Hence, overall projections for energy demand have not been greatly affected by closure of aluminum plants in the Pacific Northwest.

8. The DEIS does not site any specific locations as preferred locations. It does include the Rattlesnake Creek area within the overall boundaries of the Energy Overlay. Additionally the FEIS considers an alternative (Limited Geographic Alternative) that would exclude energy technologies that require water (e.g., thermal power plants) from areas that lack adequate water resources. Under this alternative, thermal energy development would be excluded from the Rattlesnake Creek area.
9. Transfer of water rights from agricultural use is an option since agricultural use comprises the vast majority of water use in the county. For any water right transfer to occur, the owner of the water right must be willing to complete the transfer. Furthermore, any water right transfer must meet the standard of being in the public interest, which is a determination made by Department of Ecology in processing of an application for water right change.
10. There is no guarantee that all economic benefits of the overlay will remain in the County. Construction and permanent employees may reside and spend money outside of the County. However, the tax base generated by energy project will remain and cycle through the County, and the majority of the permanent employees of the energy facilities will likely reside in the County. Furthermore, the development of wind energy on ranch land will help maintain the ranching lifestyle and potentially reduce the migration of the next generation of ranchers and farmers from the County to larger cities looking for alternative employment.
11. The U.S. Department of Energy and private energy concerns indicate an increasing reliance on natural gas as a fuel source for electric power generation. This energy policy is largely based on the relative availability of Canadian and US natural gas sources and the fact that natural gas fired thermal plants are the least polluting compared to coal or other fossil fuels. The DEIS assumes that, as demand for natural gas increases in the U.S., supplies and transmission capacity will have to increase to keep up with market demand.
12. Comment noted.

H-15 Brett Gray

1. Comment noted.

H-16 Dan Hactor

1. Comment noted.
2. Comment noted.
3. Comment noted.

H-17 Ken McKune

1. Comment noted.

H-18 Louis Cosner

1. See General Response #13.
2. Comment noted.
3. Comment noted.
4. Comment noted.

H-19 Jim Miller

1. Comment noted.

H-20 Bruce Cameron

1. Comment noted.
2. Comment noted.

H-21 Rich Randall

1. Comment noted.

H-22 Diane Gadway

1. The DEIS concluded that there does not appear to be sufficient water resources to develop thermal energy in the Rattlesnake Creek area. The FEIS includes a new alternative (Limited Geographic Alternative) that would exclude thermal energy development from areas that lack sufficient water resources. Under any alternative except the No-Action Alternative, site-specific conditions and impacts will be evaluated under the proposed Overlay Ordinance and through other permitting processes such as air quality and water quality permits.

H-23 G.E. Paul

1. Because this is a programmatic EIS, there are no specific projects that can be used to study air impacts. The EIS considered thermal power plants similar to the Goldendale Energy Project may be constructed in the County to assess overall air quality impacts; however, localized siting effects cannot be evaluated at this time. EIS relies on the knowledge that Ecology and the applicant will evaluate localized impacts under the individual air contaminant permitting process when a specific project is proposed at a specific site. The permitting of individual thermal power plants will include assessment of existing air quality standards.
2. See response to H-23 #1.

H-24 Chad Ross

1. Comment noted.