NATURAL GAS AND HAZARDOUS LIQUID PIPELINE BACKGROUND REPORT

Whatcom County, Washington October, 2001

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Natural Gas and Hazardous Liquid Pipelines Background Report

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Within a 28 month period from February 1997 to June 1999, Whatcom County experienced two major pipeline ruptures from the Northwest/Williams natural gas line and the Olympic petroleum fuel line. In each accident, the product from the rupture ignited and caused extensive harm to the community and environment of Whatcom County. The petroleum fuel line rupture occurred at Whatcom Falls Park in Bellingham and resulted in the fatalities of two boys and a young man.

In response to these occurrences and as there were proposals made for the construction of natural gas and petroleum products transmission lines where none existed, the Whatcom County Council imposed a moratorium on all new pipeline facilities, and formed the Utilities Planning and Advisory Committee to, along with other utility-related tasks, address the issues of regulating and siting pipeline facilities within the county.

The Federal Department of Transportation through the Office of Pipeline Safety is the regulator of interstate natural gas and hazardous liquid pipelines. The Federal Energy Regulatory Committee has authority to site interstate natural gas lines. State and local safety provisions regulating interstate pipelines are expressly preempted by federal jurisdiction, with the exception that the state is allowed to increase safety standards on intrastate pipelines. A recent development has been new legislation that allows Washington's Utilities and Transportation Commission authority to conduct inspections for the Office of Pipeline Safety.

The general rule from the federal regulations and case law on the subject is that state and local governments are preempted from imposing any safety regulations on interstate pipeline operators. However, other requirements may be imposed, such as franchise restrictions, and user fees, so long as they do not create a conflict with OPS safety regulations. The questionable part is whether these other requirements can be imposed against *interstate* lines, as federal cases in this area is scant.

Whatcom County can impose regulations upon landowners or developers that have pipeline easements on or near their property. These regulations can lessen the risk of third party damage to a pipeline. In particular, setbacks, restricting allowable uses on and adjacent to pipeline easements, identifying pipelines on building site plans, and notification requirements before construction are mechanisms that the County could employ to reduce the potential for another devastating pipeline rupture. In addition, nothing stops the County from establishing guidance for siting new pipelines, the difficulty is that local policies and regulations lack enforcement capability on proposals permitted by federal or state agencies.

Additionally, this report explores Whatcom County's current situation with regard to demand for pipelines. With anticipated increasing demand for natural gas, it is expected that the pipeline infrastructure will need to be increased in the near future. Economic impacts of pipelines on property values are discussed with somewhat surprising results, including property sales adjacent to the Olympic pipeline, in the area damaged by the

explosion. Owners of land near the pipeline explosion did not experience a negative stigma from the pipeline. Throughout the report, recommendations are made for improving safety for County residents adjacent to existing and future pipeline proposals.

Here is a quick summary of the majority of proposed recommendations. The complete set of recommendations are found at Appendix B.

***Regarding Safety*:** require complete updated information to accompany any proposal; pipeline safety/one-call educational programs; encourage following existing corridors; seek comments on development near pipelines from pipeline companies; require pipeline vicinity disclosures on parcels near existing pipelines; keep Whatcom County's Division of Emergency Management's information up-to-date.

***Regarding Adjacent Uses*:** recommend minimum distances from critical and high occupancy facilities; encourage siting in agricultural and forestry resource land; discourage siting in urban growth areas, towns, and cities.

***Regarding the Environment*:** require full mitigation of hazard for crossing critical areas, or site alternate routes; ensure siting in accordance with shoreline, and wetland regulations; hazardous liquid pipelines shall not be closer within a 10-year rate of travel from wellhead protection areas; and restrict pipelines in high-risk landslide zones.

***Regarding Supply and Demand*:** encourage high efficiency and energy conservation.

***Regarding the Impacts to the Community*:** require several meetings as requirements for shorelines and land use permits when siting new lines, encourage meetings in multiple formats; require that significant local or regional benefit be shown; require a pipeline company to provide funds for a presentation to inform landowners of their rights in negotiation and about the process of eminent domain.

***Regarding Franchise Agreements made with the Pipeline Company*:** have the County carefully scrutinize all proposed franchise agreements and to review and evaluate model franchise agreements for provisions to be incorporated into negotiation discussions regarding proposed provisions in the franchise agreement.

A. INTRODUCTION

Whatcom County is uniquely situated in Washington as a gateway for natural gas and crude oil from Canada to the Western United States. Natural gas is received from gas fields in Alberta, and the Sumas entryway is the primary route to transport this product to the Western United States via 26" and 30" lines. Oil is received via a pipeline owned by Trans Mountain Oil Pipeline Corporation, which also crosses into the county at the Sumas border. The county is part of a regional energy market that includes all of the Pacific Northwest states, extends into Canada and continues south as far as Arizona. Since transmission pipelines cross jurisdictional boundaries, decisions on siting must be made in cooperation with planning bodies in adjacent counties and in British Columbia.

County Council re-established the Whatcom County Utilities Planning and Advisory Committee (UPAC) on June 27, 2000. UPAC's purpose is to ensure the protection of public health and safety and the environment, and also preserve custom, culture, and economic stability, when new electric, natural gas, and petroleum transmission facilities are proposed.

Two pipeline ruptures in Whatcom County prompted the County Council to direct UPAC to address the issue of pipeline siting in Whatcom County. As a bit of background, a Williams natural gas pipeline ruptured from a landslide and ignited near Everson 1997 causing property damage to the surrounding area. However, the most devastating occurrence happened in 1999 when an Olympic petroleum product pipeline ruptured in Whatcom Falls Park, killing two children, a young man, and causing extensive property and environmental damage when around 250,000 gallons of gasoline spilled and ignited. In response to these events, the fact that the County's land use regulations at the time did not provide sufficient criteria for evaluating the siting of transmission pipelines, and there were two transmission pipeline proposals in the County, the Whatcom County Council placed an emergency moratorium on all new pipeline facilities in Whatcom County, which is in place as of the date of this writing. (Ord. 2000-026).

In response to the moratorium, the committee spent considerable time addressing and identifying issues of importance to be considered in the process of siting transmission pipelines. Feedback from the public was also sought in a series of three separate public meetings held in Everson, Bellingham, and Custer. Valuable feedback was received from these meetings and gave the committee new and unique ideas to consider.

The Utilities Committee had a number of issues that related to natural gas and hazardous liquid lines, one purpose of this report is to address these issues, and in many instances propose recommendations for improvement. The primary issues that were identified were:

- the federal preemption of pipeline regulations and the effect on a county moratorium;
- safety issues and reporting requirements;
- uses adjacent to pipelines;

- environmental issues;
- the regional supply and demand situation for natural gas;
- the community impacts of pipelines and the power of eminent domain; and
- franchise agreements on county roads and property.

These issues are all addressed in this report with particular focus on recommendations that are within the ability of the county to pursue. But before the substantive topics are taken up, a short description of what types of pipelines exist may help clarify the situation. In short, there are transmission, distribution, gathering, and service lines.

How are the different types of pipelines defined?

There exists the possibility for confusion over how a pipeline should be classified. This is especially the case about how a line that serves a single large consumer should be classified. The definition below is given in an attempt to help reduce this confusion. Whether it should be treated as a transmission line, a distribution line, or some other classification of line needs to be known because state and federal regulations differ according to the type of line. Title 49 of the Code of Federal Regulations section 192.3 defines a transmission line as

> "a pipeline, other than a gathering line, that: transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not downstream from a distribution center; Operates at a hoop stress of 20 percent or more of SMYS (specified minimum yield strength); or transports gas within a storage field. A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas."

A gathering line means a pipeline that transports gas from a current production facility to a transmission line or main. A distribution line is defined as a line other than a gathering or transmission line. Finally, the smallest diameter pipe is the service line. This is a line that is a distribution line that transports gas from a common source of supply to a customer meter or the connection to a customer's piping, whichever is farther downstream, or the connection to a customer's piping if there is no customer meter. (49 CFR 192.3).

Washington State's definition of a transmission line incorporates the Federal definition into its own. Washington defines a transmission line as

> "a gas pipeline which connects to an existing transmission line without pressure regulation to lower the pressure; which is downstream of the connection of two or more gathering lines; and as defined in 49 CFR, Part 192, section 192.3." WAC 480-93-005.

Washington uses the same Federal definition of a distribution line.

These definitions allow for a case by case determination as to whether a line serving a single customer is considered a transmission line or a distribution line based on where the

pipeline leads or what the hoop stress level of a pipe is. As service lines are laced throughout the county supplying natural gas to many residences and business, they are too small to present the community hazard that a transmission or major distribution pipeline (interpreted as 14" or larger in diameter) can although such pipeline ruptures can still be devastating on a smaller scale. This threshold size was selected to follow Washington's Energy Facility Siting Evaluation Council (EFSEC) thresholds, and these are typically operated under pressures that require special attention. As a consequence, service lines and distribution lines of smaller size should only be interpreted in the following discussions when specifically referenced. Service lines and smaller distribution lines will not be included in transmission and major distribution pipeline siting criteria.

B. PIPELINE PREEMPTION

This section briefly outlines the aspects where the County does or does not have authority to regulate natural gas and petroleum transmissions. It answers the questions of who has the authority to regulate a pipeline; the answer is dependent on several factors that will be discussed in detail. The answer is based on what agency has authority, which is determined from the priorities that exist. Federal priorities and interests outweigh state interests, which outweigh the interests of the local government. If or when an agency of lesser authority (local government) attempts to regulate an area already regulated by a higher authority (federal or state agencies), it can be said to be preempted, meaning the lower regulations are invalid. This inherently makes sense, otherwise all the local governments would be able to subvert and put strangleholds on national or state policy. As this relates to pipelines, Table 1, found within this section, is a quick reference as to what local government's role can be regarding siting for pipeline proposals.

Who is the regulatory authority for interstate natural gas lines?
An interstate pipeline is one that crosses the boundary of one state into another state, country, or province. An intrastate pipeline is one that is contained wholly within the boundary of the state. The federal Natural Gas Act regulates design, location, construction and modification of interstate natural gas facilities. If any attempt by the County to place land use restrictions on these lines could be determined by a court to be preempted by federal law. Several cases have been presented attempting to regulate natural gas lines, even some from the state level, with no success. The result has been the same; the federal Natural Gas Act preempts the entire field of law dealing with the regulation of natural gas pipelines.

Despite this obstacle, the County still has means to influence siting. The County can intervene in the process and have an opportunity to formally express its concerns and objections. Commenting on a project is a more informal option available. The County's Comprehensive Plan and zoning codes must be considered and addressed by the applicant as elements of their application process. Furthermore, where applicable, the County's involvement extends to the granting of shoreline permits as a requirement of the Coastal Zone Management Act, which will need to be obtained from the County for a project to be approved.

As an example of how the County is involved, the National Environmental Policy Act (NEPA) requires a description of planned development within a quarter mile of proposed facilities, and proposed coordination to minimize impacts on land use, indicating that existing and proposed future land use considerations are at least considered. This information is included in the Environmental Impact Statement done by the applicant to evaluate the feasibility of the project.

In addition, the county and the state have the authority to require the shoreline permit to comply with SEPA (the State Environmental Policy Act). As such the County and the state may require additional environmental studies and impose additional conditions above and beyond those included in the adopted FERC NEPA document.

Who is the regulatory authority for interstate hazardous liquid lines?
Hazardous liquid pipelines, which include petroleum product pipelines, present siting difficulties similar but not identical to those faced by natural gas pipelines, despite the fact that there is no corresponding petroleum act. However, to answer the question of whether the county can regulate the use of a hazardous liquid pipeline, an analysis of the federal laws helps to clear the issue. 49 U.S.C. sec. 60104 preempts States from imposing any additional safety standards on interstate pipelines and indicates that "a state authority may not adopt or continue in force safety standards for interstate pipeline facilities or transportation". (49 U.S.C. sec. 60104(c)). The Secretary of Transportation is required to establish the minimum safety standards for pipeline facilities. (49 U.S.C. sec. 60102). The Secretary has delegated to the Department of Transportation's Office of Pipeline Safety to prescribe pipeline safety standards that address the issue of pipeline location based on public safety. (See 49 CFR sec. 195.210, 195.250).

Under the Hazardous Liquid Pipeline Safety Act, the precursor to the federal pipeline safety provisions, federal courts concluded that safety regulations of interstate pipelines by either the State or local government bodies was preempted as it was a field for exclusive federal regulation. (Shell Oil Co. v. City of Santa Monica (9th Cir. 1987), 830 F.2d 1052, 1065, cert. denied. 487 U.S. 1235, 108 S. Ct. 2901, 101 L. Ed.2d 934 (1988).)

As the County policies on utilities are important to the County's Comprehensive Plan in general, the County should develop policies that clarify how and where pipelines should or shouldn't go, as they should be influential, even if they may ultimately be preempted. However, any attempt by the County to completely restrict future lines would likely be determined to be preempted by federal law and unconstitutional.

Who has authority over intrastate lines?
State Authority
A pipeline will fall under the regulation of the Washington's Energy Facility Siting Evaluation Council (EFSEC) if it is an intrastate natural gas transmission line that is greater than 14" diameter and extends more than 15 miles. Also, an intrastate petroleum pipeline will be under the regulation of EFSEC if it is a transmission line that is greater than 6" diameter and extends more than 15 miles. Despite the differences in pipe width, which appears to be due to potential environmental differences between the two types of products (one gaseous, the other a liquid), the situation is identical. The regulations allow for local government to be involved in the process including siting, but can override local county or city regulations when it approves a new energy facility. EFSEC is required to conduct a land use consistency hearing. If EFSEC determines that the project is inconsistent with local land use laws, the applicant must attempt to resolve the conflict with local government. If the conflict cannot be resolved, the applicant may request state preemption. Specifically if certain conditions and determinations are met, EFSEC is allowed to recommend to the governor that the state preempt local land use plans or zoning ordinances for the site of an energy facility. Upon the governor's approval, this effectively preempts local planning and zoning.

Local Authority

If a pipeline does not meet any of the above criteria, jurisdiction is left with local authorities. These are the small in-state projects. It appears that here local comprehensive plan policies, land use and zoning ordinances can control the siting of a pipeline as there is no other authority that claims jurisdiction in this area. It is important to note that the design and construction standards for pipelines remain under the authority of Washington's Utilities and Transportation Commission.

In summary, rational local policies regarding utilities can provide guidance as to how utilities should be regulated, or in the event that a higher authority preempts local actions, can serve as an influential agent to balance the desires of the utility proposing a pipeline with the goals of the County.

Table 1: Summary of Local Government's Role in Siting for Pipeline Projects

Type of Project	General Description	Local Government's Ability to Regulate Siting	Local Government's Role in the Process	Local Government's Approach
Interstate projects	Pipeline that extends beyond state borders (including into Canada)	Preempted by federal authority	Intervenor or Commentor on proposed projects	Develop policy, comprehensive plan development, implement land use siting criteria, and manage shoreline permits
Intrastate projects that meet the Energy Facility Site Evaluation Council's (EFSEC) requirements	New intrastate natural gas & crude oil/petroleum product transmission lines > 15 miles and pipe diameter requirements that are dependent on the product in the line.	Potentially preempted by state authority (EFSEC). State preemption must be requested by the applicant.	Intervenor, Commentor or potential regulator depending on the outcome of local government and applicant's ability to resolve noncompliance issues.	Develop policy, comprehensive plan development, implement land use siting criteria, and manage shoreline permits
Intrastate projects that do not meet EFSEC requirements	Projects that do not meet the threshold requirements listed above	Not preempted from siting regulations	Can act as regulator	Develop policy, comprehensive plan development, and implement land use siting criteria

Source: Whatcom County PDS 2001

Possible Challenges to the County's Pipeline Moratorium

Federal Preemption

The federal pipeline safety regulations indicate in precise detail, the minimum safety regulations to assure safety in design, construction, inspection, testing, operation, and maintenance of natural gas and hazardous liquid pipeline facilities and in the siting, construction, operation, and maintenance of liquid natural gas facilities. The regulations do not, however, provide many details for the siting of petroleum facilities. The only criteria that has been found detailing siting that would be applicable to crude and

petroleum products is found in Title 49 Code of Federal Regulations Part 195.210 titled "pipeline location" which states:

> (a) Pipeline right-of-way must be selected to avoid, as far as practicable, areas containing private dwellings, industrial buildings, and places of public assembly.
> (b) No pipeline may be located within 50 feet (15 meters) of any private dwelling, or any industrial building or place of public assembly in which persons work, congregate, or assemble, unless it is provided with at least 12 inches (305 millimeters) of cover in addition to that prescribed in (49 CFR 195.248).

These could be considered rudimentary guidelines that must be followed by the pipeline companies. Pipeline companies may at their discretion adhere to siting and construction standards over and above the minimum proscribed standards.

Federal Energy Regulatory Commission (FERC) representatives provided insight into how hazardous liquid pipelines should be considered. Bob Arvedlund of FERC was not aware of a federal agency that dealt with oil and product line siting. FERC only deals with tariff issues regarding petroleum and product lines. Arvedlund did qualify that the federal government may be involved in siting to the extent that a pipeline is crossing federal land. Peter Roidakis in the FERC legal counsel confirmed the information that FERC does not provide any siting criteria regarding petroleum pipelines. Jim Taylor of the Federal Department of Transportation's Office of Pipeline Safety Division stated that his office deals with the design, construction, inspection and operation of pipelines, but has no authority to site new lines either petroleum product or natural gas. Interstate projects are subject to the requirements of the National Environmental Policy Act (NEPA) which must address land use and planned development as a part of the reporting requirements.

With regard to the issue of a moratorium on new petroleum pipelines, Arvedlund felt that while it may not be invading any federal agencies jurisdiction, such restrictions that a moratorium would place would interfere with interstate commerce and likely be held unconstitutional. The commerce clause of the U.S. Constitution states:

> "The Congress shall have power to ... regulate commerce with foreign nations, and among the several states[.]" Art. I, 8, cl. 3.

FERC only has environmental review authority for natural gas facilities. Once a pipeline company states that they're going to meet DOT regulations, FERC is prohibited from adding more standards. Arvedlund described a situation where a state was requiring pipelines to be placed deeper than the DOT required for agriculture mitigation (4' to 5' deep instead of 3' deep). The pipeline companies complied, but Arvedlund expressed the opinion that if the pipeline companies had sued regarding the state regulations on the interstate pipelines, that the pipeline companies would likely have been successful.

Preemption by the State
Washington State law covers the issue of pipeline safety in RCW 81.88. The siting issue is briefly addressed in the statutes here at RCW 81.88.060 where it states:

> The commission shall coordinate information related to pipeline safety by providing technical assistance to local planning and siting authorities.

Doug Kilpatrick of Washington's Utilities and Transportation Commission (WUTC) Pipeline Division stated that the WUTC was involved in two areas regarding pipelines: pipeline safety and economic regulations. Kilpatrick stated that they were generally not involved in siting issues (except with regard to service territories where utility monopolies were involved). Kilpatrick's statements along with the above statutes provide confidence that the UTC is not a siting authority. This leaves the field of siting to the Washington Energy Facility Site Evaluation Council (EFSEC) for large intensive projects, and local government for projects that do not rise to the level of intensity for EFSEC's involvement (see Table 1 above). Local planning cannot preempt the authority of EFSEC if it takes authority, but it is free to intervene, comment, and be involved in the process. EFSEC ultimately results in a recommendation of approval or denial of a proposed project to the Governor. The Governor's certification of an energy facility permits the construction and operation at the location specified irrespective of any contrary provisions of the local zoning code (Opinion of Attorney General 1977, no 1). As land use, zoning, and easements can dictate how land is to be used, local planning departments can be directly involved in the process (as opposed to being an intervenor or commentor) if the scale of the project does not rise to EFSEC standards since the pipeline must then comply with the local government's permitting process.

Conclusion
In summation, when analyzing the issue of whether a local moratorium could freeze the new development of pipelines, the type of the pipeline that is involved suggests the answer. Although in the short term, it could be effective to delay a project at least until challenged. A moratorium against a proposed interstate pipeline could be anticipated to encounter legal challenges based on federal preemption and restrictions on interstate commerce. A moratorium against a project within the jurisdiction of EFSEC could encounter preemption issues as well, by attempting to circumvent state authority to site pipelines that reach the scale of EFSEC. Finally, what remains is intrastate projects where EFSEC does not take jurisdiction, these might be able to be controlled by a moratorium, however, this is a limited category.

Local planning is an essential tool for the county to have an impact on pipeline siting. Interstate and intrastate pipelines require reports that must address land use and planned development, among a list of other requirements and compatibility will be sought with a pipeline proposal and the County's Comprehensive Plan and land use regulations.

C. SAFETY ISSUES AND REPORTING REQUIREMENTS

One set of questions from the Utilities Planning Advisory Committee, dealt with the issue of pipeline safety and a desire for information regarding the reporting requirements that pipelines must comply with. As the Committee identified this as an area of high importance, these issues are being addressed, although it may be appropriate to say from the outset that much of these safety issues are outside of the authority of the County to regulate. The purpose of this section is to bring together information regarding pipeline safety and related regulations applicable to pipeline safety to provide understanding as to what is covered under the state and federal regulations. First, a brief summary of what causes pipeline leaks will be given, and then this report will discuss safety issues covered by state and federal regulations. In addition, this section will look at the issue of when fines may be issued, and how records can be obtained.

Overview

The Office of Pipeline Safety keeps statistics on the safety performances of both hazardous liquid and natural gas lines for the entire U.S. There is a summary table that shows some of these statistics listed below in Table 2. Since 1986 to the start of 2001 there were 2903 hazardous liquid accidents from pipelines. These have resulted in a total of 36 fatalities, and 239 injuries. Property damage from these accidents caused nearly $587 million dollars of damage. Gross loss of material was over 2.7 million barrels. Net loss was reported at just over 1.6 million barrels. The total miles of hazardous liquid pipes are approximately 155,000 pipe miles. To put this in perspective, there was on average one fatality per year for approximately every 64,600 miles of interstate hazardous liquid pipelines, one injury per year for every 9,730 miles, and one recorded incident for every 800 miles.

From natural gas transmission lines, there were 1202 incidents reported to the Office of Pipeline Safety in the fifteen years between 1986 and the end of 2000. Of these, there were 56 fatalities and 214 injuries. Property damage caused as a result of these incidents caused more than 260 million dollars in damage. The fatalities and injuries associated with smaller width distribution lines were considerably higher over the same period (278, and 1221 respectively). The total miles of natural gas transmission lines are about 300,000 miles while there is approximately 1 million miles for natural gas distribution lines. This similarly equates to one fatality per year for approximately every 80,000 miles of interstate natural gas pipeline, one injury per year for every 20,600 miles, and one recorded incident for every 3700 miles.

From the period from 1985-1999, Washington State has had 47 pipeline accidents reported to the Office of Pipeline Safety, that caused 5 fatalities, 16 injuries, over $10.7 million dollars damage and a gross loss of 14,162 barrels. Loss of natural gas product was not quantified.

Table 2: Safety Statistics on Interstate Natural Gas and Hazardous Liquid Pipelines

Occurrences on Interstate Pipelines from 1986-2000	Hazardous Liquid Pipeline	Natural Gas Transmission Pipeline
Fatalities	36	56
Injuries	239	214
Incidents Reported	2903	1202
Miles of Pipeline	Approx. 155,000 miles	Approx. 300,000 miles
Average miles of pipeline per fatality per year	Approx. 1 per 64,600 miles of pipeline per year	Approx. 1 per 80,000 miles of pipeline per year
Average number of miles of pipeline per injury per year	Approx. 1 per 9700 miles of pipeline per year	Approx. 1 per 20,600 miles of pipeline per year
Average number of miles of pipeline per incident per year	Approx. 1 per 800 miles of pipeline per year	Approx. 1 per 3700 miles of pipeline per year

Source: Complied from Office of Pipeline Safety data.

What are the causes of pipeline leaks?

Figure 1: Ruptured 16" pipeline being removed from Whatcom Falls
Source: Office of Pipeline Safety Website

Using statistics covering 1968 to 1999, it was found that 40% of oil pipeline leaks were caused by structural problems (corrosion, defective pipes, or from defective welds), 27% were caused by third party damage, 6% by operator error, 2% by control problems, and the remaining 25% by other events. This shows that a large proportion of these leaks could possibly be controlled or reduced by the pipeline industry through proper maintenance, construction, and other activities under their control. Data from natural gas accidents from 1994 to 2000 indicate that 36.2% was from outside forces, 27.5% from corrosion, 14.3% from material or construction defects, and 22% from other causes.

The one-call system

One safety mechanism that is in place in Washington is the one-call system. Contractors, excavators, even homeowners are required to call the one-call system before doing any digging deeper than twelve inches, regardless of the reason. The phone number to call in Whatcom County is 1-800-424-5555. It is a requirement in Washington that the one-call system be notified two days before excavation is to begin to verify that there is no known hazards underneath the soil, particularly pipelines and power lines. If the notification is made less than two business days prior to digging, the utility is entitled to compensation

for responding, unless it is an emergency. Upon making the call, all utilities will come out and mark the location of their lines. However, a person who did not call the one-call system for a locate which results in damaging a utility line may be liable for up to three times the actual amount of the damage. Civil penalties of up to ten thousand dollars are also possible for failing to use the one-call system and damaging a hazardous liquid or natural gas pipeline. There currently is no federal one-call system.

Figure 2: Washington One-Call Notification Reminder
Source: Whatcom County PDS 2001

What are the existing agencies that deal with issues of pipeline safety?

On the federal level, there is the Office of Pipeline Safety (hereafter OPS). The state agency is the Utilities and Transportation Commission (UTC). RCW 81.88, WAC chapter 480-93.

The federal regulations that deal with pipeline safety are title 49 of the Code of Federal Regulations (CFR), specific chapters include: 49 CFR 190 (Pipeline Safety Programs and Rulemaking Procedures), 49 CFR 191 (Transportation of Natural and other Gas by Pipeline – Safety Related Condition Reports), 49 CFR 192 (Transportation of Natural and other Gas by Pipeline – Minimum Federal Safety Standards), 49 CFR 193 (Liquefied Natural Gas Facilities - Federal Safety Standards), and 49 CFR 195 (Transportation of Hazardous Liquid by Pipeline). Any pipeline that is deemed to be under federal jurisdiction is bound by these regulations. If there is no federal jurisdiction over the pipeline that runs inside the state of Washington, then the UTC has jurisdiction, and their set of regulations are to be enforced. The Washington regulations are in excess of those required by the Office of Pipeline Safety. The Washington Administrative Code details out the regulations regarding safety of gas companies at WAC 480.93.

The federal regulations are too voluminous to be discussed here, and as they can be obtained readily by accessing the above codes, they will not be discussed in any detail. It can be noted, however, that these federal safety standards appear to be fairly encompassing. Here is a list of the subchapters that are covered in the federal regulations:

- Materials used for the pipeline
- Pipe design
- Design of Pipeline Components
- How welding of steel in pipelines is to be conducted
- The joining of materials other than by welding
- General construction requirements for transmission lines and mains
- Customer meters, service regulators, and service lines
- Requirements for corrosion control
- Test requirements
- Uprating pressure
- Operations

- Maintenance
- Reporting system

The federal regulations make "class locations" which extends 220 yards on either side of any continuous l mile length of pipeline. The ratings go from class 1 locations, which is the minimum, which has 10 or fewer buildings intended for human occupancy, to class 4. A class 2 location is more than 10 but less than 46 buildings, class 3 is 46 or more within the 660 foot area, and a class 4 location is where buildings four or more stories are prevalent. The class location unit is then used for regulating the design of the pipe, the maximum distance that block valves are to be placed apart, and other technical information. The 660 foot guideline is also used as a factor to determine whether incident reports are required. (see generally, 49 CFR 192.5)

Pipeline operating plans, procedures, and emergency policies

In Washington state, every gas company under the jurisdiction of the UTC shall develop operating, maintenance, safety, and inspection plans and procedures and an emergency policy. Such plans, procedures, changes and amendments, shall be promptly filed with the UTC, for review and determination as to their adequacy, when properly executed, to achieve an acceptable level of safety. The UTC may, if the plans and procedures are found to be inadequate, after proper notice and a hearing, require such plans and procedures to be revised. In determining the adequacy of such plans and procedures to achieve an acceptable level of safety, the UTC shall consider relevant available pipeline safety data, whether the plans and procedures are appropriate for the particular type of pipeline operations being performed by the gas company, the reasonableness of the plans and procedures, and the extent to which the plans and procedures, if properly executed, will contribute to an acceptable level of public safety being achieved by the company. Every gas company shall be responsible for establishing and maintaining such records, making such reports, and providing such information as the commission may require to enable it to determine whether the gas company has acted and is acting in compliance with these rules and regulations and the standards established thereunder. If the UTC requests, a gas company shall permit the UTC and its authorized representatives to inspect books, papers, records, and documents relevant to determining whether the gas company and its agents have acted and are acting in compliance with these rules, regulations, and standards which it must comply with. (WAC 480-93-180).

Figure 3: pipeline marker
Source: Whatcom County PDS 2001

Reporting Requirements

There is a requirement that gas companies report incidents of leaks, as required by WAC 480-93-187. Such reports are to be maintained by the company as well as filed with the Washington UTC. The information that must be reported include at a minimum:

- Date and time detected, date and time reported, date and time and name of employees dispatched, and the date and time the leak was investigated;
- Date and time the leak was reevaluated before repair, and the name of the employee involved;
- Date and time of repair, when a Grade 1 (most serious) leak is involved, and the name of the employee in charge of the repair;
- Date and time the leak was rechecked after repair and the employee involved;
- If leak was reportable to an environmental agency, date and time report made to regulatory authority and name of reporting employee;
- Location of leak (sufficiently described to allow ready location by other competent personnel);
- Leak grade;
- Line use (distribution, transmission, etc.);
- Method of leak detection (if reported by outside party, list name and address);
- Part of system where leak occurred (main, service, etc.);
- Part of system which leaked (pipe, valve, fitting, compressor or regulator station, etc.);
- Material which leaked (steel, plastic, cast iron, etc.);
- Origin of leak;
- Pipe description;
- Type repair;
- Leak cause;
- Date pipe installed (if known);
- Whether under cathodic protection; and
- Magnitude of CGI (Combustible gas indicator) readings at appropriate locations, which are a part of the classification procedures contained in Table 1 of WAC 480-93-186 (codified as WAC 480-93-18601).

The data to be included on Grade 3 leaks (least serious) are at the company's discretion, but must include information necessary to allow for proper follow-up action to be accomplished. (This information was found at WAC 480-93-187.)

There are additional instances where reports must be issued, including when service is disrupted for interruption of service (WAC 480-93-210). On the commission's request, reports must also be filed within 3 months, of events causing fatality, injury requiring hospitalization, property damage exceeding $5,000 dollars, an event that results in taking a transmission pipeline or major distribution line out of service or below 50 percent normal operating pressure, an event that is significant in the judgment of the company, or an event reported by news media, even if it does not meet any other of the above criteria (WAC 480-93-200).

There are federal requirements to report incidents and annual reports for natural gas and other gas pipelines (49 CFR 191) and for incident reports of hazardous liquid pipelines (49 CFR 195.50 –195.63). Reporting requirements are similar but in somewhat less detail than those required by the UTC.

Fines for Violations
Any gas company, which violates any public safety provision of RCW 80.28.210, or regulation issued thereunder is subject to a civil penalty not to exceed twenty-five thousand dollars for each violation for each day that the violation persists. The maximum civil penalty under this subsection for a related series of violations is five hundred thousand dollars.

Any gas company violating any other provision of RCW 80.28.210 (not related to public safety) or regulations promulgated thereunder, including reports of proposed construction and failure to give notice to the commission of a news media reporting on an pipeline occurrence even if otherwise not required to be reported, shall be subject to a civil penalty not to exceed one thousand dollars for each violation for each day that the violation persists, but the maximum civil penalty shall not exceed two hundred thousand dollars for a related series of violations.

These civil penalties are discretionary by the UTC. (WAC 480-93-223.)

Public Records
The above leak reports to the Washington Utilities and Transportation Commission are among the many utility related public records that are at the Washington UTC. Access to these documents can be obtained by making a request for public records to the UTC. Their physical address is 1300 S. Evergreen Park Drive SW - Olympia, WA 98504. Phone: 360-664-1160 (in state toll-free: 1-800-562-6150) FAX: 360-586-1150. Their web site location is found at www.wutc.wa.gov.

For federal reports from the Office of Pipeline Safety, a Freedom of Information request must be made in writing to:

Freedom of Information Act
Research and Special Programs Administration
DPS-22
U.S. Department of Transportation
Room 7128
400 Seventh Street, SW
Washington, DC 20590

Fees are typically charged for copies made as well as for the employee's time in tracking down the information request. It will be processed within twenty business days unless notified otherwise. The requested records are released unless the record falls into one of the nine exemptions set forth under the Freedom of Information Act (i.e., personal privacy, confidential business information, law enforcement documents, etc).

Local Response Procedure
Neil Clement, Whatcom County's Deputy Director of the Division of Emergency Management, was very helpful in giving insight as to how they respond to an incident. In the case of a pipeline leak (without ignition), there will be odor complaints received from the area of the leak from the odorant. On notice of an odor compliant, a fire engine will

be dispatched. Approximately 100 odor complaints are received each year, and in a large majority of them, the odor is gone by the time the fire engine arrives at the site. An odor complaint triggers a Hazmat level 1, meaning an accident or incident may have occurred and there may be a need to evacuate the initial site. A car accident with a gasoline spill is enough to trigger a level 1 response.

If numerous odor complaints are received or other circumstances denote that the incident involves a greater hazard or larger area, this triggers a Hazmat level 2. On Hazmat level 2, the state patrol is notified, a Hazmat response team is notified, evacuations of people in the immediate area are carried out, and roadways are secured, and barricades placed to prevent citizens from entering the evacuation zone. The Olympic pipeline incident triggered level 2 prior to ignition.

The Hazmat level 3 is an incident involving a severe hazard or a large area which poses an extreme threat to life, property or environment and/or will require a large scale evacuation.

There are three levels of OSHA training that are pertinent to pipeline incidents. The first and most basic level of training is the first responder awareness level. Police officers and emergency services have at least this level of training. The next level is the first responder operations level. This training is accomplished through an eight hour course. Firefighters have this level of training. Where to establish the perimeter, and related topics are covered. Finally, there is the technician level of training, which requires from 24 to 48 hours of training. This is the level of training required for dealing directly with the hazardous material with the Hazmat suits.

Staff confirmed that the Division of Emergency Management has response manuals for all the pipelines running through the county as well as updated maps supplied by the GIS department. Reports varied in size from a small notebook for Williams to four large volumes for the Olympic pipeline. The amount of information appeared to be dependent on whether the line was a natural gas line or a hazardous liquid line, with hazardous liquid lines being much more detailed as a result of the obvious environmental impacts. Whatcom County's Division of Emergency Management also has a training video from Trans-Mountain for training with fire departments.

In addition, Whatcom County's Division of Emergency Management has a hazardous materials plan that provides a series of actions to be taken by emergency responders from a potential incident to extreme hazard conditions. When the fire department is responding to an odor complaint, the cause may be a number of things, with a pipeline leak or rupture being only one of many possibilities.

Analysis of the New State Pipeline Safety Legislation

On May 11, 2001, the Washington state legislature passed a bill, which the governor signed, allowing the Utilities and Transportation Commission (UTC) to fund a pipeline safety program through the establishment of regulatory fees imposed on hazardous liquids and gas pipelines. The effective date of this bill was July 1, 2001. The aggregate

amount of the fees will be sufficient to fund the pipeline safety program when federal funds are taken into account. The fees shall be used to adequately fund pipeline inspection personnel, the timely review of pipeline safety and integrity plans, the timely development of spill response plans, the timely development of accurate maps of pipeline locations, participation in federal pipeline safety efforts to the extent allowed by law, and the staffing of the citizens committee on pipeline safety. The pipeline safety fees shall be deposited in the pipeline safety account.

The UTC is seeking federal delegation for the purpose of enforcement of federal hazardous liquid pipeline safety requirements. If inspection authority is delegated, the UTC shall inspect hazardous liquid pipelines periodically as specified in the inspection program, collect fees, order and oversee the testing of hazardous liquid pipelines as authorized by federal law and regulation, and file reports with the U.S. secretary of transportation. This is different than a previous bill that sought to give this authority to the department of ecology, which has been amended in the current bill to give the Utilities and Transportation Commission these duties.

The Utilities and Transportation Commission will inspect the routes every year for intrastate pipelines and every other year for interstate pipelines. The Office of Pipeline Safety (OPS) retains authority for enforcement, but the Washington Utilities and Transportation Commission is effectively the eyes and ears for OPS in Washington.

Conclusion

The area of pipeline safety is already occupied by federal and state authority, and there is no real opportunity for the county to set design and construction standards on pipelines. Whether the county would have the expertise to do so is also clearly questionable. Local government can still have control over the safety of the county. The county's permitting process would still have to be completed, and the county's comprehensive plan policies can influence the routing of a pipeline through the county, which would have a large influence on safety (i.e. Suggested routing through less populated areas, avoidance of hazardous adjacent uses, etc).

Recommended Approaches

- Require pipeline operators to provide accurate "as-built" pipeline maps as a condition of approval for any county development permit (shoreline, conditional use or major development). In addition to scaled plan maps which shall be accurate to the parcel level, pipeline information (pipe size, allowable pressure, fuel type, average or approximate right of way width, etc) shall also be provided.

- The County should implement an educational program/pamphlet that explains the basics of pipeline safety including how to access the one-call system. This system is to be developed in cooperation with the pipeline industry.

- Continue to encourage pipelines to follow adjacent to established corridors where possible. If deviations are proposed, the applicant shall provide a justification for each deviation.

- The County should seek intervenor status on all pipeline proposal that are not within the County's regulatory authority, so as to preserve the County's legal rights and to retain a voice in the proposal. The County will review a pipeline proponent's application materials and file comments with the reviewing body according to the appropriate procedure and within the timelines provided. Staff shall engage in continual and ongoing communication with the regulatory authority regarding the project as the need or occasion arises.

- If not preempted by federal or state authority, have pipelines allowed only by a conditional use permit, except possibly in industrial zones, with an objective analysis of the pipeline to determine its suitability in relation to the County's siting criteria.

- Notify and seek comment from pipeline operators concerning land use development applications. Take comments received under advisement.

- For natural gas pipelines, encourage siting of critical facilities and high occupancy facilities within the regulations of WAC 480-93-020, and 480-93-030, (not closer than 500' from 500 or greater psig pipe, or 100' from 250 to 500 psig pipe) and as are hereafter amended.

- Require evidence of compliance by the applicant with all right-of-way easement provisions as a condition of all discretionary and non-discretionary land use approvals.

- Put a flag on county databases for permit applications. Through the permitting process flag or control excavation activity in areas adjacent or within 50' of the pipeline. Place a higher level of scrutiny on construction in such areas.

- A pipeline vicinity (within 660' of a pipeline) disclosure statement shall be recorded with/on property deeds in the County Auditor's Office and shall be treated in the same manner as critical areas notes. A statement identifying that a significant natural gas or hazardous liquid pipeline is within the vicinity and the auditor's file number for it shall be on the final plat or short plat map under surveyor's notes prior to final approval by the county. (See WCC 21.04.170, 21.06.070).

- Require use of the "one-call" system on all County land use development permits where excavation is required. The County may impose a county fine for failure to properly use the one-call system.

- Whatcom County's GIS department is to provide updated copies of all major pipeline routes to Whatcom County's Division of Emergency Management. Require as builts of all new pipeline projects, extensions and reports to be submitted to the County for

update to gas mapping layers. Provide updates to Whatcom County's Division of Emergency Management.

- A performance bond, assignment of savings, or other like security shall be required for installation and mitigation projects in the amount necessary to insure full performance of all required and approved construction. Upon completion of the project, the performance bond shall be released.

D. ADJACENT USES

The purpose of this section is to examine possible adjacent uses to an oil or natural gas pipeline that may present a hazardous situation to life, the environment, or the community. A careful evaluation of the compatibility of existing and future adjacent uses can help the County develop procedures and policy that direct the siting of future pipeline proposals. The committee has expressed repeatedly that they feel that there are areas where a pipeline should not be sited. This section will explore those opinions expressed by the committee.

Adjacent uses that seemed incompatible or problematic with oil and gas transmission lines included high occupancy residences, schools, uses that may destabilize the soil, such as surface mining, and critical areas. Critical areas include the following areas and ecosystems: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas. (GMA Definition) Some of these critical areas seem to be of more importance than others, as a frequently flooded area may not matter to an underground piping system so long as the integrity of the structure is maintained. Others such as geologically hazardous areas, specifically steep, unstable slopes or areas subject to liquefaction during earthquakes may be particularly unsuitable.

One problem that exists with these uses is that what existed at the time the line was installed may change over time into less desirable uses. For example, the BP/Olympic pipeline runs through the eastern part of Bellingham through Whatcom Creek. At the time it was installed, this area was not heavily populated. Now, however, due to development encroachment, it is a heavily developed residential section of Bellingham, the pipeline now bypasses many smaller lots, and runs in close proximity to schools. One difficulty that the County faces is to try to have pipelines in places that not only are appropriate locations today, but those that are projected to remain in appropriate locations in the future. As urban growth areas have been identified as portions of the county which anticipate higher levels of growth and possible incorporation into the adjacent municipality, these areas may be inappropriate locations for natural gas or hazardous liquid transmission lines.

Major pipeline corridors, linear areas where multiple pipelines are co-located, should be located in areas of least impact to the citizens and environment of Whatcom County as measured by proximity to populous and environmentally sensitive areas. What should be paramount to the County is avoiding locations where the health and safety of Whatcom County residents may be negatively affected, and where environmental costs may be too high. Secondarily, pipelines should be located in areas where it will not have, or be perceived as having, a negative effect on property values. One such area that comes to mind is agriculture since the area on the right of way can often be utilized by the landowner.

The following examines the compatibility of various adjacent uses with pipelines.

High Occupancy Areas and Critical Facilities
Environmental and other damage in rural areas are preferred to loss of life. In the event that a pipeline does rupture, it is preferable to have it do so in an area with a low population density to minimize the injuries and loss of life. Pipeline siting must take risk assessment into account, and aim to make the most reasonable tradeoffs between risk avoidance and pipeline cost, with the utmost priority to be on avoiding potential risks.

Areas that the Utilities Committee sees as deserving special treatment are high occupancy residences and critical facilities. Critical facilities are understood to include essential facilities, hazardous facilities, and special occupancy structures (i.e. schools) that are particularly vulnerable in the event of and emergency.

Critical facilities are unique uses that would either likely result in a large number of people potentially exposed or would lessen the ability of the county to be able to properly respond in the event that a major incident occurred (such as endangering a hospital, or a fire station). There may also be special problems associated with these uses (i.e. senior centers, schools, and jails that have particular groups of people with reduced ability to evacuate from a situation).

A similar argument can be made with regard to other high occupancy areas. It is irresponsible to site high pressure transmission pipelines in areas that, in the event of a rupture, could result in high numbers of injuries or fatalities.

The report, *A Model for Sizing High Consequence Areas Associated with Natural Gas Pipelines*, which found the high consequence area from a natural gas pipeline based on a relationship between pipe diameter and operating pressure. This model generally results in a high consequence area that is irregular (i.e. the high consequence area of a 20" diameter pipeline running at 1000 psig would have a high consequence area of 433 feet). To keep things simpler, UPAC is encouraging following WAC regulations regarding proscribed distances for that are dependant on the pressure in the system, with regard to critical and high occupancy facility siting. (See WAC 480.93.020, 480.93.030).

Soil Destabilizing Uses
Pipelines should not be situated in areas where the soil is unstable. This includes geological hazardous areas, as well as man made conditions. This includes areas with steep slopes, as well as areas which present landslide or mudslide hazards. Man-made conditions to be wary of are those that destabilize the soil, such as operating a surface mine. Heavy construction and grading are other activities where the operators need to be extremely cognizant of the pipeline's location to not cause inadvertent third-party damage.

Critical Areas
To the extent possible, critical areas should be avoided. Even though a pipeline constructed through a critical area may not in itself present a problem, the act of placing the pipe underground may disrupt sensitive environmental qualities or fish and wildlife

habitats. However, having a pipeline avoid all critical areas, may not be practical or even possible. A preference shall be placed on avoiding these areas where possible, and minimizing any negative impacts from the installation, and placement of such lines. Mitigation can often be taken to reduce the negative effects.

There is a more in depth discussion concerning critical areas in the environmental section of this report.

Encouraged Areas
In the event that pipelines are going to be sited, areas where the Utilities committee felt that pipelines should be preferred and encouraged are discussed and reviewed. Rationales are given why these areas should be preferred over areas lacking these qualities.

Agriculture/Forestry Resource Lands
The main reason that this is a preferred area is that this land will be of low population density, lessening potential for devastating negative impacts in the event of a rupture. Additionally, resource land is more stable, and less likely to convert to a more intensive use. Another secondary reason is the relative ease in which a pipeline can be installed in these areas. Over farmland, the land can typically still be farmed to its full extent, with the exception being crops that require deep soils are typically restricted.

Commercial Forestry and Rural Forestry are viewed as preferable locations for pipeline siting. The reasons are that this is an area of sparse population density, and unlikely to convert to more intensive uses over time. A minor downside is that the area of the pipeline right of way will have to be cleared of trees and other large vegetation to prevent damage from roots, as well as to provide access to the pipeline and enable visual inspections. The area not able to be used for forestry over the pipeline will be compensated for by the pipeline company by way of an easement (right-of-way) agreement.

The exception to this preference is mineral resource lands. While it is stable, a pipeline could seriously restrict the ability of neighboring landowners to utilize the land. Specifically, one of the main uses in mineral resource land is processing the resources such as by surface mining. Surface mining near a buried pipeline could cause instability in the soil around the pipeline, endangering the integrity of the pipe, people, or the environment near it.

Relative Close Proximity to other Pipelines
This is important from a perspective of control and planning for the future of the county. As there likely will be activities that are precluded next to a pipeline route, having new pipelines relatively close to others solves the problem of having pipelines widely dispersed throughout the county, creating obstacles to landowners on what they can do with their land in large sections of the county. By placing pipelines within a relatively short distance from other pipelines, the areas affected will be more limited. Relative proximity also gives some predictability as to where future lines may be placed.

There are also safety benefits with siting lines together. "Easements with multiple pipelines and utility uses tend to have better safety records than those with just one use," said Bev Chipman, spokeswoman for Williams in a July 24, 2001 article for The Olympian newspaper. "When you co-locate lines, the corridor is usually well-marked and well-known ... The biggest threat to a pipeline is someone digging into it."

A guideline distance is that pipelines running in a corridor should be closer than 660 feet. This length was determined from analyses of high consequence areas, as well as Office of Pipeline Safety regulations that place 220 yards (660') as a threshold point where safety reports are required. The 660-foot standard is also a guideline for determining the class of pipe that needs to be installed. More specifically, if right-of-way's can not be shared then new right-of-ways should be located immediately adjacent to existing right-of-ways unless development encroachment or other site factors not previously considered preclude adjacent placement.

Conclusions

The act of pipeline siting must examine the uses that are adjacent or in close proximity to a proposed pipeline route. Some adjacent uses may be completely incompatible with a pipeline, others should be discouraged, some minimized, and others encouraged as ideal land conditions for pipelines. Those uses that regularly hold large numbers of people, or have other special circumstances may be inappropriate for siting transmission pipelines.

Recommended Approaches

- Designated agricultural and forestry lands are preferred locations for pipelines.

- Pipelines are discouraged in urban growth areas, small towns, crossroads commercial, and other areas of intense rural development as such areas are likely to have future high population density development which would render such pipeline siting inappropriate.

E. ENVIRONMENTAL ISSUES

This section will explore how a pipeline can or will affect the environment. This section will look at how critical areas may be affected, what the affect is on the environment from installation or removal of a pipeline, the effect on the environment from the normal operation and maintenance of a pipeline, as well as how a pipeline rupture can affect the environment.

Critical Areas

The following have been identified as critical areas, in which special heed needs to be given to the environment.

- Wetlands
- Aquifer recharge areas
- Frequently flooded areas
- Geologically hazardous areas
- Fish and wildlife habitat conservation areas

Wetlands

The possible impacts that pipeline construction and maintenance can have on wetlands is *a* sensitive one. A study by the Wetlands Corridor Program conducted by Argonne National Laboratory found little evidence of long term environmental degradation by underground pipelines. It was found that pipelines installed in accordance with wetland regulations are revegetated within a few years with dense, diverse plant life similar to that naturally found in adjacent areas. The negative impacts were short term, and diminished in time. (Source: http://www.es.anl.gov/htmls/wetlands.html).

Aquifer Recharge Areas and Wellhead Protection Areas

Aquifer recharge areas are crucial for replenishing underground aquifers. As a large part of the county is dependent on wells as a source for drinking water, this issue cannot be overlooked. These are areas that are highly susceptible to ground water contamination and pipelines need to be placed in areas that do not damage the recharge areas, so as to not adversely affect the replenishing rate of the aquifers. Particularly careful consideration needs to be made before placing a hazardous liquid pipeline in an aquifer recharge area or wellhead protection area. While a natural gas pipeline is not a threat, a hazardous liquid pipeline presents the risk that a spill will contaminate the ground and seep down into an aquifer or into a wellhead protection area. Chemicals used during the construction and installation process is a possible concern for all types of pipelines. Having inspections and strictly following development regulations can mitigate this risk.

Frequently Flooded Areas

Frequently flooded areas do not pose much hazard or threat to an underground fuel pipeline, except for possible buoyancy situations. The pipeline industry has techniques such as weighing sleeves, concrete swamp anchors, and other techniques for addressing this. As the integrity of the pipeline must be maintained for safety reasons and for the fuel to travel effectively, a pipe that crosses areas that are frequently flooded carries no additional concerns so long as proper mitigation measures are made.

Geologically Hazardous Areas
There are several geologically hazardous areas in Whatcom County. First, the entire region is within the influence on the Cascadia subduction zone. This could cause large magnitude earthquakes (magnitude eight or greater), although this would be very rare. However, smaller earthquakes have been noted with liquefaction. If the shaking is powerful enough, pipelines could be ruptured.

Landslides are also significant geological hazards. Hillsides that are underlain by unstable rock formations, are naturally steep, composed of moisture-sensitive soils, or made so by man-made conditions may be susceptible to landslides that could damage pipelines. Case in point, in 1997, a landslide on Sumas Mountain ruptured one of two Williams Natural Gas pipelines which ignited, no one was seriously hurt, but damage was caused to the area, and the pipeline was eventually rerouted to an area of more stability. Efforts should be made to avoid having pipelines sited in areas where there is a significant possibility of a landslide effecting a pipeline.

Fish and Wildlife Habitat Conservation Areas
Protecting natural systems that support native fish and wildlife populations and habitats have been identified as a goal under the Whatcom County Comprehensive Plan. The policy of disturbing native vegetation as little as possible along stream banks and restoring the conditions back to as natural an environment as possible is encouraged. One technique that is used in pipeline construction is boring under the stream with a drill and placing the pipe through without disturbance to the stream or water source.

The act of placing a pipeline could be a disturbance, but with proper restoration measures the impact on fish and wildlife habitat should be able to be minimized.

Shorelines of State-wide Significance
Shorelines of this category need to be protected from unnecessary intrusion. Whatcom County has a few that are deemed to be of statewide significance. Areas in Whatcom County with this designation are Lake Whatcom, Ross Lake, Baker Lake, the main stem of the Nooksack River as well as the north fork and the south fork, parts of the Skagit River near Newhalem Creek, Birch Bay from Birch Point to Point Whitehorn, and all other marine waters, water columns, and bedlands seaward of extreme low tide. Title 23 of the Whatcom County Code describes the shoreline management program regulations. The code sets forth a series of policies that apply to all projects proposing to cross a shoreline of statewide significance, including all types of pipeline projects. There are five general policies to be applied.

1. The statewide interest should be recognized and protected over the local interest in Shorelines of Statewide Significance.
2. The natural character of Shorelines of Statewide Significance should be preserved.
3. Uses of Shorelines of Statewide Significance should result in long term benefits to the people of the state.

4. Resources and ecological systems of Shorelines of Statewide Significance should be protected.
5. Public access to publicly owned areas in Shorelines of Statewide Significance should be increased.

These policies contemplate a statewide interest, or at least a local interest in a project crossing these areas. The interest in the project is a legitimate characterization on which to evaluate a pipeline project proposal that crosses and impacts shorelines of statewide significance.

Installation and Removal of a Pipeline

The installation of a pipeline will typically require disturbance of the area in which the pipeline is to be placed. Usually it is with an open trench, but boring is done in instances where the surface should not be disturbed, such as on a road or a stream. An open trench and the associated construction area, which can be as wide as 150 feet will result in the disruption of plant life, and some plants will have to be permanently removed as they are either too large to remain on the pipeline right-of-way, or need to be removed because it would create unsafe conditions for them to remain. If the pipeline is to cross streams, and wetlands, disturbances of these areas are a possibility but can be mitigated.

As for the removal of a pipeline, a similar situation exists. The area above where the pipeline is placed will be disturbed and removed to allow for the pipe to be removed.

Normal Maintenance and Operation of Pipeline

The maintenance of a pipeline easement will typically be maintained so pipeline workers can get to a particular area on the pipeline if they need to. Pavement over the pipeline right of way is also not uncommon, as it will typically cross many roads (as shown in figure #2). The picture shows how now unnoticeable a pipeline easement can be. There is very little indication that a pipeline is even there (just a strip of land without trees and a pipeline marker to provide for visual inspections and equipment access). If a pipeline crosses under a farm, normally that area may be able to be farmed (although there may be restrictions on the types of crops that can be planted over a pipeline easement). Since the operation of a pipeline is typically underground and sealed, the normal operation of a pipeline has no ongoing effect on the environment unless a leak or rupture occurs.

Figure 4: maintained pipeline right of way
Source: Whatcom County PDS 2001.

The Event of a Rupture of a Pipeline

The rupture of a pipeline is rare, although they have occurred with serious negative effects on the environment. Whatcom County has been particularly unfortunate to defy

the odds and have two major pipeline explosions in just over two years. The consequences of ruptures really needs to be broken down into what material the pipeline is transporting, and whether or not a fire or explosion occurs. The environmental hazards of each are very different.

Natural Gas

With natural gas, a spill or leak that does not ignite is going to have little effect on the environment and will be harmlessly dissipated into the atmosphere because natural gas is lighter than air. If it does ignite, there could be serious explosions and fires ~~that~~ may occur. Intensive damage and destruction to plant and wildlife, not to mention human life is very possible. The explosion in New Mexico in August 2000 that killed 12 people resulted from an explosion from a natural gas transmission line that is believed to have corroded. This happened in a Class One location, (low development density area) where several groups of families were camping.

Petroleum Based Product

A spill or leak from petroleum will result in an oil spill that must be contained and removed. As this product is a liquid rather than a gas, it has a larger opportunity to damage the environment. A spill is likely to result in soil saturated with petroleum, damage to nearby plants, and damage to wildlife that is in the area of the spill. Streams and water sources may be contaminated even far away from the source of the spill. In the event of an explosion, this may result in intensive damage or destruction to nearby plant and wildlife, as well as human life. The Whatcom Falls incident that killed 3 people occurred from a ruptured petroleum gas line, and caused extensive environmental damage. Although it is still in litigation, it is conjectured that the expense from the rupture could top 500 million dollars taking all damage and lawsuits into account.

Figure 5: Air photograph of the Whatcom Falls explosion's scorch area
Source: City of Bellingham Website (photo was taken 6/16/99)

Conclusion

While important, environmental concerns must take lesser priority to concerns over human health and safety. Encouraging and directing pipelines to travel through resource lands can reduce the risk to human life, and the possibility of environmental damage cannot be eliminated. Insuring that pipelines are not placed in environmentally hazardous areas is a prudent move to reduce the risk of any rupture from occurring, or if occurring does as little long-term environmental damage as possible. In addition, efforts should be made to have a pipeline installed with as little disturbance as possible to the environment.

Recommended Approaches

- No pipeline facilities shall be constructed or located in critical areas without fully mitigating the project impact. If impacts can not be adequately mitigated, alternative routes should be selected.

- Monitor and participate to ensure that pipelines are installed in accordance with all applicable critical area regulations.

- Hazardous liquid pipelines should not be sited within a 10-year rate of travel of a known and established wellhead protection area as defined in the Whatcom County critical areas ordinance.

- Establish siting criteria that restricts the location of pipelines in high-risk landslide zones where evidence of instability could be ascertained by recent events, or verifiable historical events.

- With installation or removal of pipe, require disturbed fisheries conservation areas to be restored to as good a condition as before the disturbance. Disturbances in wildlife conservation areas should be mitigated to the extent possible. The removal of an abandoned pipeline should only be approved if there is a good cause to remove the section of pipe as opposed to leaving it in place.

- With new applications, pipeline proponents shall notify all fire districts, water districts, and municipalities in which the proposed siting crosses those locations.

F. REGIONAL DEMAND FOR NATURAL GAS AND HOW THAT DEMAND RELATES TO EXISTING AND FUTURE CAPACITY

The purpose of this section of the report is to break down the figures and information from various sources and compile it to be of use to the community and government of Whatcom County. This information will deal specifically with regional demands for natural gas and how that relates to capacity on transmission pipelines travelling through the county. Knowing the existing capacity and anticipated demand for natural gas will give the County greater understanding of future pipeline need through Whatcom County. Once the situation is known and projected, Whatcom County can determine what needs to be accomplished to deal with the situation reasonably. This report deals with some scientific measuring terms that are not common knowledge, and definitions of these terms can be found at the end of this section. Much of this information summarizes information contained in Cascade's report and Washington State's Office of Trade and Economic Development report on the current situation for natural gas.

Background

At the time of this report, there are two interstate natural gas pipelines serving the Pacific Northwest. The first is PG&E Gas Transmission, Northwest. This pipeline initiates in Alberta and travels into Washington State near Spokane, and crosses into Oregon near the Tri-Cities. As this pipeline does not transverse Whatcom County it will not be discussed further. The other natural gas pipeline that is situated in Washington is the Northwest Pipeline, a subsidiary of the Williams Corporation. This pipeline is bi-directional, meaning that gas can flow in either direction of the pipeline. Gas can enter Washington from two locations on the Northwest pipeline. The first is through eastern Washington and the Columbia Gorge, where the gas originates from the Rocky Mountain Supply Basins. The other location where gas enters Washington via the Northwest pipeline is the Sumas entrance in Whatcom County. This gas originates from Alberta and British Columbia gas fields and travels through the state parallel of the I-5 corridor through the eastern portion of the county.

Proposed and Anticipated Pipeline Projects in Whatcom County

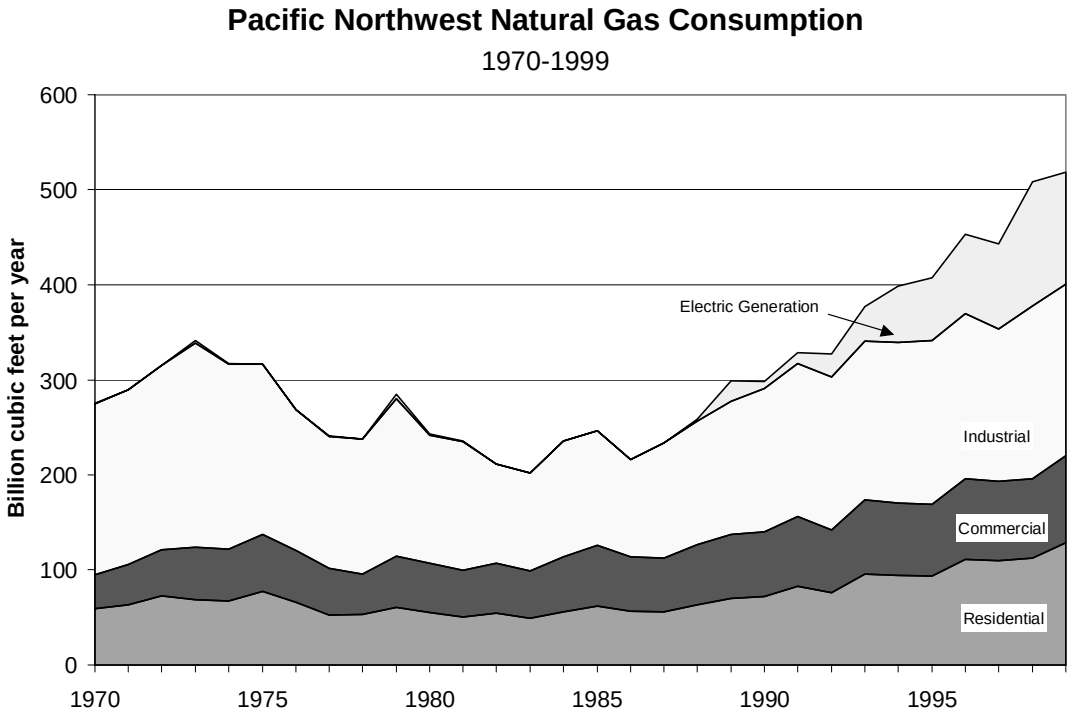
As of May, 2001, there are two expansion plans that involve Whatcom County. The first is the Georgia Strait Pipeline proposal, the other is the Sumas to Chehalis Expansion. Each of these will be discussed separately.

There currently is an application before the Federal Energy Regulatory Committee for a pipeline to extend from the Sumas hub to Cherry Point, and then under the Strait of Georgia to serve the area of Vancouver Island. This would be, if allowed as the application proposes, a 33 mile pipeline in Washington of 20 inches in diameter, and 10 miles of pipeline in U.S. waters with a 16 inch diameter. Demand for this proposed natural gas exists on Vancouver Island, primarily for power generation purposes. Powerex Corp., a BC Hydro subsidiary, has contracted for the entire initial design capacity of 94 MDth/day (94,000 Decatherms/day). The total miles of new pipe would be 85, and the cost is roughly anticipated at 159 Million dollars.

The other Northwest pipeline expansion plans is an expansion of the pipe from Sumas to Chehalis. This pipe is proposed to result in new capacity of 224 MDth/day. Williams submitted this application to FERC in October 2001. This likely is to be done by laying pipes in parallel to increase capacity, however, no additional pipe is proposed in Whatcom County for this project. Northwest/Williams hopes to have their certificate for construction in July 2002, and begin operation in June 2003.

Demand for Natural Gas

A report by the Washington State Office of Trade and Economic Development, found that natural gas consumption has been steadily increasing since 1985 in the Pacific Northwest from less than 250 Billion cubic feet per year to more than 500 Billion cubic feet per year in 1999. Users of natural gas in 1985 consisted of residential, commercial, and industrial uses. Around 1990, electrical generation entered as a fourth significant consumer of natural gas.



Source: Energy Information Administration
via Washington State Office of Trade and Economic Development, Natural Gas and Electricity Report
Figure 6

Demand for natural gas from energy generation has increased dramatically since 1985. Such demand was not significant (>1%) before 1985, to representing between 25% to 33% of the total natural gas demand in 1999. This is a tremendous increase in growth. This is illustrated in Figure 6. There were 12,000 MW of new natural gas-fired generation plants in the Pacific Northwest in some stage of construction, permitting, or planning in May 2001. If 50% of these plants were completed, the natural gas consumption in the region would immediately increase by 50%.

With regard to natural gas demand for residential and industrial users, natural gas demand has increased over time as a result of energy conditions, while such demand has remained largely flat among commercial users. Lower gas prices relative to other sources of energy during this period created a situation where many residences were equipped with natural gas water and space heating, and as a result of this, residential consumption doubled between 1985 and 1999. Residential natural gas prices in Washington State remained at, or typically below that of the national average from 1985 - 1998. Industrial demand from 1985 to 1999 grew by 50% even with higher efficiency industrial plants because of a booming economy.

According to the Cascade Natural Gas Corporation, population and demand for natural gas are expected to grow steadily over the next twenty years in the region. A chart of expected rates of growth is found below at Table 3. Their 1999 integrated resource plan, made projections regarding expected population and annual therm usage forecast. They break the system into three forecasts: the high forecast, the medium forecast, and the low forecast. The medium forecast is considered the most likely scenario. The variables that were used to forecast customer growth were population, employment, and housing conditions for residential customers. Commercial and industrial growth projections were based on population, commercial/industrial employment, fuel prices, and real personal income. A fair amount of uncertainty is going to be present in any projections set out twenty years, but this was Cascade's forecast in 1999.

As a bit of background, Cascade has service areas in 90 communities in Washington and Oregon, all of which are small cities and towns. Moreover, Cascade's sales volume had a ratio of approximately 75% in Washington State with the remaining 25% in Oregon.

In 1998, Cascade had 150,000 residential customers representing 8% of the total throughput on Cascade's system, 26,000 commercial customers representing 7%, and 470 core industrial customers representing 2% of total gas throughput. The remaining 180 non-core industrial customers represented approximately 83% of total throughput.

In Whatcom County, Cascade serves the western and central portion of the county, with service running from Sumas down south to Acme, out of the county and ends in Arlington. Cascade also serves areas generally west of those locations. Here are the results that Cascade obtained, which are for the region.

Table 3: Demand Forecast Highlights

Compound Annual Growth Rates
1998/1999 – 2018/19 Heating Season Planning Horizon

Forecast	Customers	Total Annual Therms
High	4.52%	4.22%
Medium	2.24%	2.34%
Low	0.37%	0.96%

Source: CNG 1999 Integrated Resource Plan

Under the most probable scenario (medium forecast), Cascade expects that there will be 2.24% more customers per year for 20 years on a compounded basis or 55.7% more customers in the region in 2018/19 than were in the region in 1998/99. Within the range of their forecasts, customer growth at 2018/19 could be expected to be an increase between 7.7% (low projection) and 142.1% (high projection) from 1998/99 levels. The therms used are also anticipated to increase over time.

Under the most probable scenario, Cascade expects that there will be 58.8% more therms used in 2018/19 than was demanded in 1998/99. Within the range of their forecasts, total annual therms at 2018/19 could be expected to be an increase between 21.1% (low projection) and 128.6% (high projection) from 1998/99 levels.

From a residential customer forecast conducted by Cascade Natural Gas Corp., the Bellingham area had 30,277 residential customers in fiscal year 2000, and is anticipated to increase steadily to 46,062 residential customers by 2015. This represents a 52.1% total growth from 2000 to 2015, or 2.83% annualized growth anticipated. Largest growth areas in the County over the next fifteen years are expected to be Blaine (147.6% increase), and Ferndale (70.5% increase), followed by Bellingham (46.2%) and Lynden (41.2%). Of the residential customers in Whatcom County, Bellingham comprises just over 55% of the natural gas residential customers in the area, and that is expected to increase slightly to 61% by 2015.

As the supply of natural gas that needs to be delivered to other locations in the state or region will increase, it is not complete to only consider the demands of Whatcom County. As already mentioned, Williams pipeline serves the counties down the I-5 corridor. As natural gas fired electrical energy generators are constructed, the demand on this system will increase. This can help explain the two expansion plans that Williams has involving Whatcom County. There are currently 16 Washington State based natural gas power plants either under construction, permitted, or proposed. As of May 2001, the maximum capacity of currently operating plants in Washington, Idaho, and Oregon is 3,069 Megawatts (MW). To give some perspective, the peak energy demand of the city of Seattle is approximately 2,000 Megawatts. The maximum fuel use of all the currently operating plants in the Pacific Northwest is 555 MDth/day. Theoretically, if all of these plants that are under construction, permitted, and proposed were in operation, the generation capacity of the region would increase to 16,015 MW and maximum fuel use

could reach 2,631 MDth/day. Of course, it is unlikely that every plant would become operational, but this illustrates how much strain could occur on the natural gas pipeline system.

Conclusion

Trends existing in the county and region anticipate the need for increased consumption of natural gas. The capacity levels of natural gas pipelines are currently fully subscribed, meaning that they are serving at full current capacity. However, there are two ways that increased volumes can be served. The first is to increase the pressure of the system, the other is to increase the capacity of the pipe or add pipe in parallel to the current system. Adding pipe in parallel is probably preferred to replacing with a larger pipe, as it does not require taking any pipes out of service during the installation process.

While the County may be able to make some indirect influence over consumption of natural gas in the county (ex. by encouraging conservation, encouraging higher efficiency, and controlling land uses), it cannot control the fact that a large part of the supply needs to travel through the county to reach demand elsewhere. Market forces will heavily influence the demand for natural gas or power generation that exist in the region. As a result of a recent power crunch in the winter of 2000/2001 increased need for electrical energy generation has been on the minds of many in the region, and it could very well result in more natural gas power generators coming on-line in the future.

Recommended Approaches

- The County should encourage energy conservation and energy efficiency in all proposed residential, commercial, and industrial projects.

Appendix For Natural Gas Supply and Demand Chapter: Units of Measurement

- *Btu* stands for British thermal unit, a standard unit of energy content. One Btu is the amount of energy expended to raise one gallon of water by 1 degree Fahrenheit.
- *MDth* is a thousand decatherms, or a billion Btu.
- *Therm* is 100,000 Btu. This is the standard measurement used for retail natural gas sales. One therm is equivalent to 29.3 kilowatt hours at 100% efficiency.
- *kW* stands for Kilowatt, which is a standard unit of instantaneous electric energy generation.
- *MW* stands for Megawatt, which is equal to 1,000 kW, and is the standard unit for expressing power plant generation capacity.

G. COMMUNITY IMPACTS

This section will explore the effects that a pipeline has on the community. First, the effects of an existing pipeline and then the placement of a new pipeline will be examined. After that, how a pipeline can have an impact on the community at large, as well as the region, will be briefly reviewed.

What effect has the Olympic pipeline explosion had on Bellingham property values near Olympic pipeline?

To determine what effect the Olympic pipeline explosion has had on sales of real estate on or near the pipeline route, an interview was conducted with the Chief Deputy Assessor of Whatcom County, John Romaker, to see how property values have been affected. The Assessors office found neither the frequency of sales nor market transaction resale values had been affected as a result of the pipeline explosion. In terms of market values or length of time it took to sell a property, there was no noticeable stigma that could be attributed to being located abutting or within 300 feet from the Olympic pipeline. He did note that site specifically there can be problems, such as a location where a pipeline may split a property. Romaker said that he thought that these outcomes were somewhat surprising but noted that there was little controversy from the public, and the majority of the questions regarding this subject have been from the media, although a few calls were made by neighboring citizens shortly after the explosion. Three anecdotal cases of before and after sales along the pipeline route were mentioned. The first property was sold in June of 1997 for $184,000, and then sold July 1999, after the June 10, 1999 explosion, for $202,000. A second property was sold in April of 1994 for $230,000 and sold again in the year 2000 for $222,000, showing a slight decline over the 6-year period. A final example was given of a house in the View Ridge neighborhood, a location close to the scorched area of the Whatcom Falls explosion. It changed ownership in 1998 for $219,900 and again in 2000 for $235,000. The following is a chart of these sales.

Table 4: Sample Housing Sales near the Olympic Pipeline Explosion

Property	Date of First Sale	Selling Price	Date of Second Sale	Second Selling Price	Increase or (Decrease) in %
Property 1	6/1997	$184,000	7/1999	$202,000	9.8%
Property 2	4/1994	$230,000	1/2000	$222,000	(3.5%)
Property 3	?/1998	$219,900	?/2000	$235,000	6.9%

These three examples, two with slight increases in value, one with a slight decrease indicate the effect or lack thereof that the June 1999 explosion in Bellingham has had on the local real estate market. Romaker did not have the numbers of properties sold along the pipeline route readily available, but felt fairly confident that other sales would reflect similar trends or lack thereof.

It might have been anticipated that the property values in the immediate area would drop quickly from the time of the explosion, with a remaining short term impact depressing property values for a period of 5-7 years, until the event was no longer fresh in the minds

of prospective buyers. This apparently is not the case, and the explosion has had little effect on property values even shortly after the event. A couple possible explanations are that it is highly unlikely that the pipeline will rupture on or near any particular owners stretch of land, and that processes are now in the works to insure that Olympic pipeline, now BP/Olympic, operates its pipe in an extremely safety-conscious way.

General Economic Impact of Being Located on a Pipeline

The results in Whatcom County are generally similar to that of a national case study on the subject. INGAA, the Interstate Natural Gas Association of America, conducted a case study to look at the impacts of property on a pipeline. The *INGAA Foundation Natural Gas Pipeline Impact Study* was a case study to determine where 4 communities from various regions of the U.S. were examined to determine what, if any, the impact was of having a property located on a pipeline compared with a property not located near a pipeline. The study found that there was no significant impact on the sales price of properties located along natural gas pipelines in the area of the case studies. It was further determined that neither the size of a pipeline (diameter) nor the product carried by a pipeline has any significant impact on sales price. Petroleum pipelines were looked at in a limited study with the same results. Laura Turner from the Federal Energy Regulatory Committee also stated that property values are not typically impacted by the presence of pipelines.

The report concluded that there was no discernable impact on demand for properties located along natural gas pipelines in the locations studied. Also, the existence of a pipeline did not impede development of the surrounding properties in any of the locations that were researched.

The study also revealed that the existence of a pipeline has no significant impact on development decisions such as lot size or type of improvement constructed. The presence of a pipeline did not impact any specific property type more or less severely than other property types in the areas studied. The study concluded that it was very likely that the results and conclusions of their study were transferable to other market situations involving natural gas pipelines in other regions of the country.

Other Community-Related Aspects of Pipeline Applications

There is also the situation of the adjacent neighbor. A property owner who has a pipeline transversing their property is going to receive compensation either via an easement agreement (or in a rare case a purchase agreement is possible) or from eminent domain action. The neighbor, who shares the risk of damage from a pipeline incident, will receive nothing, as there is nothing to be purchased from this person. Also, his or her voice will not be heard at a bargaining table, and is limited to commenting (or formally intervening) on the project. If there is a reduction in value due to being adjacent to a pipeline route, this owner will be uncompensated. This appears unfair to the neighbor who is truly lacking control or benefit in this matter.

Finally, what benefits the County will receive from the proposal should be addressed, at least to aid County decision-makers in formulating an attitude toward the proposal.

Presumably, a pipeline will be built to satisfy local needs, or to act as a passthrough to satisfy national needs or the need of the Pacific Northwest. Without adequate demand, the benefits of a new or expanded pipeline are likely to be outweighed by the cost; the cost to the corporation, to the community, to the environment, and to the individual landowners who lose rights over portions of their land. Positive community impacts should be strongly encouraged of pipeline corporations, especially for projects that are not aimed at satisfying the needs of Whatcom County.

Conclusion

Encourage the full cost of a pipeline to be taken into account, including every aspect that a pipeline affects the value of land, the landowners, and the community. Pipeline companies need to be strongly encouraged to support the local community as a way of mitigating or, at a minimum, compensating for the negative effects that it may have on the county. This could be done via helping with restoration projects that improve the overall condition of the county or supporting informational sessions related to easement purchases. These are some ideas, other ideas may be appropriate as well.

Recommended Approaches

- Require pipeline proponents when siting new lines to conduct "open house" and "townhall" style public meetings as part of a County land use development permit process. Different meeting formats offer different positive features County citizens.

- Require that a pipeline proponent show how the proposal provides local or regional benefit.

- Require pipeline proponents to provide notification of the project to abutting landowners.

H. EMINENT DOMAIN

The issue of eminent domain has been seen as one that is significant to the committee and is seen by some as being a weapon in the utility company's arsenal as a way that they can insure that their projects can move forward at the landowners expense. Opinions are likely to differ on the issue of eminent domain, but it appears to be generally agreed that landowners tend to dislike having their property or a portion thereof taken away without their assent. However, the eminent domain process is used with low frequency as a last resort. A local pipeline representative estimated that eminent domain is a tool that is used less than seven percent of the time by his company.

One thing the committee aims to do is to look at the issue of eminent domain, analyze the situation, and determine whether there is anything that can be done by the county to make the situation equitable to all involved. This will look at the background surrounding eminent domain, come to a conclusion as to where the county should position itself on this issue, and make policy suggestions.

What is eminent domain?
"Eminent domain", or sometimes called "condemnation" is the legal process by which a public entity (or some private corporations, such as railroads, and utility companies) are given the legal power to acquire a landowner's private property for a specific public use. This power to take private property for public use is an ancient concept going back to the Roman Empire where a form of eminent domain was used to create roads and aqueducts. Under the U.S. Constitution and Washington statutes, private property may be taken for public use by eminent domain so long as just compensation is paid. The Washington statutes applicable are RCW 8.20, 8.25, 80.88.020, and RCW 80.28.220 for statutes regarding the authority and purposes of eminent domain for pipeline companies.

Who has the authority to take property by eminent domain?
In general, the authority to take property by eminent domain is held by numerous entities. The federal government, the state, counties, cities, school districts, and some corporations have the power to eminent domain. Utility corporations controlling oil and gas pipelines, electrical power companies, telecommunication companies, and water power companies are examples of corporations with eminent domain power.

A utility company in an interstate project needs to obtain a certificate of public convenience and necessity, meaning that the project has been approved. This certificate is granted by FERC for natural gas lines, or the Department of Transportation for petroleum lines. In a project under federal jurisdiction, the holder of a certificate of public convenience and necessity is empowered with the right to acquire property by eminent domain, if agreements with the landowners cannot be made. The pipeline company would have to seek to exercise their right to eminent domain in the District court of the United States in the district in which the property is located, or in State courts. The procedure in District court shall conform as much as possible to that of the State courts. 15 U.S.C. 717h. For FERC pipeline proposals, eminent domain cases are followed according to state statutes.

How is an eminent domain action done under Washington State law?
The entity seeking to appropriate the private property, the "condemnor", files suit in Superior court in the county where the property is located, and seeks a determination of the amount of compensation to be paid to the landowner in a court of law. Notice of the lawsuit must be made to everyone named as owner, encumbrancer, tenant, or interested party at least ten days before the hearing to give fair notice of the adjudication.

At the trial, there must be competent proof that the contemplated use for which the property is to be appropriated is really a public use, or is for a private use for a private way of necessity, and that the property sought to be appropriated is required and necessary for the purposes of the enterprise, or is for a private use for a private way of necessity, and that the public interest requires the prosecution of such enterprise. Once the court or judge has made a positive determination, then the issue of compensation shall be explored.

At the trial to determine the amount of compensation to be paid to the private property owner, those with encumbrances, tenants, and interested parties, are allowed to present witnesses. Upon the verdict of the jury or in the event of a trial without a jury, the court's determination, judgment will be entered for the amount of the damages awarded to such owner or owners respectively, and to all tenants, encumbrancers and others interested, for the taking or injuriously affecting such land, real estate, premises or other property.

At the conclusion of the trial, a decree of appropriation will be filed with the office of the auditor in the county where the property is located. This decree of appropriation shall be recorded like a deed of real estate and with like effect. The compensation to be provided is paid into the court along with the costs of the proceedings, and to be paid out under the direction of the court or judge. On such payment to the court, the corporation shall be released and discharged from all further liability, unless upon appellate review it is determined those interested parties shall recover a greater amount of damages than determined at superior court. There exists the opportunity for appeal for 30 days from the date of the entry of judgement so long as the appealing party has not accepted compensation.

Issues that need to be resolved in an eminent domain action
There are three main issues that must be resolved in an eminent domain case, although it may appear that there are only two. Also, there exists an issue such as whether or not all parties have received notice, which is similar to other notice requirements in civil cases. Here are the three issues that pertain directly with eminent domain.

1. Is this an entity that has eminent domain power?
This is not a strong issue, because it is highly likely that an entity that has eminent domain power knows that it has it, and one that does not, is aware of that fact as well. For a somewhat absurd example, a private restaurant owner is not going to be successful in an eminent domain action to acquire property, because it is not within one of those

groups that have been given the statutory authority to acquire property by eminent domain.

2. Is this property to be acquired for a public purpose or another purpose allowed under eminent domain?

Every eminent domain action requires a showing of proof that the purpose of acquiring the land is for a public use, or a private use of private way of necessity. This could be adding to utility infrastructure, adding to transportation infrastructure. An example of private use of a private way of necessity is the landowner who splits a tract of land into sections and sells it off, leaving one of the parcels without any way to be accessed by a nearby road. This parcel might be granted an easement of necessity over an adjacent neighbor's property to travel across to reach the landlocked property. Once the proof of a requisite purpose is made, then the court shifts to make a determination of compensation. If it was determined that there was no adequate reason for the suit as allowed under eminent domain, then the suit would fail to go forward.

3. What is the just compensation to be paid?

Just compensation is to be the fair market value of the portion of land that was taken with consideration to the highest and best use to which the property can be devoted, assuming that neither seller nor buyer is under an obligation to sell or buy. This land may be taken in fee, or alternatively, some of the rights to the land may be taken. The latter is the case when a pipeline company uses eminent domain to obtain the right to place a line on a property, retains the right to restrict building of structures, and retains the underground pipeline easement to the portion of the property. This issue is a factual one and can be determined by a jury if either side desires. There are opportunities for attorney's fees to the condemned (RCW 8.25.070) as well as fixed amount (up to $750) for appraisal fees. RCW 8.25.020.

Conclusion

Local government is not involved currently in the eminent domain process conducted by corporations. Whether the County should try to get more actively involved through more requirements on the corporations in the permitting process, is a policy question. While ideally it would be desirable for buyers and sellers of property to willingly come to agreements without the use of the eminent domain power, this unfortunately is not always possible. Trying to ferret out priorities between individual property rights and benefits to a community are difficult and are often case-specific.

Eminent domain is a well-recognized practice in the U.S and state governments. Eminent domain has a role in our society to the landowner (i.e. insuring receiving just compensation), the corporation or condemning entity (i.e. preventing a few landowners from asking exorbitant prices, thereby blocking projects), and the community (i.e. allowing a mechanism for projects of public benefit to move forward). This being said, eminent domain is a tool that should be used rarely and only if the involved parties refuse to be reasonable, as opposed to being used as a threat held over the landowners' figurative head, as a common perception holds. Further, clear information regarding the

rights and responsibilities of all parties involved is necessary to ensure that landowners know what to expect when confronted with an eminent domain threat.

Recommended Approaches

- Require early in the permitting process when new pipelines are proposed, that funding be provided by a pipeline proponent toward a third-party held informational session about eminent domain and right-of-way issues so that landowners and interested parties understand these issues and process. This would help alleviate some of the fears of eminent domain that exist.

I. FRANCHISES AGREEMENTS ON ROADS

Introduction

A franchise agreement is a negotiated document made between the governing body and a utility company. The agreement between these two groups sets out terms under what conditions the utility company is allowed to place their wire lines or pipelines under public roads or on county property. A franchise agreement may be crucial to the ability of a project to be implemented, without one; a project (such as one involving a pipeline) might not be feasible. With respect to counties, the County Council may authorize and grant franchises to persons or private or municipal corporations to use the right of way of county roads for the construction and maintenance of waterworks, gas pipes, telephone, telegraph, and electric light lines, sewers and other such facilities. Franchises can also include railway roads, tramroads, and cattleguards.

A franchise must go through a hearing process, which is initiated with an application made to the county legislative authority. The application will fix a time and place for the hearing, and a public notice shall be given at the expense of the applicant, by posting notices in three public places in the county seat of the county at least fifteen days before the day set for the hearing. Also, notice of the hearing shall be published in the official newspaper of the county at least five days before the hearing. If, after the hearing, the board deems the project to be for the public interest to grant the franchise in whole or in part, it may enter a resolution to that effect and require the applicant to place their utility and appurtenances in such location on or along county roads as the board finds will cause the least interference with other uses of the road.

The state of Washington has several limitations on what must or must not be included in franchise agreements, these will be addressed below. These issues regarding franchises over county roads and bridges are specifically addressed by RCW 36.55.

Of particular note is the limitation upon grants.

1) Any person constructing or operating any utility on or along a county road shall be liable for all expense incurred in restoring the county road to a suitable condition for travel.
2) No franchise shall be granted for a period longer than 50 years.
3) No exclusive franchise shall be granted.
4) The facilities of the holder of any such franchise shall be removed at their expense, to some other location in the event that the County right of way is to be constructed, altered, or improved, and such removal is necessary for the construction, alteration, or improvement.

The county auditor shall keep and maintain a correct record of all franchises existing or granted with information describing the holder of the franchise, the purpose, the portion of county road over or along which granted, the date of granting, term for which granted, date of expiration, and any other information with reference to any special provisions of such franchises.

The process of granting and obtaining a franchise agreement has been discussed, so the focus will shift to Whatcom County's existing franchise agreements. At the conclusion of this document will be an easy to understand summary of Cascade's franchise agreement.

Summary of Northwest/Williams Franchise Agreement

There are at least two franchise agreements that the County made with Pacific Northwest Pipeline, now a William's subsidiary. The provisions of both of the documents are identical with the exception that the franchises are granted over different specific county roads. These agreements govern under what conditions the pipeline company is to operate such as, obtaining permits, laying pipe only in accordance to the plan, providing notice to the County Engineer, restoring the situation to as good condition as before, and other provisions of a like nature. Furthermore, these are not exclusive franchises (or are any such agreements that the county makes). It is binding on successors and assigns, and must give 60 days notice of intention to sell or assign the franchise. This provision is more liberal than the Arco franchise executed in 1970, where the right to sell or assign the franchise must be consented to by the County Council.

The franchise agreements that were made with Trans Mountain and Atlantic Richfield are materially similar, although some minor discrepancies do exist. No franchise agreement through Whatcom County currently requires any pipeline company to pay a fee (either yearly or one-time). They do all require that the road be restored to as good a condition as it was prior to construction and installation of a pipeline.

Cascade's Franchise Agreement

Provisions in Cascade's agreement make clear that the County maintains ultimate control regarding placement. The County, through the Public Works department, requires an application process, which must be approved by the Director of Public Works before a permit can be obtained. As distribution lines are laced throughout the County, there is no precise locations specified in the agreement. The County also retains the right to proscribe how and where gas distribution lines are to be installed. Also, the County can require the removal or replacement of lines if it is in the public interest. There are much more details of Cascade's franchise agreement at Appendix A.

Table 5: Expiration of County's Franchise Agreements

Name of Pipeline	Date of Expiration	When Entered Into	Term of Franchise
Pacific Northwest (now Northwest/Williams) (2 Agreements)	March 2006 & August 2006	March 1956 & August 1956	50 years
Trans Mountain Oil	November 2006	November 1956	50 years
Atlantic Richfield (ARCO) pipeline	August 2010	August 1970	40 years
Cascade Natural Gas	May 2021	May 1996	25 years

The conditions of the franchise agreements remain in effect into the time of expiration or agreement of both the parties. At expiration, terms may be renegotiated.

Discussion/Conclusion

The topic of franchise agreements came up among UPAC members as a possible technique that could be used to have greater control over the actions and behavior of pipeline companies. Possible suggestions were to require meetings for projects in a format proposed by the county as a condition in the agreement, to require yearly or periodic fees for use of the franchise, inconvenience fees for detours/days a road is under construction, and using the franchise power as a community tool to ensure fair dealings.

The earliest that an existing franchise agreement is set to expire, however, is 2006. However, the franchise agreements that do exist (with the exception of Cascade's franchise agreement) have a detailed specificity and illustrate exactly where the road crossings are allowed. This appears to allow room for new franchise agreements to cover new terrain in the case of a proposed pipeline route. With an expansion of an old pipeline, on the other hand, following a route in close parallel, it is unclear whether a new franchise agreement would need to be executed.

This topic of using franchise agreements is one where it seems as if improvements can be made. First, this is a topic that is squarely within the power of the county. The downside is that the previously agreed-to franchises do not expire for a significant amount of time (between 5 to 20 years). Second, improvements in the agreements have been made over the years (shorter term lengths, implementing contract provisions more beneficial to the county, etc.), but even further advantageous use of franchise agreements could be implemented. Whatcom County should consider using franchise agreements to get pipeline companies to comply with the County's desire for more frequent pipeline inspections and insuring that meetings are held in appropriate formats. There may be other conditions as well that would be appropriate to be in a franchise agreement, governing the operation of the pipeline. A copy of a model franchise agreement from the consortium of cities and counties regarding pipelines has been added in an appendix to this section. This should be used as a starting point for negotiating a franchise agreement with a pipeline operator.

Recommended Approaches

- As it is recognized that a franchise agreement can be a beneficial tool in addressing pipeline concerns, the County will carefully scrutinize all proposed franchise agreements, review and evaluate model franchise agreements for provisions to be incorporated into negotiation discussions regarding proposed provisions in future franchise agreements.

APPENDIX A

Summary of Whatcom County's
Franchise Agreement with Cascade Natural Gas

1. Franchise Granted. A non-exclusive franchise for Cascade has been granted for a period of 25 years, featuring non-exclusive rights and privileges to construct, operate, maintain, and repair Natural Gas Distribution Lines along county roads. The rights apply to all roads and county property. This agreement was signed in May of 1996, and will expire May 2021.

2. Cascade shall have the right to enter county roads, rights-of-way and other county property for the purpose of constructing, operating, and maintaining Natural Gas Distribution lines and facilities. All construction and installation along or under county roads shall be subject to the approval of and pass inspection of the Director of Public Works and will conform with all County and State regulations. The County may prescribe how and where gas distribution lines be installed and may require the removal and replacement of such lines, if in the public interest, at Cascade's expense.

3. Maintenance and Restoration. For the disturbance of a road, paved area or public improvement, Cascade shall restore it to the substantially same condition as existed before the disturbance. Cascade shall maintain all above ground improvements it places on County right-of-way. If Cascade fails to comply and property is damaged, then Cascade shall be responsible for all damage caused.

4. Construction Application. Before construction of Natural Gas Distribution lines, Cascade shall file with Director of Public Works its application for permit to do such work, together with plans and specifications showing the location of all lines and facilities sought to be constructed. Lines and facilities shall be laid in exact conformity with such plans and specifications, with deviations allowed only writing by the Director of Public Works. The plans shall specify how the installation is to take place. No construction shall be commenced until securing a written permit from the Director of Public Works.

5. Construction on Roadways/County Property. In work that requires breaking the soil of county roads or other county property, Cascade, at its own expense, shall complete the work and make good the county road or county property and leave it in as good condition as before work was commenced. The Director of Public Works may order work considered necessary to return county property to a safe condition. On demand, Cascade shall pay all costs of such work.

6. Construction – Other Lines and Facilities. All construction or installation of gas lines or distribution service shall be done in a manner so as to not interfere with other utilities' lines, drains, drainage ditches, irrigation ditches, nor grading or

improvement of county roads, right-of-ways or county property. Utilities installed prior in time shall have preference as to positioning and location.

7. Construction – Public Safety and Inconvenience. Safeguards shall be taken by Cascade to insure as little interference as possible, and so that damage and injury do not arise. Covering holes at night, and placing warning lights and barricades are examples of what is required. Cascade is liable for any injury or damage sustained by its carelessness or neglect.

8. County Rights Reserved. Whatcom County does not waive any rights that it now has with respect to county roads, right-of-ways or other county property. The franchise shall be subject to the power of eminent domain, and in any proceeding, the franchise itself has no value.

9. Relocation of Lines and Facilities. Cascade, upon written notice from the Director of Public Works or the Director of Highways, shall at its expense, change the location of or adjust the elevation of transmission lines as to not interfere with County work. All such work shall pass the inspection of the Director of Public Works.

10. County Road Work Permitted. The County will give 48 hours notice if it intends to engage in blasting, grading, excavating contiguous to a distribution line in order to allow Cascade to protect its lines and facilities.

11. Indemnification. Cascade shall indemnify, defend, and save harmless Whatcom County and duly elected or appointed officials or members or employees from any loss arising out of any act or omission on the part of Cascade which may occur by the construction, operation and maintenance of Cascade's distribution lines and facilities. Cascade shall fully satisfy a judgment against the County within 90 days. Failure to do so shall terminate the franchise agreement and Whatcom County shall have a lien on the distribution lines and facilities.

12. Non-Exclusive Franchise. This franchise agreement is non-exclusive. It shall not prohibit the County from granting other franchises.

13. Successors and Assignees. All the provisions of the franchise agreement are also binding on the successors and assignees of Cascade. This franchise may not be sold, transferred, or assigned without the consent of the Whatcom County Council.

14. Enforcement/Remedies. If Cascade willfully violates or fails to comply with any provision through willful or unreasonable neglect, then Cascade shall forfeit all rights, and this franchise may be revoked or annulled by the Whatcom County Council.

15. Insurance. Cascade shall maintain during the term of the agreement, an insurance policy in the amount of three million dollars for property damage coverage, and one million dollars for public liability coverage. The County reserves the right to review the dollar amounts of the policies and adjust the amount of coverage deemed appropriate on an annual basis.

16. License, Tax and Other Charges. Cascade is not exempt from any future uniform rent, license, tax charge that may be required. Failure to timely remit any sums properly due shall be cause for forfeiture of rights under this agreement.

APPENDIX B RECOMMENDED APPROACHES

This section summarizes the recommendations previously made, in a format so that the recommendations can be easily viewed together and as a whole.

Safety

- Require pipeline operators to provide accurate "as-built" pipeline maps as a condition of approval for any county development permit (shoreline, conditional use or major development). In addition to scaled plan maps which shall be accurate to the parcel level, pipeline information (pipe size, allowable pressure, fuel type, average or approximate right of way width, etc) shall also be provided.

- The County should implement an educational program/pamphlet that explains the basics of pipeline safety including how to access the one-call system. This system is to be developed in cooperation with the pipeline industry.

- Continue to encourage pipelines to follow adjacent to established corridors where possible. If deviations are proposed, the applicant shall provide a justification for each deviation.

- The County should seek intervenor participation on all pipeline proposal that are not within the County's regulatory authority, so as to preserve the County's legal rights and to retain a voice in the proposal. The County will review a pipeline proponent's application materials and file comments according to the appropriate procedure within the timelines provided. Staff shall engage in continual and ongoing communication with the regulatory authority regarding the project as the need or occasion arises.

- If not preempted by federal or state authority, have pipelines allowed only by a conditional use permit, except possibly in industrial zones, with an objective analysis of the pipeline to determine its suitability in relation to the County's siting criteria.

- Notify and seek comment from pipeline operators concerning land use development applications. Take comments received under advisement.

- Encourage siting of critical facilities and high occupancy facilities within the regulations of WAC 480-93-020, and 480-93-030, and as are hereafter amended.

- Require evidence of compliance by the applicant with all right-of-way easement provisions as a condition of all discretionary and non-discretionary land use approvals.

- Put a flag on county databases for permit applications. Through the permitting process flag or control excavation activity in areas adjacent or within 50' of the pipeline. Place a higher level of scrutiny on construction in such areas.

- A pipeline vicinity (within 660' of a pipeline) disclosure shall be recorded with/on property deeds in the County Auditor's Office and shall be treated in the same manner as critical areas notes. A statement identifying that a significant natural gas or hazardous liquid pipeline is within the vicinity and the auditor's file number for it shall be on the final plat or short plat map under surveyor's notes prior to final approval by the county. (See WCC 21.04.170, 21.06.070).

- Require use of the "one-call" system on all County land use development permits where excavation is required. The County may impose a county fine for failure to properly use the one-call system.

- Whatcom County's GIS department is to provide updated copies of all major pipeline routes to Whatcom County's Division of Emergency Management. Require as builts of all new pipeline projects, extensions and reports to be submitted to the County for update to gas mapping layers. Provide updates to Whatcom County's Division of Emergency Management.

- A performance bond, assignment of savings, or other like security shall be required for installation and mitigation projects in the amount necessary to insure full performance of all required and approved construction. Upon completion of the project, the performance bond shall be released.

Adjacent Uses

- Designated agricultural and forestry lands are preferred locations for pipelines.

- Pipelines are discouraged in urban growth areas, small towns, crossroads commercial, and other areas of intense rural development as such areas are likely to have future high population density development which would render such pipeline siting inappropriate.

Environment

- No pipeline facilities shall be constructed or located in critical areas without fully mitigating the project impact. If impacts can not be adequately mitigated, alternative routes should be selected.

- Monitor and participate to ensure that pipelines are installed in accordance with all applicable critical area regulations.

- Hazardous liquid pipelines should not be sited within a 10-year rate of travel of a known and established wellhead protection area as defined in the Whatcom County critical areas ordinance.

- Establish siting criteria that restricts the location of pipelines in high-risk landslide zones where evidence of instability could be ascertained by recent events, or verifiable historical events.

- With installation or removal of pipe, require disturbed fisheries conservation areas to be restored to as good a condition as before the disturbance. Disturbances in wildlife conservation areas should be mitigated to the extent possible. The removal of an abandoned pipeline should only be approved if there is a good cause to remove the section of pipe as opposed to leaving it in place.

- With new applications, pipeline proponents shall notify all fire districts, water districts, and municipalities in which the proposed siting crosses those locations.

Supply and Demand of Natural Gas / Hazardous Liquids

- The County should encourage energy conservation and energy efficiency in all proposed residential, commercial, and industrial projects.

Community Impacts

- Require pipeline proponents when siting new lines to conduct "open house" and "townhall" style public meetings as part of a County land use development permit process. Different meeting formats offer different positive features County citizens.

- Require that a pipeline proponent show how the proposal provides local or regional benefit.

- Require pipeline proponents to provide notification of the project to abutting landowners.

Eminent Domain

- Require early in the permitting process when new pipelines are proposed, that funding be provided by a pipeline proponent toward a third-party held informational session about eminent domain and right-of-way issues so that landowners and interested parties understand these issues and process. This would help alleviate some of the fears of eminent domain that exist.

Franchise Agreements

- As it is recognized that a franchise agreement can be a beneficial tool in addressing pipeline concerns, the County will carefully scrutinize all proposed franchise agreements, review and evaluate model franchise agreements for provisions to be incorporated into negotiation discussions regarding proposed provisions in future franchise agreements.

- **APPENDIX C: Glossary**

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs (Chapter 173 – 160 WAC).

"Cathodic protection" means an erosion control technique implemented through the use of an electrical current. It is protection added by applying an electric current to the pipe to counteract the electrical currents created by corrosion where the metal surface contacts the ground.

"Class locations" means an onshore area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline.

(1) A Class 1 location is:
  (i) An offshore area; or
  (ii) Any class location unit that has 10 or fewer buildings intended for human occupancy.
(2) A Class 2 location is any class location unit that has more than 10 but fewer than 46 buildings intended for human occupancy.
(3) A Class 3 location is:
  (i) Any class location unit that has 46 or more buildings intended for human occupancy; or
  (ii) An area where the pipeline lies within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.)
(4) A Class 4 location is any class location unit where buildings with four or more stories above ground are prevalent.

(as defined at 49 CFR 192.5)

"Combustible gas indicator" (CGI) means a device capable of detecting and measuring gas concentrations of the gas being transported.

"Critical areas" mean the definition in Whatcom County's Critical Areas Ordinance 16.16.800(17). This includes the following areas:

a. Geologically hazardous areas;
b. Alluvial fan hazard areas;
c. Frequently Flooded Areas;
d. Critical aquifer recharge areas;
e. Wetlands;
f. Fish and Wildlife habitat conservation areas.

"Critical facilities" mean the definition in the Whatcom County's Critical Areas Ordinance 16.16.800(19). (Ord. 97-056).
These include:

a. Essential Facilities.
    i. Fire and police stations;
    ii. Tanks or other structures containing, housing or supporting water or other fire-suppression materials or equipment required for the protection of essential or hazardous facilities, or special occupancy structures;
    iii. Emergency vehicle shelters and garages;
    iv. Structures and equipment in emergency-preparedness centers;
    v. Stand-by power generating equipment for essential facilities;
    vi. Structures and equipment in government communication centers and other facilities required for emergency response.
b. Hazardous Facilities. Structures supporting or containing sufficient quantities of toxic or explosive substances dangerous to the safety of the general public if released.
c. Special Occupancy Structures.
    i. Covered structures where primary occupancy is public assembly;
    ii. Buildings for schools, colleges, adult education or day-care centers;
    iii. Hospitals and other medical facilities;
    iv. Jails and other detention facilities.

"Distribution line" means a pipeline other than a gathering or transmission line.

"Easement" is used interchangeably with right-of-way.

"EFSEC" is a common abbreviation to refer to Washington's Energy Facility Siting Evaluation Council.

"FERC" is a common abbreviation to refer to the Federal Energy Regulatory Commission.

"Fish and wildlife habitat conservation area" include listed species habitats, habitats and species of local importance, shellfish habitat conservation areas; kelp and eelgrass beds, pacific herring spawning areas, surf smelt and pacific sand lance spawning areas, ponds and wetlands, lakes and marine water bodies, rivers and streams, and natural area preserves.

"Franchise agreement" means a negotiated document made between the governing body and a utility company setting conditions how a utility company is allowed to place their facilities under public roads or on county property.

"Gas" means natural gas, flammable gas, or toxic or corrosive gas.

"Gas pipeline" means all parts of a pipeline facility through which gas moves in transportation, including, but not limited to, line pipe, values, and other appurtenance connected to line pipe, pumping units, fabricated assemblies associated with pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks. "Gas pipeline" does not include process or transfer pipelines.

"Gas pipeline company" means a person or entity constructing, owning, or operating a gas pipeline for transporting gas. A "gas pipeline company" does not include: (a) Distribution systems owned and operated under franchise for the sale, delivery, or distribution of natural gas at retail; or (b) excavation contractors or other contractors that contract with a gas pipeline company.

"Gathering line" means a pipeline that transports gas from a current production facility to a transmission line or main.

"Geologically hazardous areas" means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, may not be suited to seating commercial, residential, or industrial development consistent with public health or safety concerns. They include areas that are susceptible to one or more of the following types of hazards:

a. Landslide hazards;
b. Seismic hazards;
c. Mine hazards;
d. Alluvial Fan hazards.

"Hazardous liquid" means: (a) Petroleum, petroleum products, or anhydrous ammonia as those terms are defined in 49 C.F.R. Part 195.

"Hazmat" means hazardous materials, and is typically meant to refer to a hazardous materials level or hazardous materials plan.

"High consequence area" means the area within which both the extent of property damage and the chance of serious or fatal injury where a pipeline rupture combined with ignition would be expected to be significant.

"One call locator service" means an organization of owners or operators of buried facilities which provides a telephone notification service for the purpose of receiving and distributing to its members advance notifications from persons regarding planned excavations.

"Mitigation" means actions taken to alleviate, reduce severity or moderate consequence of the effect.

"Pipeline" or "pipeline system," means all parts of a pipeline facility through which a hazardous liquid or gas moves in transportation, including, but not limited to, line pipe,

valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks. "Pipeline" or "pipeline system" does not include process or transfer pipelines.

"Pipeline company" means a person or entity constructing, owning, or operating a pipeline for transporting natural gas and hazardous liquids.

"Right-of-way" means the strip of land in which a legal right of passage is granted over another person's property, which is acquired for pipeline construction, operation, maintenance, and abandonment. A pipeline operator acquires an easement for the construction, operation, protection, surveillance and abandonment of the pipeline. The landowner retains the right to use the easement as long as it does not interfere with activities associated with the pipeline or its integrity. For this reason, a typical easement agreement with a pipeline company requires the landowner to obtain the consent of the pipeline operator to disturb the ground or erect a structure.

"Setback" means the minimum distance established between buildings and pipelines to prevent third party damage to pipelines and provide enough space for vehicle movement during construction, operations, maintenance and abandonment, or in the event of an emergency.

"Service line" means a distribution line that transports natural gas from a common source of supply to a customer meter or the connection to a customer's piping, whichever is farther downstream, or to the connection to a customer's piping if there is not a customer meter. The "customer meter" is the meter that measures the transfer of gas from an operator to a customer.

"Third-party damage" means excavation damage caused by equipment operated by an outside party other than the pipeline operator or contractor working for the operator.

"Transfer pipeline" means a buried or aboveground pipeline used to carry oil between a tank vessel or transmission pipeline and the first valve inside secondary containment at the facility provided that any discharge on the facility side of that first valve will not directly impact waters of the state. A transfer pipeline includes valves, and other appurtenances connected to the pipeline, pumping units, and fabricated assemblies associated with pumping units. A transfer pipeline does not process pipelines, pipelines carrying ballast or bilge water, transmission pipelines, or tank vessel or storage tanks.

"Transmission pipeline" means a natural gas or hazardous liquid pipeline that transports within a storage field, or transports from an interstate pipeline or storage facility to a distribution main or a large volume user, or operates at a hoop stress of twenty percent or more of the specified minimum yield strength.

"Utility corridor" means an area where a previously existing pipeline or similar utility line is situated. This corridor includes the right-of-way of an existing line, and an area of

a specified length surrounding these right-of-way lines in which siting a new pipeline could be considered appropriate.

“WUTC” is an acronym for Washington’s Utilities and Transportation Commission. It is also referred to as UTC.

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NOTE: Many other publications, papers, letters, and conference notes relating to utilities and pipelines have been used to produce this chapter. Apologies are extended to authors of those works not cited.