DG 14-380

Debra Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Ms. Howland,

As a homeowner directly affected by the decisions made in regards docket DG 14-380, I have attached a forensic appraisal document given to me by Senator Sharon Carson, District 14. Page 8 of this attachment discusses the definite property devaluation of homes with views to powerline easements. In weighing the decision of approval or denial for this precedent agreement between Liberty Utilities and Kinder Morgan, please factor in the protection of homeowners' assets. In very many cases, Tennessee Gas Pipeline will eliminate tree buffers between our homes and the existing powerline easement. This will present very many homeowners with devalued property of 10% loss, 25% loss, or higher with no guarantee that we will be fairly compensated by the pipeline company which has repeatedly dodged the straightforward question of 'How is compensation to homeowners determined?' The response has been, 'We will negotiate separately with each affected property.' This blanket response leads one to believe homeowners will not be dealt with fairly.
Before a final decision is made, I am requesting that the Commission remembers to consider the extra costs to the project when homeowners, such as myself, seek and are hopefully awarded compensation for the 25% property devaluation because of new views to the overhead powerlines from our windows.
Further, I am hoping that the Commission upholds an obligation to protect not just ratepayers but also homeowners' assets.
Please weigh my comment in the decision making process. Forced monetary property loss to homeowners who will not now or in the future become natural gas customers in our small towns is neither just nor reasonable. We are relying on our New Hampshire institutions to protect us.

Thank you for your consideration,

Kaela Law
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## Gas Transmission Pipelines Q&A

How much does a natural gas transmission pipeline affect my "fear risk" and property valuation?

The effect of the pipeline easement is measured by the market. Depending on the size of the pipeline, size of the easement, how it is located on the property, the size of the property, property use, etc., the impact range could be nominal to substantial. To put this in numbers, it could be as little as 50% of the easement land value, or up to 30% or more of the whole property value. The more intrusive the easement on the land (ex. - runs diagonal across the whole property vs. just down the fence line), the more impact it will have.



Will I be able to resell my property for as much or more than I paid for it?

Assuming you purchased the property at market value with consideration for the pipeline, then "yes," you will be able to resell it for what you paid, assuming overall market conditions do not diminish. Logic would dictate that you will not sell it for more. There is no upside to having a pipeline easement on a property.

After I buy a property with a gas pipeline on it, would I be able to get a tax abatement from the town for loss of use restrictions?

Abatement, or discount on the land taxes, should reflect the price you paid for the property – which would be the best comparable sale. If you paid $300,000 for a property with the pipeline easement, do not try to argue that the pipeline diminished the price by 10%. This won't be acceptable since what you paid has already taken into account any loss of value due to the pipeline.

I am considering buying a property with a pipeline, but I want to know how can a pipeline be permitted by eminent domain without just compensation to the landowner?

Just compensation took place at the time the easement was negotiated. It is not a continuum requiring the repurchase of the easement with each succeeding landowner. However, some states allow just compensation to be in the form of an annual royalty payment instead of a onetime purchase, and this royalty goes with the land.

Why is it that the landowner pays the real estate taxes, and the pipeline has free underground access?

The landowner pays taxes on real property value. If the easement shows a loss of value, it should be reflected in the overall land value. If you paid less at the time of purchase than a comparable property without a pipeline easement, then that price can be used to lower your tax assessment. If it has been a while since you purchased the property, or the easement was placed on your property after your purchase, then you can use comparable sales as proof, or you can use the information and studies on this website as proof to a lower value.

Why wouldn't the seller disclose the presence of a pipeline easement since it is quite obvious to the naked eye?

Some states do not require disclosure. However, in states where they have to disclose, failure to do so can be a cause of legal action if it results in harm. Why not disclose? Many reasons. One could be the potential harm to the sale of the property. Another would be that "the pipeline is obvious" and the seller did not see the need. However, if disclosure is mandatory, then they must disclose, regardless of the obvious nature of the easement.

In the event that the buyer wants to make improvements to the betterment of the real estate, the buyer is required to contact the pipeline company for compliance as any digging has to be observed / monitored by the pipeline company as well as being on site while the work is being done, right?

Depending on how the easement reads, typically the landowner only needs permission from the easement holder on issues involving only the easement area, not the area outside of it. Any improvements outside of the easement would not need permission; improvements in and across the easement would. Typically, easements read that any soil contour change of 6" or more needs permission. If the improvements are subterranean, then you must stay 18" away from the pipeline and hand dig within 5ft of the pipeline, all with pipeline supervisory control. Typically, no structures, water retention ponds, pools or septic systems are permitted within the easement area.

Would the seller have to carry extra additional property insurance coverage in the event of a catastrophe or for the stipulation in having a home in the easement zone?

Check with your insurance agent on this question.

Does the pipeline give off any harmful gases such as radon or other emissions that are potentially cancerous over long term exposure?

If there's a leak, natural gas can asphyxiate you within minutes. Health reports state that breathing such gas is harmful to your health, especially on a prolonged exposure basis. I do not have any knowledge regarding other gases such as Radon.

Is the soil/underground water affected in any way from any type of contamination from the pipeline?

Typically the only way the ground water could be impacted, other than disruption of natural flow due to the physical pipe itself, would be a leak. I am not certain if a gas leak of this kind would actually be held in the water molecules or be dispersed to the air.

How far is the pipeline in depth/feet beneath the surface of the top soil?

The standard depth is 3ft. In soils with a hard rock substrate, 2ft is minimum. Typical agricultural land prefers 4ft or more.

What is the typical pipeline diameter?

They vary widely. The typical diameter of a gas transmission pipeline would range from 6" to 42". For the specific measurements of the pipeline on your property, review the easement document or call the pipeline's company.

What material is the pipeline constructed of?

Pipelines are typically constructed of steel with a coating on the exterior to prevent rust and adverse reaction with the surrounding soils. Contact the gas company for the details about the pipeline in your easement.

What type of gas is transported through the pipeline?

One is liquid gas, and it is compressed and cooled to a liquid state. Natural gas is the gas state of the substance which is undetectable by smell, sight or feel. Sometimes, natural gas has an odorant added to make a leak detectable, but it's rarely added to gas in transmission lines. The gas is transported under high pressure. The pressure rating and odorant information can be requested from the gas company.

Are the pipelines generally susceptible to natural disasters such as tornadoes and earthquakes?

Any natural disaster that would move the underground pipeline, causing it to bend or fracture, could be harmful.

What, beyond the "fear factor" alone, would keep any potential buyer from considering any property in which a natural pipeline runs through it?

Inconvenience, restrictions on use, unsightly paths cut through wooded areas, and future potential stigma are several that come to mind.

Are there potential risks to one's health, mentally and psychologically?

This is better answered by psychological health professionals. I assume fear would be an issue with some.

Have there been any legal cases where legation was sought against the pipeline company or any impeding disputed easement rights against owners of real estate?

Yes, many.

Generally speaking, are underground pipelines safe and pose a relatively low risk to the health and safety of the public at large if proper safeguards and monitoring are in place?

That depends on what you're using as a comparison. Are they safe compared to transporting the gas with trucks and trains? Yes. However, they still pose a danger. Any break or explosion would be catastrophic in comparison since the cutoff values typically are miles apart, hence the volume of gas being exposed is much greater than any other means of transportation. Remember, the US DOT Pipeline Safety rules requires a gas company to report an accident only if there is a loss of life, severe injury to a person, or $50,000 of property damage. And these accidents are "self" reported. There is evidence of leaks going unreported and off the radar to the public exposure due to these reporting guidelines.

Proper safeguards are another question. These are basically within the control of the pipeline companies, which do have an interest to keep their pipes safe. However, there is no independent source keeping watch, investigating or inspecting these pipelines. Additionally, considering terrorism, these pipelines are huge unprotected targets.

How do I get in contact with the gas company that has the pipeline?

The easiest way is to find a marker post (it's bright yellow, usually by the roadsides) and get the contact name and number off the post sign. Do not call the emergency number. Instead, call the non-emergency number, ask the operator for the information you request, and they will assist you. Remember, due to the terrorism threat, your request may be vetted to see who you really are and what your intentions are.


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## Valuation Issues

There are many valuation issues that surround gas pipeline easements. Below is a short list of the different issues that are discussed below.

- Damage to Irrigation Systems and Wells (agricultural property)
- Damage due to Crop Loss (agricultural property)
- Soil Compaction
- Utility Corridor
- Stray Voltage
- Stigma factors (or Severance)
- Literature
- Terrorist Potential



**Damage to Irrigation Systems and Wells** (agricultural property)

Irrigation systems are subject to damage due to the construction of the easement. This would include the disruption of an above ground "boom" unit which could not operate as designed, thus reducing the proper irrigation of the field. Below ground units and drainage ditches can be damaged by the pipeline cuts, disrupting the flow of water. This disruption could cause a damage to the remainder crop yield during the time of construction. However, damage to the system and crop loss are speculative at best before the actual time of construction.

Eminent Domain typically allows for claims of damage due to the taking, that were not reasonably foreseeable before the taking, to be claimed after the taking and construction of improvements have taken place.

**Damage due to Crop Loss** (agricultural property)

Crop loss due to the activity of the taking includes the acreage defined as the Permanent Easement and Temporary Easement. It is difficult to pre-calculate the actual loss of crops due to the construction schedules being inexact. The time of the year is an important factor, as is the proper time allotted for construction and environmental restoration. A guideline duration of crop loss can be obtained from other gas transmission pipeline projects.

In the State of Wisconsin, there were two recent gas transmission pipelines installed: the Wisconsin Gas Lateral (between Ixonia and Menominee Falls, Wisconsin) and the Guardian Pipeline (from the Wisconsin/Illinois border to Ixonia, Wisconsin). An Agricultural Impact Statement (AIS) was developed for both pipelines. Wisconsin Gas (now known as WE Energies) AIS document stated that they intend to pay 100% of the crops located in the pipeline easement area for a period of two years. Guardian Pipeline, independent of WE Energies, also agreed to pay 100% of all crop loss for a period of two years. Other statements throughout the state and Midwest have used similar time periods. The most common time period for which the anticipated crop loss is to be 100% is two years. This time period covers the time of actual construction and time for soil restoration within the easement areas.

**Soil Compaction**

Soil compaction can be caused by the compression of soil due to heavy equipment and machinery, especially during times of moist soil conditions. Such compaction can stunt future plant growth. This concern was the basis for the following statement found in the Guardian

Pipeline Agricultural Impact Study.

"Factors that influence compaction potential include reduced porosity, infiltration, and aeration, all of which are important to root health and plant growth. Compaction is usually a problem associated with fine-textured soils/or organic rich soils with a high moisture content. . . . .All soils with high moisture content are subject to compaction if heavy loads are applied. The loads applied during the pipeline construction will compact the soil."

Additionally the statement states, "Compaction and deep rutting can be expected in the construction corridor," and, "If wet conditions exist, the compaction will occur deeper into the soil." Addressing potential impacts of compaction, the statement comments:

> "The greater the depth at which soil compaction occurs, the more persistent it is. Even one pass of heavy equipment on the soil surface can cause 70% to 90% of the compaction impacts. . . . Axle loads of 10 tons may cause compaction to a depth of 30 inches.

A similar observation was found in the Alliance Pipeline Environmental Impact Statement, State of Iowa, by Professor Michael Duffy, economist with Iowa State University. In this EIS, Professor Duffy was cited:

> ". . . pipeline construction may have a long-term impact on crop yields."

When questioned about the economic effect of this long-term crop yield loss, Mr. Duffy was credited with the comment:

> ". . .based on Minnesota studies, the suggested reduced crop yield can be as high as 25% for ten years or more. . .

Therefore, it is considered reasonable to claim compaction as a damage to the land that the easements cover. One method to calculate the loss (damage) due to the compaction of the soils in the easement areas, would be using the direct capitalization approach. Since the loss is, by all accounts, into perpetuity, then this approach would take the total yield loss and capitalize it to obtain a reasonable damage settlement for the soil compaction. This is similar to answering the question, "what must a person receive in a lump sum payment today to compensate for an $X/acre loss each year thereafter?" Direct capitalization is the best method to estimate this lump sum amount.

**Utility Corridor**

Utility corridors have been on the rise as land owners become more reluctant to "give over their land" to new utilities. Utility companies have responded by planning their easement path along an established utility easement. A utility corridor is a path of land that starts with one utility, such as an electric transmission line easement, and then has other utilities, such as gas transmission pipelines, water and sewer pipelines, cable lines, etc, running within or alongside the existing easements. When this happens, a utility corridor is created.

This view is supported by the authors of the Guardian Pipeline AIS. They state, "When siting public facilities, preference is given to routes that follow existing infrastructure corridors." Even the proposed Guardian pipeline will share existing right-of-ways for about 26% of the route as presently proposed. Further evidence of this potential becoming a reality exists with the ANR pipeline project going through the City and Town of Brookfield, Wisconsin. There, most of the pipeline followed an existing electric power transmission line easement running parallel to and sometimes within the easement.

The Federal Energy Regulatory Commission has been cited in many accounts for accepting, and complimenting, utility routes that utilize "other" utility easement routes for siting their easement paths.

Though the reality of this happening is not a fact, as of date, the potential of it happening can prevent buyers from purchasing the property encumbered with such a pipeline easement, or cause them to demand a discount on the purchase price. Utility corridors are a reality that, when recognized by the market, create market resistance.

**Stray Voltage**

The presence of stray voltage and its negative effects on the health of a dairy herd, farm

animals and (potentially) human beings, has been studied and documented. Several of the landowners, especially the ones who have animals, are concerned over the potential that the steel pipeline can become a carrier of this stray voltage and affect their farming or dairy operation. The concern is well-founded, since it has been know for over thirty years that pipelines are and can be carriers of stray current.

> "If induced AC current is not grounded adequately, the AC discharge on the pipeline ? can in the long term, cause serious metal loss on the pipe wall and leaks.' (Smart, Osstendorp and Wood, 1999) . . . This problem has become more acute due to ?the increased tendency to locate pipelines in utility corridors near high-voltage electric transmission lines.'" - Agricultural Impact Statement, Guardian Pipeline, March 1, 2001.

The problem of stray voltage and the harm it can cause to a dairy operation has been recognized in the courts. In 1999, a jury awarded a dairy farmer $700,000 after deciding "stray voltage from an automated feeding system slashed the herd's milk output and increased the death rate among the Jersey cows (Ad lib., 2001)." Literature and research supports the position that the steel in the gas pipelines can and does carry electric current, often when the pipeline is within a high power electric line easement, near an electric station or other source of high voltage.

**Stigma factors** (or Severance)

Damages resulting from perceived market prejudice is sometimes know as "stigma" or "severance" damages. These perceptions need not be factual to be real. These perceptions drive the view of the potential buyer as to the potential enjoyment or return on investment they may receive in the purchase of the property. Since it is the job of the appraiser to reflect the actions of the potential market, i.e. buyer, it is necessary to study the actions of these buyers and what they perceive as detractors of value. Though it is true that the properties affected by a large diameter natural gas transmission line do sell in the market, it may not be true that these properties sell at the same price as a similar property not so affected.

**Literature**

Recognizing that our media tends to shape our opinions and beliefs about certain matters, we engaged in an information search for what the media is saying about gas pipelines and, more particularly, gas transmission pipelines. Currently, we have collected and reviewed over 650 pages of articles, news stories, radio/television transcripts and the like, relating to gas pipelines and their safety. Most articles referred to the perceived dangers of such pipelines, focusing on explosions, tragic stories of injury or loss of life and questions about their safety. As before, there were some articles that painted a positive picture about the pipelines, however most of these articles were found in special trade magazines relating to the pipeline industry.

In addition to articles and reports mentioned above, we found two congressional hearings, a GAO report and a letter from Congressman Dingell relating to gas transmission pipelines and their safety. They are:

- Re-authorization of the natural gas pipeline safety act and the hazardous liquid pipeline safety act, hearing before the Subcommittee on Energy and Power, February 3, 1999.
- The Bellingham, Washington, hazardous liquid pipeline incident, hearing before the Subcommittee on Economic Development, Public Buildings, Hazardous Materials and Pipeline Transportation, October 27, 1999.
- GAO Report to the Ranking Minority Member, Committee on Commerce, House of Representatives, entitled "Pipeline Safety: The Office of Pipeline Safety is changing how it oversees the pipeline industry. May 2000, report #GAO/RCED-00-128.
- Letter to the Secretary of the Department of Transportation, Rodney E. Slater, by Congressman John D. Dingell, Ranking Member, in reference to his concerns about the GAO report and pipeline safety. June 14, 2000.

The hearings, GAO report and Congressman Dingle's letter looked into the safety record and procedures of the pipeline companies revealing disturbing information regarding these issues. Some of these issues included:

  - The Office of Pipeline Safety is supported by user fees assessed on transmission pipelines paid by the pipeline companies.
  - There is virtually no testing of (pipeline) operators.
  - There are more than 2 million miles of pipeline in the United States and there are

52 inspectors from the Office of Pipeline Safety.

- For the most part, safety violations and leaks are self reported by the pipeline companies to the OPS. Trusting the pipeline companies to report all of their safety violations and leaks to the OPS for review and potential penalties, would amount to reporting on yourself.

Other information that has been obtained by this research was the testimony of Benjamin J. Pooler, II, who is an expert in gas safety issues. In his letter and testimony, Mr. Pooler brought up some interesting issues regarding natural gas transmission pipelines. Some of these are:

- the natural gas in these pipelines have no odor.
- natural gas is a simple asphyxiate.
- outside forces and construction account for 50% of all the gas pipeline accidents. (OPS statistics for pipeline accidents, 1994-1997)
- a 36" diameter natural gas transmission line under high pressure, if exploded, could cause radiant heat to ignite secondary fires within a 1,000 foot radius.

The tragic pipeline explosion in Carlsbad, New Mexico verified Mr. Pooler's observations about the devastating affect a gas transmission pipeline explosion can have on surrounding property and human life.

On December 1st and 2nd, 2003, the TransCanada's transmission pipeline in Alberta Canada, showed again the power of a gas transmission line explosion. This explosion left a heavily timbered area, in a remote part of Canada, leveled to the ground with only a sand- like deposit remaining.

**Terrorist Potential**

A more recent development relating to gas transmission pipelines is the blackout of information relating to the presence of these pipelines and basic information regarding their size, buried depth, odor, pressure and substance transported. Prior to the September 11th, 2001, World Trade Center terrorist attack, our office could obtain route maps and details of planned and existing pipelines from the pipeline company. Now, such information is difficult, if not impossible to obtain. Contact with the gas utility company requesting such information typically results with them citing "Homeland Security" measures in their refusal to give out such information. A call to the Homeland Security Office confirms this "security" issue. It would appear that such pipelines are a potential terrorist threat. An article, appearing in U.S. News and World Report, cites the difficulties of obtaining natural gas pipeline information. In the article "Keeping Secrets" (U.S. News and World Report, December 22nd, 2003) a U.S. Army Ranger named Joseph McCormick, a Floyd County, Virginia, resident, was refused any information relating to two natural gas transmission lines by the Federal Energy Regulatory Commission. The reason he was given was that such information "would provide a road map for terrorists."

In review, it could be said with confidence that the public image of pipelines in not positive. This image reflects the safety concern of the public, mainly the fear of a pipeline explosion.


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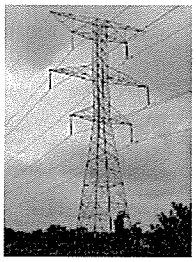
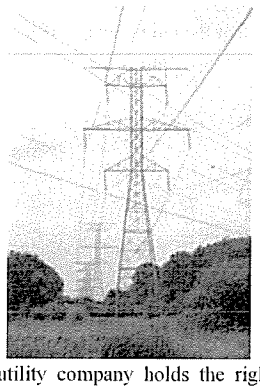
## Power Line Valuation Issues



**Within the past thirty years there has been a concern that exposure to electro-magnetic fields** (or more accurately, electric magnetic fields, a.k.a. EMFs) **can cause health problems in humans**, especially cancer-related illnesses. This concern has been fueled by early research indicating a possible link between EMFs from high power lines and childhood leukemia (Wertheimer, 1979). This study, among others, was made available to the public and has since been a topic of concern amongst the public, as indicated by a public opinion poll that listed EMFs as the "number one environmental concern" (USA Today, public survey, 1996). Electric transmission lines have been cited as a source of EMFs and, hence, a concern of the public.

**Electric power transmission lines are the electric lines that transport electricity from one distribution point to another.** These lines are typically high voltage, 65kv (kilovolts) or higher. They are often suspended along tall towers made of metal (common) or wood (less common). **These lines are not to be confused with the distribution lines** which bring the electric power to the electric company's customers. Those lines are of less voltage and considered by most to be relatively harmless in relation to the EMF issue. That, of course, is a perception that can be scientifically challenged, but, nonetheless it's a perception of the public.

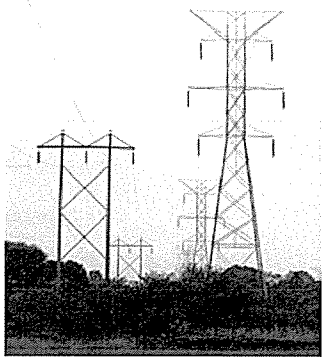
**Valuation of electric power transmission line easements must take into consideration two factors:** (1) the effects such a line has on the land the easement covers; and, (2) the effects the presence of such a line and corresponding easement has on the surrounding property.



In valuing the easement land **the appraiser must consider all the limitations specified in the easement** as to use. These limitations can have an effect on the property value of the easement itself. **The effect can diminish the land value** from a fraction, say 25%, to rendering the entire parcel of no value to the land owner. Additionally, the easement document must be reviewed and the analysis must take into consideration all the uses allowed by the easement, regardless of the present use. An example of this would be an easement for any electric power line with a present use being a 65kv line. The valuation must take into consideration the "any" use aspect meaning, though the current line may be 65kv, the utility company holds the right to upgrade that line size anytime they desire without further compensation. This would allow the line to be upgraded to, say a 765kv line with the corresponding high towers. Additionally, more and more of these easements are being written in a manner that allows other utility use such as cable, cell phone relay, and sometimes even gas pipelines. These easements often allow the land owner to transverse the easement area for their private purposes, but limit the use and improvements in the easement area. Improvements are rarely allowed. Keep in mind the easement holder has the right to their easement for any purpose, and with that right comes the right to remove or destroy any such "non-allowable" improvements that may impede their access.

**In valuing the effects of such a line to the surrounding properties one must consider**

**the "fear factor"** that was cited earlier. Most of the public does believe that these high power lines are not healthy. In addition, the presence of the lines, if observable, is a visual detraction. These health, safety and un-appealing view concerns often translate into a devaluation of property value.



Several studies have been completed on this issue with mixed results. **Our own study**, which surveyed the effects that such power lines and their corresponding easements have on residential property values, **indicated a definite devaluation effect**. Of course, the amount of diminished value is dependent on a number of factors not limited to the size of the line, size of the easement, height of the towers, whether the lines are readily observable, etc. Only an onsite inspection of the property in question and a studied review of the easement documentation can adequately determine the total effects that such an easement will have on a property.

Please contact us if you are interested in learning more about this type of easement and its effect on property value, or explore a brief review of EMFs and links to EMF literature.

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