

STATE OF MINNESOTA  
DEPARTMENT OF PUBLIC SAFETY  
OFFICE OF PIPELINE SAFETY

In the matter of the proposed rule of the Department of Public Safety adopting a Model Setback Ordinance.

STATEMENT OF NEED AND REASONABLENESS

GENERAL STATEMENT

The Minnesota Legislature adopted statutory language mandating that residential developments be "setback" from high pressure pipelines. The Legislature took the action based on a recommendation from the Governor's Commission on Pipeline Safety. The Commission was an outgrowth of the tragic pipeline accident in Mounds View, Minnesota, in the summer of 1986 that incinerated 4 city blocks and took two lives. The Legislature suggests through the model setback that a safe distance from high pressure pipelines could be determined and that the public's safety enhanced.

In general minimum pipeline safety regulations are performance based. The federal government sets minimum standards for consistency throughout the country. States are allowed to issue or promulgate rulemakings that are more stringent than federal minimums. But the general working framework in the design, construction, operation, maintenance and emergency operation of pipelines are performance based. In contrast most state agencies seek specific and detailed regulations.

It would be inconsistent and incongruous with the nationwide model of pipeline safety to change such performance-based safety standards unless the safety issue to the public is of a nature that the condition could be hazardous and federal response is limited. A state must stay within the parameters of a regulatory framework that is performance based. In such light, the Office is issuing this rulemaking with the understanding that the marginal benefit to safety from a setback is not great enough to initiate an ordinance beyond performance language. Initiating a rulemaking beyond the scope of performance would give the public a false sense of security. It would be imprudent for the Office to make a promise that knowingly cannot be fulfilled.

In pursuit of this setback ordinance the Office entertained extensive communications with interested and affected parties. Prior to the public outreach the Office sought a thorough review of the national and international experience with setbacks. As a guidepost the Office reviewed, analyzed, evaluated and prioritized the results of a study by the National Transportation Board that specifically considered setback in the interest of safety.

The Report of the National Transportation Board of the National Research Council, Special Report 219 "Pipeline and Public Safety" discussed recommendations for enhancing pipeline safety. Specifically these recommendations were organized into three issue sections: 1) damage prevention and public awareness programs, 2) land use measures, and 3) emergency preparedness programs. This rulemaking is considered in the section on land use measures. The report discussed land use measures by saying "control of land use in and adjacent to pipeline rights-of-way is another approach to enhancing public safety near pipelines. The objective of such control is to ensure land uses compatible with pipeline safety. The primary authority to institute such land use controls is vested in local governments through the police powers conferred by the state."

In regard to setback conditions, the study reported two critical issues: "what is an adequate setback distance, and what is the cost of restricting developable property relative to the benefits of preventing pipeline accidents?" The report concludes that "there appear to be no definitive answers to the first question. Determining a single distance for safe setback from liquids or gas transmission pipelines is complicated because the damage radius of an accident is affected by the size of the pipe, the pressure at which it is operated, the material carried, the depth of cover, the climate, and the character of the terrain near the pipeline."

The American Petroleum Institute conducted an "analysis of the damage radius of a sample of liquids pipeline accidents. The analysis showed that two-thirds of the deaths and damage and three-fourths of the injuries caused by liquids pipeline failures took place within 150 feet of the point of discharge; only 8 percent of the deaths, and none of the injuries, and 6 percent of the property damage occurred beyond 1/2 mile from the pipeline. These results could be interpreted to provide support for minimum building setbacks of 150 feet from existing pipelines to provide a good margin of safety. However, the second issue of cost remains to be addressed."

The report continued: "Costs and benefits of imposing a setback requirement can best be determined at the local level, where the benefits gained by reducing the risk of a potential pipeline failure in a city or county can be balanced against the costs of limiting development. Costs and benefits are determined by such

factors as the exposure of local populations to a potential pipeline failure and the strength of local real estate markets."

Also, "there is so much difficulty associated with developing a setback standard to apply across a variety of different local circumstances, without being prohibitively expensive, that the decision to impose setback requirements has generally been left to the discretion of localities."

In essence the report focused on the lack of clear definition of what is a safe distance and the potential prohibitive cost of denying use of large tracts of land. The Office, using this study as a starting point agreed with the philosophical tenet of the study. The Office believes that performance language is the most reasonable method to determine a setback. Pipeline operators are required to design, construct, operate and maintain a system that is safe. The Office believes that the intent of the Legislature is addressed by recognizing easements as the best definition of distance.

In our effort to determine a "safe" distance and evaluate the cost of this distance the Office initiated a task force titled Land Use Measures To Improve Pipeline Safety (LUMTIPS). LUMTIPS was made up of 42 people representing the diverse interests impacted by a model setback ordinance. Pipeline operators, industrial and commercial developers, builders association, municipal representatives and others met and discussed the intent and purpose of the model setback.

The extended meetings revolved around the legislative mandates and allowed for free flowing discussions of the safety attained and at what level safety was increased by a setback. The participants could not conclude that a specific distance increased the margin of safety expected at a cost that was not unreasonable. The Office believes that any increase in the margin of safety should be substantive before a rulemaking that includes a specific distance is instituted. The margin of safety must be evaluated in light of the cost also.

LUMTIPS considered the various "setbacks" found in present law and by example. C.F.R. 195 requires a 50 foot setback from liquid pipelines unless added cover is provided. The Federal Housing Administration denies financing to any home within 10 feet of a high pressure pipeline. The fire marshal's association urged consideration of a 60 foot setback to accommodate fire equipment access to a pipeline failure. Industry representatives indicated that a general setback of 50 to 100 feet is sought through the purchase process of right-of-way. The City of Edmonton, Canada, was the only community found to have a specific setback.

LUMTIPS reviewed state legislation and local ordinances that restricted infringements on pipeline easements, encroachment

programs of the industry, local planning agencies review of developments near pipelines, and easement records, and documentation. Included in this presentation is background information reviewed and evaluated by LUMTIPS.

The intense review by LUMTIPS and the thorough study by the Transportation Research Board convinces the Office of Pipeline Safety performance-based setback is most appropriate. The easement is the distance an operator has determined is the best to achieve a safely constructed, operated and maintained pipeline.

#### STATUTORY AUTHORITY

These rules are specifically authorized by Minnesota Statutes, sections 299J.05

#### EFFECT OF THE RULE

These rules will have a direct effect on persons who operate pipeline systems and each statutory or home rule charter city, town, or county that has planning and zoning authority under Minnesota Statutes, sections 366.10 to 366.19, 394.21 to 394.37, or 462.351 to 462.365, and in which a pipeline is located.

#### SMALL BUSINESS CONSIDERATIONS

Minnesota Statutes, section 14.115 requires the office to consider the effect on small businesses when it adopts rules. The businesses affected by this part are not small businesses as defined by section 14.115, subdivision 1.

#### FEEES IMPOSED BY THE RULES

The rule does not fix any fees nor does the statute authorizing promulgation of the rules require that any fees be fixed. Therefore, no approval from the Commissioner of Finance is needed.

#### FISCAL IMPACT

Adoption of this rule will not require the expenditure of public money by local bodies.

#### ENVIRONMENTAL EFFECTS

Adoption of these rules will have no negative effect on the quality of air or water in the state nor will the rules have a negative effect on the quality and amount of agricultural land. These rules will help the Office of Pipeline Safety protect the quality of air, water, and agricultural land in the state from the effects of pipeline leaks.

## Rule by Rule Analysis

### 7535.0100 DEFINITIONS.

Subp. 1. It is necessary to define terms which are used in this chapter, but may be found in other statutes or rules, with different meanings. It is reasonable to clarify what individual terms mean within this part to ensure the explicit scope and application for which this chapter is intended.

Subp. 2. It is necessary to explicitly define which structures constitute a building within this part. It is reasonable that buildings which are designed primarily for human occupancy, and any attached structures, be included within the definition of a building in order to assure that the minimum setback standards are applicable to the residential and other development for which they are intended.

It is also necessary to state explicitly that appurtenances required for the operation and maintenance of a pipeline system are excluded from the definition of building in order to assure that the safe operation of the pipeline is not unduly restricted. This exception is reasonable because it specifically allows the operator of a pipeline system the necessary flexibility to operate and maintain their system safely and effectively.

Subp. 3. It is necessary to explicitly define commissioner as the commissioner of public safety in order to prevent any confusion related to the authorities and responsibilities associated with this chapter.

Subp. 4. It is necessary to define other development in the context of the legislative intent to establish a minimum distance from pipelines in which residential or other development may occur. It is reasonable to include within the definition of other development, the types of development which aren't considered residential, but could be designed for human occupancy.

Subp. 5. It is necessary to explicitly define pipeline in order to clarify the applicability of this chapter. It is reasonable to maintain the definition of pipeline specified in statute.

Subp. 6. It is necessary to define pipeline easement as the existing easement or the negotiated easement resulting from a blanket easement in order to establish clear meaning to the term which establishes the requisite minimum setback distance. This definition is reasonable because it generally corresponds to a distance determined by the operator of a pipeline system to be necessary for the safe and efficient installation, operation and maintenance of their pipeline system.

Subp. 7. It is necessary to define places of public assembly to assure that the minimum setback standards are maintained for areas unassociated with a building, as defined in this part. It is reasonable to define places of public assembly consistent with the definition found in the federal regulations which specify the minimum standards for pipeline safety. See C.F.R. Title 49 - Subchapter D. 192.5.

#### 7535.0200 PURPOSE.

The purpose of the model setback ordinance is to enhance public safety by inhibiting the development of property near pipelines. It is necessary to establish minimum standards for setback requirements in order to assure that a minimum setback distance is maintained. Local governing authorities will be allowed to exceed the minimum setback standards, and further enhance public safety. It is reasonable to require that new residential and other development be setback from pipelines by at least a minimum standard, because the risk associated with a pipeline incident increases as the distance from the pipeline decreases.

#### 7535.0300 SCOPE.

As required by Minnesota Statutes, section 299J.05, paragraph (b), this setback ordinance will apply to each statutory or home rule charter city, town or county that has planning and zoning authority under Minnesota Statutes. It is necessary that the model setback ordinance encompass all local governing authorities in order to assure that the required minimum standard is applicable in all localities. It is reasonable to apply the setback ordinance to all localities because, as a minimum standard for setback distance, the goal is not met unless it is applicable throughout the state.

#### 7535.0400 ADOPTION OF SETBACK ORDINANCE.

Subp. 1. This subpart establishes a timeframe for each affected jurisdiction to adopt their own specific setback ordinance which meets or exceeds the minimum standards set forth in parts 7535.0400 and 7535.0500, as required by statute. It is necessary to promote adoption of specific setback ordinances in individual jurisdictions within a specified time in order to prevent unnecessary delay in the adoption of minimum standards. The specified date, August 31, 1991, is required by Statute.

Subp. 2. This subpart unilaterally applies the model setback ordinance adopted in this chapter to all affected jurisdictions which have not adopted approved setback ordinances within the specified timeframe. It is necessary to provide for the possibility of jurisdictions being unable to adopt an approved setback ordinance within the specified timeframe. It is reasonable, and required by statute, that the model setback

ordinance apply to those jurisdictions, in order to assure minimum standards are applicable to all jurisdictions.

Subp. 3. It is necessary to specify the process for which commissioner approval will be granted, or notices of deficient areas will be provided. Commissioner approval is required by statute.

This subpart specifies that a proposed setback ordinance shall be compared to the definitions and model setback ordinance adopted in this chapter to assure that it meets or exceeds the minimum standards set forth part 7535.0500. It is necessary to gauge a proposed setback ordinance against the minimum standard in order to assure that the minimum standard will be maintained.

This subpart also requires a written decision by the commissioner be sent to the jurisdiction within 90 days of receipt, and that the decision specify either approval of the ordinance, or areas of deficiency, with recommended modifications. It is necessary to specify the physical process for review and the associated timeframe. It is reasonable to require a written notice of determination, as a matter of record. It is also reasonable to require a written notice of areas which are determined to be deficient, and possible corrective modifications, in order that the jurisdiction is provided direction towards an approved setback ordinance.

#### **7535.0500 MODEL SETBACK ORDINANCE.**

Subp. 1. It is necessary that the purpose of this model setback ordinance be expressly stated as an attempt to increase public safety by requiring that new development be setback from pipeline locations. It is reasonable to require a setback from pipeline locations, in an attempt to increase public safety, because the associated risk from a pipeline incident increases as the distance from the pipeline decreases.

Subp. 2. It is necessary to explicitly state the development for which this part applies. Minnesota Statutes, section 299J.05, paragraph (a) specifies that the model setback ordinance shall be applicable only to new development, and not to development that has occurred, or for which development permits have been issued, before the effective date of this ordinance.

Subp. 3. It is necessary to specify that all buildings and places of public assembly subject to the provisions of this ordinance shall be designed to accommodate a setback from the pipeline equal to or greater than the pipeline easement boundaries, so that the minimum setback distance is understood to be a distance equal to the pipeline easement boundaries. The requirement of a minimum setback distance equal to the pipeline easement boundaries is

reasonable due to the considerations given to safety and cost. It has been shown in research referenced earlier in this document that a safe distance from a pipeline in the event of an incident is dependent on a number of wide ranging factors including the size of pipe, pressure, material carried, depth of cover, climate and character of terrain. Further, limited studies have shown that even at a distance of 150 feet from the point of discharge, one third of the deaths, and one fourth of the injuries would not have been prevented. In addition, the costs and benefits associated with imposing a setback distance will vary greatly among jurisdictions. Due to the difficulty in quantifying a specific setback distance that would ensure public safety, without being prohibitively expensive, the establishment of a setback distance equal to the pipeline easement boundaries provides a reasonable minimum standard which local jurisdictions can evaluate and exceed, as they deem appropriate.

#### CONCLUSION

The proposed model setback ordinance specified in this chapter provides a starting point to assure that new residential and other developments are setback from pipelines. Prior research has shown that the increased public safety and financial impact related to specific setback distances vary greatly among jurisdictions. This situation makes the determination of a specific distance to specify as a minimum setback requirement difficult at best. Through the course of research and extended discussion, the LUMTIPS task force determined that the most equitable method of increasing public safety with a setback distance was to develop a performance based standard, and allow individual jurisdictions the opportunity to evaluate their own unique situations, and determine whether to exceed the minimum standard.