STATE OF IOWA

DEPARTMENT OF COMMERCE

UTILITIES BOARD

IN RE: MIDAMERICAN ENERGY COMPANY	DOCKET NO. P-844

PROPOSED DECISION AND ORDER GRANTING PERMIT

(Issued September 25, 2002)

APPEARANCES:

MR. ROBERT P. JARED, Attorney at Law, MidAmerican Energy Company, 106 East Second Street, P.O. Box 4350, Davenport, Iowa 52808, appearing on behalf of MidAmerican Energy Company.

MR. CRAIG GRAZIANO, Attorney at Law, 310 Maple Street, Des Moines, Iowa 50319, appearing on behalf of the Iowa Department of Justice, Office of Consumer Advocate.

OBJECTORS PRESENT AT THE HEARING:

MR. DANIEL FOGLEMAN, MS. CATHERINE S. KILE, SILVER LAND COMPANY by MR. HAROLD K. SILVER AND MR. KENNETH SILVER, AND MR. KENNETH AND MS. AMBER WILLIAMSON

TABLE OF CONTENTS

CONTESTED ISSUES 2
STATEMENT OF THE CASE 2
DISCUSSION OF THE EVIDENCE AND ANALYSIS 6
I. PUBLIC CONVENIENCE AND NECESSITY 6
II. TERMS, CONDITIONS, AND RESTRICTIONS AS TO SAFETY REQUIREMENTS 10
A. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS DUE TO ENGINEERING CONCERNS. 10

B. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS REGARDING SECURITY....26
C. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS DUE TO LAND RESTORATION CONCERNS. 27
III. TERMS, CONDITIONS, AND RESTRICTIONS AS TO PIPELINE LOCATION AND ROUTE 30
A. ROUTE SELECTION....30
B. DIRECT V. SECONDARY ROUTE, AND DIRECT V. HIGHWAY 65 CORRIDOR ROUTE....41
1. Written Objections....41
2. The Electric Transmission Line Corridor 55
3. Pipe Diameter 65
4. Cost....69
5. Comparison of the Routes and Response to Specific Objections73
6. Routing Outside, Rather than Through, Populated Areas....94
IV. PROPERTY OWNERSHIP 98
V. EMINENT DOMAIN 98
FINDINGS OF FACT 102
CONCLUSIONS OF LAW....107
ORDERING CLAUSES....108

CONTESTED ISSUES

The contested issues in this case primarily relate to MidAmerican's route selection and safety of the proposed pipeline, and in particular, to MidAmerican's choice of the Direct Route over the Secondary Route north of Interstate 80, and its choice of the Direct Route over the Highway 65 Corridor Route south of Interstate 80.

STATEMENT OF THE CASE

On January 31, 2002, MidAmerican Energy Company (MidAmerican) filed a petition and exhibits for a permit to construct, operate, and maintain a new natural

gas pipeline approximately 12.6 miles long in Polk County, Iowa. (petition for permit) The proposed 16-inch diameter steel pipeline will transport natural gas from an existing Northern Natural Gas Company pipeline in Polk County, Iowa, to MidAmerican's existing Pleasant Hill Energy Center and the proposed Greater Des Moines Energy Center, in Polk County, Iowa. (petition for permit; testimony of Mr. Jack L. Alexander, tr. p. 33) In its petition, MidAmerican requested the right of eminent domain over certain parcels of land. Prior to filing its petition, an informational meeting was held on November 29, 2001. MidAmerican amended its petition on March 27, April 30, June 12, June 27, July 24, July 31, and August 5, 2002, and, among other things, increased the length of the proposed pipeline to 12.9 miles. (petition for permit) MidAmerican filed a land restoration plan with its petition, and amended the plan on June 12 and July 31, 2002. (land restoration plan)

On May 9, 2002, the Utilities Board (Board) assigned this case to a presiding officer. A procedural schedule was established by an order issued on May 22, 2002. In that order, the undersigned administrative law judge set July 30 and 31, 2002, as the dates for the hearing on the petition, and proposed to take official notice of two reports concerning the pipeline. The reports were dated March 14 and April 26, 2002, and were prepared by Mr. Don Stursma, manager of the Board's Safety and Engineering section. In an order issued July 15, 2002, the undersigned administrative law judge proposed to take official notice of a subsequent report by Mr. Stursma dated July 12, 2002.

MidAmerican caused notice of the hearing to be published in Polk County in the Des Moines Register, a newspaper of general circulation in the county, on July 8 and 15, 2002. (affidavit of publication)

MidAmerican filed prepared direct testimony of Mr. Kenneth E. Schwarz, Mr. Dean A. Degenhardt, Mr. Jack L. Alexander, and Mr. David C. Grigsby on January 31, 2002. It filed supplemental direct testimony of Mr. Alexander, Mr. Degenhardt, Mr. Grigsby, and Mr. Schwarz, and prepared direct testimony of Mr. Edward A. Dreesman and Mr. David A. Schramm, on June 12, 2002.

Written letters of objection to the proposed pipeline were filed by the following persons: Mr. Thomas M. Williams and Ms. Janice J. Hawkins, Ms. Brenda Brown, Mr. Carl Kirschbaum, Mr. Steve Williams, Ms. Connie L. Buckroyd, Mr. R. Scott Nichols, Ms. Laura Samuell, Mr. Gary and Ms. Vickie Patterson, Mr. Jim and Ms. Lynn Kelly, Mr. Robert Keller, Mr. Ben Freeborn, Mr. Jesse and Ms. Connie Uhl, Mr. Robert D. Almendinger, Ms. LaVonne R. Miles, Mr. Matt Schreiber, Mr. Dan Fogleman, Ms. Catherine S. Kile, the Silver Land Company (by Ms. V. Louise Silver, Ms. D. Jean Silver, Mr. David M. Silver, and Mr. Harold K. Silver), Ms. Brenda Wilson, and Mr. Ken and Ms. Amber Williamson.

A Partial Objection to the proposed pipeline was filed by the Consumer Advocate Division of the Department of Justice (Consumer Advocate) on July 24, 2002. The Consumer Advocate filed a Supplement to Partial Objection on July 29, 2002. The Supplement contained a confidential attachment, a contract between

MidAmerican and Northern Natural Gas Company. On July 30, 2002, MidAmerican filed a Request for Confidential Treatment of the contract.

On July 29, 2002, Mr. Dan Fogleman filed a letter with attached copies of petitions. In his letter, Mr. Fogleman said there were 312 persons who signed the petitions requesting alternate routing of the pipeline.

The hearing was held on July 30 and 31, 2002. Mr. Jack L. Alexander, MidAmerican senior vice president of supply and marketing, Mr. Edward A. Dreesman, MidAmerican manager of gas engineering, Mr. Al Ver Brugge, MidAmerican senior gas engineer, Mr. David C. Grigsby, MidAmerican senior engineer in the gas engineering department, Mr. Dean A. Degenhardt, MidAmerican senior project manager, Mr. David A. Schramm, EN Engineering senior project manager, Mr. Kenneth Schwarz, MidAmerican manager of right-of-way services, and Mr. Steven John Harrison, MidAmerican senior engineer in the high voltage engineering department, testified on behalf of MidAmerican. (testimony of Mr. Alexander, Mr. Dreesman, Mr. Ver Brugge, Mr. Grigsby, Mr. Degenhardt, Mr. Schramm, Mr. Schwarz, and Mr. Harrison)

The following objectors testified at the hearing: Mr. Kenneth Roy Silver and Mr. Harold K. Silver. (testimony of Mr. K. Silver and Mr. H. Silver) Mr. Donald J. Stursma testified on behalf of the Board. (testimony of Mr. Stursma)

The parties had no objection to the proposal to take official notice of the March 14, April 26, and July 12, 2002, reports by Mr. Stursma. They were therefore officially noticed and made a part of the record.

MidAmerican's Request for Confidential Treatment of its contract with Northern Natural Gas, filed on July 30, 2002, was granted orally during the hearing.

MidAmerican and the Consumer Advocate filed briefs on August 13, 2002. An order was issued August 19, 2002, allowing the parties to file reply briefs. MidAmerican, Mr. and Mrs. Williamson, Mr. Kelly, and Mr. Fogleman filed reply briefs on August 26, 2002. On the same date, the Consumer Advocate filed a statement that it adhered to the position stated in its opening brief.

There are currently ten parcels over which MidAmerican seeks eminent domain. (Fourth Revised Exhibit H)

DISCUSSION OF THE EVIDENCE AND ANALYSIS

MidAmerican has petitioned for a permit to construct, operate, and maintain a new natural gas pipeline approximately 12.9 miles long in Polk County, Iowa, and to be vested with the right of eminent domain to obtain right-of-way easements for ten of the parcels on the proposed route of the pipeline. (petition for permit)

I. PUBLIC CONVENIENCE AND NECESSITY

Iowa Code § 479.12 (2001) provides, in pertinent part:

> Before a permit is granted to a pipeline company, the board, after a public hearing as provided in this chapter, shall determine whether the services proposed to be rendered will promote the public convenience and necessity, and an affirmative finding to that effect is a condition precedent to the granting of a permit.

MIDAMERICAN'S POSITION

The proposed pipeline will provide natural gas service to the new Greater Des Moines Energy Center (GDMEC), and to two adjacent existing combustion turbines at the Pleasant Hill Energy Center (PHEC), in Polk County. (petition for permit; testimony of Mr. Alexander, tr. 33, 35)

MidAmerican is building the pipeline to provide a dependable supply of natural gas to the GDMEC. Its existing distribution facilities are unable to provide the required level of natural gas service to the GDMEC at the pressure required. (testimony of Mr. Alexander, tr. 33) The GDMEC will provide approximately 500 MW of additional electricity to meet growing peak day demand. (tr. 34-35) It will make a significant contribution to reliability by providing a source of energy close to MidAmerican's major load center. (tr. 35) The GDMEC will provide reliable electric service to support economic development, and during the peak construction period, will generate between 400 and 500 jobs. When operational, the plant will have approximately 24 full-time employees and provide approximately $2.7 million in annual tax revenues from both the generating plant operation and the related natural gas pipeline. (testimony of Mr. Alexander, tr. 34–36) In addition, the proposed pipeline will provide natural gas service to the existing PHEC, which currently uses fuel oil. (testimony of Mr. Alexander, tr. 37) Natural gas is less expensive than fuel oil, and its use will reduce maintenance costs and lower emissions from the PHEC. (testimony of Mr. Alexander, tr. 38) The pipeline will be connected to MidAmerican's gas distribution system, which will provide more natural gas capacity to the area and improve gas distribution system reliability. (testimony

of Mr. Alexander, tr. 38) In addition, farm taps will be installed to serve customers adjacent to the pipeline who wish to have natural gas service but are not connected to the gas distribution system. (testimony of Mr. Alexander, tr. 38; testimony of Mr. Grigsby, tr. 223) MidAmerican will evaluate the economics of extending service to existing and future housing developments near the pipeline, and will provide such service if economically feasible. (Grigsby, tr. 223-224)

CONSUMER ADVOCATE AND OBJECTORS' POSITION

The objectors and the Consumer Advocate did not contend that the proposed pipeline was unnecessary or that a permit should not be issued. Rather, they raised issues related to the safety and route location of the proposed pipeline.

ANALYSIS

Iowa Code § 479.12 makes a finding by the Board that the services rendered by the pipeline will promote the public convenience and necessity a condition precedent to the granting of a permit. Public convenience and necessity are not synonymous, and effect must be given to both. Convenience is much broader and more inclusive than necessity. Necessity means reasonably necessary, but not absolutely imperative. Thomson v. Iowa State Commerce Commission, 15 N.W.2d 603 (Iowa 1944).

The Board has held on many occasions that, as a general matter, the transportation of natural gas promotes the public convenience and necessity, and on those occasions, it was sufficient to demonstrate that the pipeline would be used to provide natural gas service to the public or some portion of the public. In re: United

States Gypsum Company, Chicago, Illinois, "Proposed Decision and Order Granting Permit," Docket No. P-833, pp. 6-7 (March 21, 1996).

The evidence shows that this proposed pipeline is necessary to provide natural gas service to the new GDMEC and the existing PHEC in Polk County, Iowa. (petition for permit; Stursma reports; testimony of Mr. Alexander, tr. 33, 35) MidAmerican is building the pipeline to provide a dependable supply of natural gas to the GDMEC. Its existing distribution facilities are unable to provide the required level of natural gas service to the GDMEC at the pressure required. (testimony of Mr. Alexander, tr. 33) The GDMEC will make a significant contribution to reliable electric service, add needed electric generating capacity, and provide jobs and tax revenues. (testimony of Mr. Alexander, tr. 34–36) In addition, the proposed pipeline will provide natural gas service to the existing PHEC, which currently uses fuel oil. (testimony of Mr. Alexander, tr. 37) Natural gas is less expensive than fuel oil, and its use will reduce maintenance costs and lower emissions from the PHEC. (testimony of Mr. Alexander, tr. 38) The pipeline will be connected to MidAmerican's gas distribution system, which will provide more natural gas capacity to the area and improve gas distribution system reliability. (testimony of Mr. Alexander, tr. 38) In addition, farm taps will be installed to serve customers adjacent to the pipeline who wish to have natural gas service but are not connected to the gas distribution system. (testimony of Mr. Alexander, tr. 38)

Therefore, the proposed pipeline promotes the public convenience and necessity. (petition for permit; Stursma reports; testimony of Mr. Alexander, tr. 33-38)

II. TERMS, CONDITIONS, AND RESTRICTIONS AS TO SAFETY REQUIREMENTS

Iowa Code § 479.12 provides in pertinent part:

> The board may grant a permit in whole or in part upon terms, conditions, and restrictions as to *safety requirements* and as to location and route as determined by it to be just and proper. (emphasis added)

The standard of "just and proper" is not defined in the statute. By its terms, section 479.12 vests the Board with broad discretion. In Re: US Gypsum Company, Docket No. P-844, Proposed Decision and Order Granting Permit (March 21, 1996). However, like all decisions in contested cases, a decision to require additional terms, conditions, and restrictions as to safety requirements must be supported by findings of fact based solely on the evidence in the record and on matters officially noticed in the record. Iowa Code §§ 17A.12(8).

A. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS DUE TO ENGINEERING CONCERNS.

MidAmerican's revised petition proposes a pipeline that is a 16-inch steel line approximately 12.9 miles long with a maximum allowable operating pressure (MAOP) of 800 psig. (petition exhibits C, C-1, C-2, D; Stursma reports; testimony of Mr. Dreesman, tr. 47; testimony of Mr. Grigsby, tr. 214, 215, 219)

MIDAMERICAN'S POSITION

Mr. Grigsby

Mr. Grigsby testified the pipeline will extend from Northern Natural Gas Company's west to east branch line to the Greater Des Moines Energy Center and Pleasant Hill Energy Center in Pleasant Hill, Iowa. (Tr. 219) The pipeline will be odorized, cathodically protected, and have emergency sectionalizing valves. (Tr. 220) In addition to the station valves at each end, there will be two mainline sectionalizing valves located one mile north of Interstate 80 and within Pleasant Hill near University. (Id) Mr. Grigsby maintains that MidAmerican has designed the pipeline to mitigate the impact of impressed AC current by using grounding devices. (Id). MidAmerican will be responsible for all aspects of the pipeline. (Tr. 221)

The pipeline will comply, and be inspected, in accordance with all applicable state and federal safety standards. (Tr. 221) At a minimum, the pipeline route will be walked annually to detect any problems, surveyed with a leak detector at highway and railroad crossings twice a year at Class 1 and 2 locations, four times a year at Class 3 locations, annually patrolled at other Class 1 and 2 locations, and other Class 3 locations will be patrolled twice a year. (Tr. 221, 226) Additionally, the populated areas of Pleasant Hill will be leak surveyed four times a year. (Tr. 226) Other safety measures Mr. Grigsby testified will be taken are: 1) the pipeline will have annual pipe-to soil readings; 2) MidAmerican will place post markers at road crossings and fence lines to mark the location of the line, and will place signs on these markers containing MidAmerican's name and the 800 number that people should call to report problems; 3) landowners will be questioned prior to construction

regarding future plans; and 4) walking patrols will be conducted each year to detect indications of construction activity, washouts, or erosion. (Tr. 222) Mr. Grigsby testified that any reported loss of cover will be investigated and if warranted, restored at MidAmerican's expense. (Id) The safety measures taken by MidAmerican should mitigate third party damage. (Tr. 223)

Mr. Schramm

Mr. Schramm explained how the pipeline and personnel contacting the pipeline will be protected against AC fault currents, lightning strikes, and induced electrical currents or charges from the electric transmission line that parallels the proposed pipeline for approximately five miles. (Tr. 277, 283-289) The pipeline is designed in accordance with NACE Standard Recommended Practice RP0177, which requires, where necessary, protective devices to mitigate the AC effects on pipelines, minimize damage to pipelines, and reduce the electrical hazard to people coming into contact with the pipeline. (Tr. 277-278) The pipeline will be cathodically protected to protect against corrosion. (Tr. 278) According to Mr. Schramm, the risk of pipe wall damage from AC ground faults or lightning is not significant, as long as a distance of at least 10 feet is maintained between the pipeline and the electric transmission tower. (Tr. 278-279) Mr. Schramm stated that the design of the pipeline will also include the following items to mitigate the effects of AC ground faults and lightning strikes: 1) a 10 feet or greater minimum distance between electrical tower ground and route; 2) DC isolation and AC grounding equipment; 3) impressed current rectifiers to provide cathodic protection; and 4) electrical bonds,

where required, adequately sized and protected by non-metallic lockable enclosures. (Tr. 279-280)

Mr. Schramm asserted the construction specifications describe the precautions required to mitigate any capacitive effects during construction, and MidAmerican will take the following corrosion control measures to protect the pipeline from inductive coupling: 1) dead front construction test stations; 2) DC isolation and AC grounding equipment; 3) fenced and graveled above grade appurtenances; 4) grounded and graveled impressed current rectifiers with AC and DC lightning protection; and 5) electrical bonds sized for current load, in non-metallic lockable enclosures. (Tr. 280-282, 285-289) Cathodic protection and AC mitigation will be monitored and measured during annual surveys in compliance with Subpart I of Part 192. (Tr. 282)

Mr. Degenhardt

Mr. Degenhardt testified the design and construction of the pipeline will meet all applicable state and federal requirements. (Tr. 242) He stated that the pipeline will be designed to meet Class 3 requirements, and will satisfy any future development that would require Class 3 location qualification. (Tr. 243-244) Mr. Degenhardt testified the pipeline will be constructed in accordance with petition exhibits C and E. (Tr. 242-243) The current pipeline route crosses approximately 22 paved and county roads and four railroads. (Tr. 244) The paved and county roads and railroads will be bored to install the 16" line pipe. (Id) Gravel and dirt roads, drives, implement lanes into fields, and roads other than county roads will be open

cut. (Tr. 245) Mr. Degenhardt stated that MidAmerican will adhere to all permit requirements. (Id) The dry crossing method will be used on streams. (Id) The pipeline will be installed to meet railroad and highway requirements and will meet or exceed DOT separation requirements. (Tr. 246) MidAmerican will implement measures to control right-of-way erosion after construction. (Tr. 247) Inspection procedures for the pipeline will be done in accordance with standard industry practice and the appropriate requirements set forth in DOT 49 CFR Part 192. (Id)

Mr. Degenhardt testified the pipeline will be designed and constructed to meet the requirements of 49 CFR 192, including 192.150, which requires the pipeline to accommodate an internal inspection tool (sometimes called a "pig"). (Tr. 250) MidAmerican will use bends and valves that will allow the passage of an internal inspection device, and will design and construct the beginning and ending points in a way that will allow the future installation of launching and receiving facilities. (Tr. 250-252)

Mr. Dreesman

Mr. Dreesman testified that MidAmerican has elected to reduce the maximum allowable operating pressure (MAOP) of the line to 800 psig to match the MAOP of Northern Natural's transmission pipeline that will feed the proposed pipeline. (Tr. 47) MidAmerican will still design and test the line for a MAOP of 960 psig. (Tr. 47)

As a result of meetings and discussions with city officials and citizens, Mr. Dreesman stated that MidAmerican has agreed to make revisions to the design and construction of the pipeline. (Tr. 63) To address the concerns of third party damage,

MidAmerican will bury pipe five feet deep in residential portions of Pleasant Hill and in agricultural land, and four feet deep in other areas. (Tr. 64-66) Mr. Dreesman stated that MidAmerican chose to use five-foot depth in agricultural lands to accommodate new deep till technologies, plus leave an additional margin of safety for potential future soil erosion. (Tr. 64) MidAmerican assumed the entire route could become residential in the future, and four feet was consistent with future construction activities in the area. (Tr. 64) It will install pipe-marking tape above the pipe where trenching is used as the installation method in the residential areas of Pleasant Hill. (Tr. 65)

MidAmerican has chosen to design the entire pipeline to Class 3 location standards, although much of the route is currently in Class 1 or 2 locations, because it was assumed that all locations would become residential and commercial as the Des Moines metropolitan area continues to expand. (Tr. 64) In order to significantly decrease the amount of time it takes to shut down the gas source in an emergency, MidAmerican will install a remote operated valve at the Northern town border station, and it will odorize the entire line so adjacent property owners and emergency workers will be able to smell even small gas leaks, and to avoid individual odorizers along the line for future regulator stations and farm taps. (Tr. 65)

MidAmerican has also agreed to leak survey the line four times per year in the residential areas in Pleasant Hill, and to provide emergency response training to emergency services and coordinate training with the other pipeline companies. (Tr. 65-68, 172-176) Additionally, Mr. Dreesman testified MidAmerican will develop a

brochure and conduct information meetings for property owners in the vicinity of the pipeline. (Tr. 66, 177-179) Mr. Dreesman agreed that MidAmerican would send informational brochures to all the landowners along the route, initially at approximately the time the pipeline is constructed, then periodically thereafter. (Tr. 182-185) MidAmerican was asked to consider whether landowners near (but not on) the route should be included. (Tr. 184-185)

Mr. Dreesman testified MidAmerican will use 0.375-inch wall thickness for pipeline sections that are to be bored or directionally drilled to provide greater protection against damage from outside stresses like third party dig-ins. (Tr. 63-64) In addition, MidAmerican has also committed to use 0.375" wall pipe inside the Pleasant Hill city limits to minimize the impact of third party damage and to limit the impact of a pipeline failure. (Tr. 68-69, 169-170) At an 800 psig MAOP, and with a 0.375" wall pipe, the specified minimum yield strength (SYMS) is 28 percent. (Tr. 69) Below 30 percent SMYS, the failure mechanism of the pipe would be expected to be a leak rather than a rupture. (Tr. 69, 166-171; petition exhibit F revised, attachment 3)

Mr. Dreesman testified MidAmerican has no objection to including the "four remaining future items" related to safety from Mr. Stursma's supplemental report in the order granting the permit. (Tr. 78) The four items are leak survey the pipeline four times per year in the residential areas of Pleasant Hill, continuously monitor the pipeline flow rate and pressure, provide emergency response training to local emergency responders and coordinate this training with other pipeline operators

within Pleasant Hill, and provide brochures and conduct meetings with local residents to inform them of gas safety issues and promote awareness. (Tr. 77-79) Mr. Dreesman also stated that MidAmerican changed its standards manual to include the recommended procedures on pages 17-18 of Mr. Stursma's supplemental report. (Tr. 79) The following language has been included: "blowdown connections should be located so that the vented gas is directed in a safe direction. Particular attention should be paid to avoiding overhead lines." (Tr. 79)

Mr. Dreesman listed the following features to be included in MidAmerican's quality assurance program that exceed the minimum requirements: 1) pipe specifications that are in excess of minimum requirements; 2) additional tests of the pipe beyond the minimum required tests; 3) use of a third party inspector to witness the tests and perform visual inspections; 4) use of EN Engineering to provide independent inspection of the construction, in addition to the contractor's quality assurance program and inspection by MidAmerican's own personnel; 5) hydrostatic test of the pipe at a minimum pressure of 1960 psig, which is substantially greater than the 1200 psig required for an 800 psig pipeline; 6) radiographic inspection of 100 percent of the welds in all locations, when rules would require only 10 percent or 15 percent in some locations; 7) use of a third party inspector for fabrication of other assemblies, pressure vessels and valves, induction bends, and high-strength fittings; 8) supplementary specifications which exceed the minimum standards of API, ASME, and ANSI; and 9) after the hydrostatic test, MidAmerican will run a geometric pig. (Tr. 80-82)

OBJECTORS' AND CONSUMER ADVOCATE'S POSITIONS

Many of the objectors expressed concerns regarding the safety of the pipeline itself, including possible leaks, fires, explosions, and corrosion, the fact that part of the proposed pipeline would run parallel to a high voltage electric transmission line through a residential neighborhood and a park in Pleasant Hill, the nearness of the pipeline to an Amoco gas station, how a ground leak from the pipeline would affect a water well, whether the construction company will make errors and be monitored, and the risk of accidental damage to the pipeline from third parties digging in the area. These objectors were: Mr. Almendinger, Ms. Buckroyd, Mr. Fogleman, Mr. Freeborn, Mr. and Mrs. Kelly, Ms. Kile, Mr. Kirschbaum, Ms. Miles, Mr. Nichols, Mr. and Mrs. Patterson, Ms. Samuell, Mr. Schreiber, the Silver Land Company, Mr. and Mrs. Uhl, Mr. Steve Williams, Mr. Thomas Williams and Ms. Hawkins, Mr. and Mrs. Williamson, and Ms. Wilson. Mr. Fogleman and Mr. and Mrs. Williamson also expressed their concerns regarding possible terrorist attack or other intentional vandalism on the pipeline.

Mr. Fogleman also submitted copies of a petition that he said is signed by 312 people. The petition says: "We oppose this proposed pipeline route because of the inherent safety risk to the residents of Pleasant Hill associated with having a pipeline of this size going through an existing residential area and the potential affect (sic) that it could have on property values."

In its post-hearing brief, the Consumer Advocate stated it concluded that MidAmerican had not presented adequate evidence to justify its routing choice, and it

therefore joined the objecting residents in urging the Board to deny the permit. The Consumer Advocate cited the objections expressed by the residents as one of four factors that weighed most heavily in the Consumer Advocate's decision. It stated that there are legitimate concerns, and that serious incidents, even catastrophes, can and do happen for more reasons than one. The Consumer Advocate did not present any engineering or other evidence regarding safety issues.

ANALYSIS

The proposed pipeline route runs parallel to a high voltage electric transmission line for approximately five miles. (testimony of Mr. Schramm, tr. 277) A pipeline near an electric transmission line must be protected against the possibility of an AC fault current or lightning strike on the electric line, and against the possibility that the electric line might induce electrical currents or charges on the pipeline that might harm persons who contact the pipeline or damage the corrosion control facilities on the pipeline. The presence of the electric line must be taken into account in the design, construction, operation and maintenance of the pipeline. According to Mr. Schramm, there is no significant risk of pipe wall damage due to ground faults or lightning strikes, as long as a distance of at least 10 feet is maintained between the pipeline and the electric transmission tower. (Tr. 278-279, 285) Mr. Schramm testified a minimum distance of 10 feet or greater (typically 30-50 feet) will be maintained. (Tr. 279)

Mr. Stursma concluded the proposed project meets or exceeds the requirements of the technical standards adopted by the Board, but listed two items

from ASME B31.8-1999, Section 873, that MidAmerican should include in its Gas Operating and Maintenance Manual. (Supplemental Staff report, p. 16) At the hearing, Mr. Dreesman testified that MidAmerican's standards manual has been changed to include the recommended procedures. (Tr. 79) Mr. Stursma asserted that MidAmerican's witness satisfactorily explained that the electric transmission line issues have been considered and adequately addressed by MidAmerican. (Tr. 471) The record shows MidAmerican has taken the necessary steps to protect the pipeline and persons who contact the pipeline, and will be in compliance with the applicable standards regarding pipelines near electric transmission lines.

Odorization provides safety benefits, making it possible to detect a gas leak by the presence of a distinctive odor. Mr. Dreesman testified odorization was an area where MidAmerican will exceed minimum safety standards, asserting odorization is not required. (Tr. 65) In his July 12, 2002, supplemental report, page 15, Mr. Stursma stated that odorization is required by 49 CFR §192.625. Mr. Stursma is correct that odorization is required for the portion of the pipeline that is in a Class 3 location. Since MidAmerican has agreed to odorize the entire pipeline, the question of whether or not it is required in Class 3 locations is moot.

In his April 26, 2002, report, Mr. Stursma requested confirmation that the pipeline would be designed to accommodate an internal inspection tool. Use of such tools is not currently required, but pipelines must be built so they could be used. Mr. Degenhardt's testimony verifies the pipeline will be designed and constructed to

accommodate an internal inspection tool as required by 47 CFR §192.150. (Tr. 250-252)

The petition, exhibits, and the testimony of Mr. Dreesman, Mr. Grigsby, Mr. Degenhardt, and Mr. Schramm demonstrate the pipeline will be designed, constructed, tested, inspected, operated, and maintained in accordance with applicable safety standards, and they explain how MidAmerican will comply with specific requirements. At the hearing, Mr. Stursma testified the pipeline as proposed would meet all design, testing, construction, operation, and maintenance requirements. (Tr. 482-483) There was no testimony or evidence suggesting the pipeline as proposed will not comply with applicable safety standards. Therefore, the record clearly shows the pipeline as proposed will meet or exceed the safety standards adopted by the Board in 199 IAC 10.12(1)"b" and "d," and 19.5(2)"a"(2) and (5), namely: 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline; Minimum Federal Safety Standards;" and ASME B31.8 1999, "Gas Transmission and Distribution Piping Systems."

Additionally, MidAmerican has agreed to several items that go beyond the requirements of the minimum safety standards. The following design and construction features were agreed to by MidAmerican, and must be followed as a condition of the grant of its permit:

1) Pipe with at least 0.375-inch wall thickness will be used in residential areas of Pleasant Hill. (Tr. 66, 68-69, 424, Second Revised Exhibit "F" page 3)

2) The pipe will be buried with at least 5 feet of cover in agricultural land and in residential portions of Pleasant Hill, and with at least 4 feet of cover in all other areas. (Tr. 63-66)

3) 100 percent of field welds will be x-rayed. (Tr. 81, Second Revised Exhibit "F" page 3)

4) A remote operated shutdown valve will be located at the transfer point from Northern Natural Gas. (Tr. 63, 65, Second Revised Exhibit "F" page 3)

5) Pipe-marking tape will be installed above the pipeline in locations where the pipe will be trenched within Pleasant Hill city limits. (Tr. 65, Second Revised Exhibit "F" page 3)

6) Gas will be odorized at the point of custody transfer from Northern Natural Gas. (Tr. 63, Second Revised Exhibit "F" page 3)

7) The entire pipeline will be designed to Class Location 3 requirements. (Tr. 63-64)

Mr. Stursma recommended that the order granting the permit should specifically list certain post-construction measures not specifically required by pipeline safety standards as conditions of the permit. (July 12, 2002, Supplemental Staff Report, page 17) These items were agreed to by MidAmerican. (Tr. 78-79, Second Revised Exhibit "F" page 3) The following post-construction measures must be followed as a condition of the grant of the permit:

1) MidAmerican will leak survey the pipeline with leak detection equipment four times per year in the residential areas of Pleasant Hill. (Tr. 78, 67, 228, Second Revised Exhibit "F" page 3)

2) MidAmerican will continuously monitor the pipeline flow rate and pressure. (Tr. 78, 65, Second Revised Exhibit "F" page 3)

3) MidAmerican will provide emergency response training to local emergency responders and coordinate this training with other pipeline operators within Pleasant Hill. (Tr. 78, Second Revised Exhibit "F" page 3)

4) MidAmerican will provide informational brochures and conduct meetings with local residents to inform them of gas safety issues and also promote awareness. MidAmerican will send the informational brochures to all the landowners along the route, initially at approximately the time the pipeline is constructed, then periodically thereafter. MidAmerican will consider whether landowners near (but not on) the route should be included. (Tr. 78-79, 177-179, 182-185, Second Revised Exhibit "F" page 3)

MidAmerican has agreed to a maximum allowable operating pressure (MAOP) of 800 psig, although the pipeline could qualify for a higher MAOP under the minimum federal safety standards. The permit must specify a MAOP of 800 psig. (Tr. 47, Second Revised Exhibit "C")

Although it is entirely understandable that nearby residents would want to protect themselves from potential harm related to the proposed pipeline, and the extra measures may not alleviate the safety concerns of all the objectors, there is nothing in the record to support requiring additional terms, conditions, or restrictions related to safety. Additional discussion regarding each objection is contained later in this decision. The federal and state requirements regarding design, construction, and operation of a pipeline are designed to address and minimize or eliminate the safety issues associated with a pipeline, including those expressed by the objectors and the Consumer Advocate. MidAmerican has designed, and will construct, operate, and maintain the proposed pipeline in compliance with these requirements. In addition, MidAmerican has gone above these requirements in a number of respects to try to alleviate the landowners' concerns and enhance the safety of the pipeline.

There is a difference between looking to the left and right before you cross the street because you are afraid a car will hit you, and never crossing a street at all. The first is a reasonable response to the threat, and the second is not. MidAmerican has taken reasonable precautions to minimize or eliminate the potential risks associated with the safety of the proposed pipeline. It would not be reasonable to require additional precautions, or to not allow the pipeline to be built. The only other option would be to deny the petition as to the Direct Route, and require MidAmerican to follow the Highway 65 Corridor Route, which is discussed below.

Mr. Fogleman and Mr. and Mrs. Williamson expressed concerns about the possibility of terrorist attack on the pipeline, and the resulting potential harm to nearby residents. Mr. Fogleman also expressed concern regarding intentional vandalism of the pipeline. Mr. Fogleman's position is that the Highway 65 Corridor Route would be the most suitable, because it does not run through a densely populated residential area of Pleasant Hill, and having a road blow up would be preferable to having someone's home blow up. (Fogleman objection)

It is entirely understandable that people want to try to protect themselves from potential harm in this increasingly uncertain world. However, terrorist actions are by definition random and unpredictable. There is no way to tell whether a terrorist would choose to attack Pleasant Hill, what facility a terrorist might choose to attack, or whether a terrorist would prefer to attack a pipeline in a neighborhood or along a highway. As discussed below, the Highway 65 Corridor Route is not entirely in a rural, undeveloped area, and the Direct Route is not entirely in developed, residential neighborhoods. Unfortunately, the only way to ensure that a terrorist would not attack the proposed pipeline is to not build it at all. Even if the pipeline were not built, this would not ensure that the residents of Pleasant Hill are free from the threat of terrorist activity. Therefore, the possible threat of terrorist attack cannot form the basis for deciding whether to build the pipeline, and whether the Direct Route or the Highway 65 Corridor Route should be chosen.

The record supports a finding that the proposed pipeline meets or exceeds all applicable safety standards, and it would not be just or proper to impose additional terms, conditions, or restrictions due to engineering concerns.

B. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS REGARDING SECURITY

MIDAMERICAN'S POSITION

Mr. Degenhardt

Mr. Degenhardt testified that 6-foot chain link fences with locking gates will enclose the Northern Natural Gas interconnection facility, mainline block valve facilities, PHEC delivery facilities, and the terminus of the pipeline at the GDMEC. (Tr. 252-253) Mr. Degenhardt stated that security lighting will be installed at the Northern Natural Gas interconnection facility, which is next to a county road. (Tr. 252) He stated that MidAmerican will install mainline block valves below grade, with only operators and blow offs above grade. (Id) According to Mr. Degenhardt, block valves and blow offs will be chained and locked. (Tr. 252-253) The valves will be located adjacent to roads and close to houses. (Id)

ANALYSIS

In his July 12, 2002, supplemental report at page 12, Mr. Stursma stated that it appeared the buried pipeline in residential areas would be an unlikely security risk. He stated that with a burial depth of five feet, in open areas readily visible by area residents and passersby, the pipeline seems an inopportune target for sabotage. He stated that above-ground facilities, with easier access to the pipeline, would be a

higher risk. Mr. Stursma noted that the proposed security precautions at above-ground facilities are minimal, but there are currently no regulations requiring security precautions at above-ground facilities, beyond a requirement that certain valves be locked. Mr. Stursma stated that the proposed fencing is less than what is required for an electric substation. He suggested motion sensors would be a possibility at the town border station, where MidAmerican will already have electronic communication with the town border station. However, Mr. Stursma stated that the measures MidAmerican proposes go beyond any current requirements.

At the hearing, Mr. Degenhardt testified that motion sensors in remote locations are subject to frequent false alarms and therefore are undesirable. (Tr. 264-265) When asked at the hearing, Mr. Stursma testified that if MidAmerican's experience was that they are simply unreliable and don't provide the required benefit, he would not insist that MidAmerican be required to install motion sensors. (Tr. 481) Mr. Stursma also testified he would not recommend it be required to install any other specific security measures at any of the above-ground facilities. (Tr. 482)

The proposed security precautions are minimal, but they exceed current safety standards. The record supports a finding that it would not be just and proper to impose additional terms, conditions, or restrictions regarding security.

C. WHETHER IT IS JUST AND PROPER TO LIMIT THE PERMIT BY TERMS, CONDITIONS, OR RESTRICTIONS DUE TO LAND RESTORATION CONCERNS.

Iowa Code § 479.29(9) provides that:

> Petitioners for a permit for pipeline construction shall file with the petition a written land restoration plan showing how the requirements of this section, and of rules adopted pursuant to this section, will be met.

The Board has adopted land restoration rules pursuant to this statute at 199 IAC Chapter 9.

MIDAMERICAN'S POSITION

Mr. Degenhardt

MidAmerican filed a copy of its land restoration plan with its petition as required by 199 IAC Chapter 9. Mr. Degenhardt's testimony addressed how topsoil will be preserved. (Tr. 246) He stated that in agricultural land, the actual depth of the topsoil, not to exceed 36 inches, will first be stripped from the area to be excavated above the pipeline, and will be stripped to a maximum of 12 inches from the adjacent subsoil storage areas. (Tr. 246) In non-agricultural land, the actual depth of topsoil, not to exceed 36 inches, will be stripped only from the area to be excavated above the pipeline and kept separate from the remaining subsoil. (Tr. 246) Mr. Degenhardt testified that the stored topsoil and subsoil will have sufficient separation to prevent mixing during the storage period. (Tr. 246) He also testified when the trench is backfilled, the topsoil will be placed in the upper portion of the trench and the backfill crown. (Tr. 246) Mr. Degenhardt also testified how damaged tile will be repaired or replaced, and what MidAmerican would do to control soil erosion in the right-of-way after construction. (Tr. 246-247)

OBJECTORS' POSITION

In their objections, the Silver Land Company and Mr. and Mrs. Williamson expressed concerns regarding interference of construction of the pipeline on farming operations, and that the proposed pipeline would disturb creek banks and the very steep hillside terrain, making them susceptible to erosion.

ANALYSIS

MidAmerican filed a Third Revised Exhibit "I," its revised land restoration plan, on July 31, 2002. This brings MidAmerican in compliance with the Board's rules in 199 IAC 9.4. The land restoration plan filed by MidAmerican adequately addresses the land restoration issues contained in Iowa Code § 479.29 and 199 IAC Chapter 9. (land restoration plan; testimony of Mr. Stursma; testimony of Mr. Degenhardt, Tr. 246-247)

Mr. Dreesman testified that the actual construction time will be only a seven-to-nine week period of time, and MidAmerican would prefer to construct the pipeline so it is operational by January 1, 2003. (Tr. 123-125) Pipeline construction practices mandated by Iowa Code § 479.29 and the Board's rules at 199 IAC Chapter 9 are designed to address the concern expressed regarding susceptibility to erosion. In addition, MidAmerican has on file with the Board, as required by 199 IAC 10.2(3), a written statement of how it will determine and pay for any damages resulting from construction of the pipeline. (testimony of Mr. Schwartz, tr. 299)

Therefore, the record supports a finding that no terms, conditions, or restrictions regarding land restoration are necessary.

III. TERMS, CONDITIONS, AND RESTRICTIONS AS TO PIPELINE LOCATION AND ROUTE

Iowa Code § 479.12 provides in part:

> The board may grant a permit in whole or in part upon terms, conditions, and restrictions as to safety requirements and as to *location and route* as determined by it to be just and proper. (emphasis added).

As discussed above, the standard of "just and proper" is not defined in the statute. Section 479.12 vests the Board with broad discretion. In Re: US Gypsum Company, Docket No. P-844, "Proposed Decision and Order Granting Permit," (March 21, 1996). However, a decision to require additional terms, conditions, and restrictions as to location and route must be supported by findings of fact based solely on the evidence in the record and on matters officially noticed in the record. Iowa Code §§ 17A.12(8).

The contested issues in this case primarily relate to MidAmerican's route selection, and in particular, it's choice of the Direct Route over the Secondary Route north of Interstate 80, and its choice of the Direct Route over the Highway 65 Corridor Route south of Interstate 80.

A. ROUTE SELECTION

MidAmerican proposed a route for the pipeline described in exhibit A attached to the petition for a permit (as amended). (petition for permit exhibit A; testimony of Mr. Grigsby, tr. p. 219) The proposed pipeline would run from a town border station on Northern Natural Gas Company's west to east branch line in Polk County, then travel in a generally southerly direction to MidAmerican's existing Pleasant Hill

Energy Center and proposed Greater Des Moines Energy Center, both located adjacent to each other south of Pleasant Hill in Polk County. (petition for permit; testimony of Mr. Grigsby, tr. p. 219; Stursma 4/26/02 report)

MIDAMERICAN'S POSITION

Mr. Dreesman

Mr. Dreesman testified that MidAmerican's goal was to select a route that could provide an adequate supply of natural gas, at the required pressure, for the GDMEC and the PHEC. (Tr. 48) In selecting the route, five criteria were used: safety of the general public, use of existing utility and highway corridors, pipeline length, construction costs, and environmental impact. (Tr. 48-49) Potential routes were identified by review of maps, field investigation, and meetings with city officials and a citizens' group. Seven routes were initially reviewed, as summarized in Exhibit F, Attachment 1: NGPL, NGPL Optional, Direct, Highway 65 Corridor, Far East, Secondary and William's Corridor. (Tr. 49) The Sewer Route and Bike Route were added to the review as a result of the public meetings. (Tr. 49)

MidAmerican selected the Direct Route. (Tr. 49; petition for permit Exhibit "F" Revised, Attachment 1). It met the selection criteria. (Tr. 49) The Direct Route connects to the Northern Natural Gas Pipeline. (Tr. 49) Northern had committed to provide adequate capacity at the required pressure, and will require minimal impact on generation plant availability. (Tr. 49-50). The pipeline will meet or exceed federal safety requirements. (Tr. 50) This route extensively uses an existing high voltage electric transmission corridor. (Tr. 50) Mr. Dreesman testified this is an advantage

because properties on the southern end of the route are already encumbered because of the electric lines, the electric transmission lines provide visible reminders of pipeline presence, and the route extensively uses current MidAmerican property and easements. (petition Exhibit "F" Revised, Attachment 1) It is the shortest route, presents no major construction obstacles, and requires 16-inch pipe. (Tr. 50) The route has minimal impact on the environment, since it has only minor impact on wetlands and no impact on archeological sites. (Tr. 50) It has significantly less construction cost. (petition Exhibit "F" Revised, Attachment 1)

Of all the routes reviewed, Mr. Dreesman testified that only the Direct Route could be built with 16-inch pipe. (Tr. 50) All the other routes would require larger pipe, and therefore, a greater materials and installation cost per foot. (Tr. 50) He explained what determines the pipe diameter required, and the computer modeling used to determine the required pipe size for the various routes. (Tr. 50-51) As gas flows through a pipe, there are pressure losses due to friction or other physical phenomena. (Tr. 50) These pressure losses can be minimized by reducing the number of bends, reducing the number of valves, changing bend and valve design, increasing pipe diameter, reducing or eliminating metering, reducing or eliminating pressure control, and other techniques. (Tr. 50) A computer model that took into account the required capacity and pressure needed at the GDMEC, and the pressure and capacity available at the pipeline supply source, was used to size the pipeline diameter. (Tr. 50-51)

According to Mr. Dreesman, both the Natural Gas Pipeline (NGPL) and NGPL Optional Routes required larger diameter pipe because the distance was nearly twice as far, and the NGPL operates at a lower pressure than the Northern Natural Gas pipeline. (Tr. 51) Natural Gas required earlier notification of unit startups than required by Northern. (Tr. 51) The routes are rural in moderately rugged terrain, did not extensively use utility corridors, and did not present environmental problems. (Tr. 51-52) Mr. Dreesman testified neither NGPL route was selected because Natural Gas required significant notification before the units could be started up, which limited plant availability. (Tr. 52) These operational restrictions, in combination with gas supply costs and construction costs, made these routes the most costly and operationally restrictive options. (Tr. 52, 57-59)

Mr. Dreesman testified that the Highway 65 Corridor Route is very similar to the Direct Route. (Tr. 52) It begins at the Northern town border station (TBS) and runs south to the GDMEC. (Tr. 52) It follows the same route as the Direct Route, except from NE 27th Avenue to Vandalia Road, where, instead of following the electric transmission line corridor, it runs to the east where it intercepts and follows the Highway 65 Corridor. (Tr. 52) The route covers the same type of moderate terrain as the Direct Route and has minimal environmental impact. (Tr. 52) The route impacts fewer current residences, but Mr. Dreesman testified that advantage will be lost as Des Moines continues to expand in that region. (Tr. 52). The Highway 65 Corridor Route would impact a total of 74 parcels, as opposed to the Direct Route's 82 parcels, as shown on Attachment EAD (attached to Mr. Dreesman's

prefiled direct testimony). (Tr. 52) The Highway 65 Corridor Route would have been the company's second choice. (Tr. 52) Mr. Dreesman testified that the primary reason for not selecting it was that it was considered to be, at best, equal to the Direct Route, except for cost. (Tr. 52) Mr. Dreesman testified the pipe diameter would have to be increased to 18" or 20", which would result in a substantial cost increase. (Tr. 53) In addition to increased cost, this route would have required additional highway and railroad crossings, and it is beneficial to minimize crossings where possible. (Tr. 53)

The Far East Route was based on map review only, and was selected to be as rural as possible. (Tr. 53) The route began at the Northern TBS, went east for five miles, then directly south, and came back west to the Greater Des Moines Energy Center. (Tr. 53) Mr. Dreesman stated the result was a much longer pipeline and a greater pipe diameter. (Tr. 53) The length of route and location added both terrain and environmental problems due to potential wetlands. (Tr. 53) This route was not chosen because it had only one positive: it was more rural at the current time, and the costs and all the other negatives eliminated this route from consideration. (Tr. 53-54)

The Secondary Route was one of two published routes discussed at the public meeting. (Tr. 54) The route was considered to address potential problems crossing Interstate 80 and potential right-of-way problems north of Interstate 80. (Tr. 54) The route started at the Northern TBS, extended directly east for two miles parallel to the Northern transmission line, then turned south and crossed Interstate

80. (Tr. 54) South of Interstate 80, the Secondary Route was the same as the Direct Route. (Tr. 54) Mr. Dreesman testified the Secondary Route was not selected because it provided no advantages over the Direct Route and was more costly. (Tr. 54.) Although at the informational meeting, the Secondary Route was to have a 16" pipe, the pressure requirements for the plant have increased since the meeting. (Tr. 54.) The Direct Route meets plant requirements with no additional capacity available. (Tr. 54) Since the Secondary Route is two miles longer than the Direct Route, the pipe diameter would have to be increased to compensate for the pressure loss, or the plant output would have to be restricted. (Tr. 54)

The Williams Corridor Route followed multiple liquid pipelines operated by Williams Energy. (Tr. 55) Mr. Dreesman stated that if there were space in that corridor, 16" pipe could have been used, with the approximate length and a slightly higher construction cost than the Direct Route. (Tr. 55) The higher cost would have been incurred because of construction in close proximity with the other pipelines. (Tr. 55) Mr. Dreesman testified this route was rejected because space was not available. (Tr. 55)

The Sewer Route and the Bike Route were both longer than the Direct Route and larger pipe would have been required, resulting in a greater cost. (Tr. 57) Both routes had the potential of significant additional cost because of environmental and construction concerns. (Tr. 57) Both routes were more isolated from the public, but both routes presented potential access problems. (Tr. 57).

Mr. Dreesman testified that all the routes from Northern Natural can provide the required service to GDMEC, be environmentally friendly, and operate safely. (Tr. 59) The big difference is cost. (Tr. 59) According to Mr. Dreesman, none of the routes investigated would provide superior safety to the Direct Route, and all of the routes would be more costly. (Tr. 59). Mr. Dreesman testified that a gas pipeline is needed to supply natural gas to the GDMEC and the PHEC, and that MidAmerican has selected a route that is the most cost-effective, and that provides equal or superior safety to all other routes. (Tr. 75)

Mr. Dreesman stated that MidAmerican considered the cost of the pipeline and cost of gas transportation in determining the location of the town border station that connects the proposed pipeline with the Northern Natural Gas transmission pipeline. (Tr. 59) Northern Natural will have significant one-time operation and maintenance and construction costs to be able to deliver natural gas to the town border station (TBS) on its transmission line. (Tr. 59-60) If the TBS were moved to the east of the proposed location, Northern Natural's capital cost would have increased significantly, and its proposed tariff would have to be adjusted accordingly. (Tr. 60-61) In addition, a road would have to be built to service the TBS, requiring increased initial and ongoing maintenance costs, as well as requiring the acquisition of more land and additional easements for the road. (Tr. 61) If the TBS had been moved to the west, Northern Natural's costs would decrease, but MidAmerican's construction costs would have increased. (Tr. 61) According to Mr. Dreesman, if the TBS were moved either east or west, the cost of fuel to the Greater Des Moines

Energy Center would be higher, resulting in higher electric costs to MidAmerican customers. (Tr. 61) Upon leaving the TBS, the proposed pipeline parallels the Northern Natural transmission pipeline for a half-mile. (Tr. 61) MidAmerican preferred to take the most direct route, which would have been a diagonal line to the southeast, but to accommodate landowner requests, MidAmerican chose to parallel the existing Northern Natural pipeline for a half mile to the east, then turn south and follow an abandoned railroad route. (Tr. 61)

Mr. Grigsby

Mr. Grigsby testified that MidAmerican, in selecting the route, considered concerns for safety of the general public, constructability of the pipeline, intersection with other pipelines, cost of the pipeline, the use of existing utility and highway corridors, Iowa Department of Transportation road crossing requirements, design and construction requirements of the Iowa Administrative Code and Federal Pipeline Safety Regulations, and environmental concerns. MidAmerican also modified the pipeline route to address concerns expressed by landowners. (Tr. 219-220).

THE OBJECTORS' AND CONSUMER ADVOCATE'S POSITIONS

The Consumer Advocate opposed MidAmerican's route choice. (Partial Objection, filed July 24, 2002; Brief filed August 13, 2002) The majority of the objectors requested that MidAmerican be required to construct the proposed pipeline on the Highway 65 Corridor route. (written objections) The Silver Land Company and Mr. and Mrs. Williamson questioned why MidAmerican did not choose the Secondary Route north of Interstate 80. (written objections; Tr. 459-462) The

Consumer Advocate and the objectors did not dispute the necessity for this pipeline. (written objections; Consumer Advocate Partial Objection; Consumer Advocate Brief) They oppose the route and location of the pipeline chosen by MidAmerican. (Id.) A more detailed recitation of the positions of the objectors and Consumer Advocate is contained below.

MR. STURSMA'S INSPECTION REPORT

Mr. Stursma inspected the proposed pipeline route on March 14, 2002, per Iowa Code § 479.11(2001). (Stursma 3/14/02 report) In his report, Mr. Stursma stated that no substantive natural barriers to construction were observed. (Stursma 3/14/02 report) He further stated that man-made barriers included substantial road crossings at Interstate 80, U.S. Highway 6 (NE Hubbell Ave.), NE 46th Ave., and Highway 163. (Stursma 3/14/02 report) He also observed that between Pine Valley Drive and Partridge Ave. in Pleasant Hill, there appeared to be substantial encroachment onto the 161 kV electric line right-of-way by residential fences and outbuildings, and that pipeline construction through this area may be disruptive to landowners. (Stursma 3/14/02 report) He further stated that the pipeline route is close to commercial buildings on Tracts 25 and 26, but it was not clear whether construction would be a serious inconvenience. (Stursma 3/14/02 report)
Mr. Stursma also described a number of recently constructed homes near the proposed pipeline that are not shown on the maps. (Stursma 3/14/02 report) He concluded that:

> Inspection found no major technical problems with the route. There will be several major road bores and several stream crossings, but there are no substantial obstacles to construction. Most of the route is in open farmland or on electric transmission line right-of-way where it appeared there will be adequate open space for construction, but in several areas construction may be constricted by adjacent development. However, the project does pass through residential and commercial areas in and near Pleasant Hill, and as evidenced by the objections there are residents concerned about the proximity of this pipeline.
>
> The MidAmerican filing did not contain sufficient detail on the location of alternate routes to permit inspection. However, according to the objection letter filed by Matt Schreiber a route on the east side of U.S. Highway 65 has been discussed with area residents. South of Highway 163 (University Ave.) the Highway 65 right-of-way is very wide on the east side, and the ground more rugged than on the proposed route. A pipeline route following the edge of the east right-of-way would pass close to several homes and what appears to be a condominium complex.

(Stursma 3/14/02 report)

ANALYSIS

Iowa Code § 479.6 and 199 IAC 10.2(1)"f" require MidAmerican to address in its petition the possible use of alternate routes. There is no guidance as to the extent to which an applicant must review alternate routes. At a minimum, this subsection requires MidAmerican to demonstrate that alternate routes were considered and why they were not chosen as the proposed route.

The evaluation of each of the routes was included in Exhibit "F," Revised, Attachment 1, entitled "Greater Des Moines Energy Center Gas Transmission Pipeline Selection Recommendation." The evaluation contains route summaries,

cost studies and analysis of advantages and disadvantages of the routes reviewed by MidAmerican.

The record shows that MidAmerican considered several possible routes. (Tr. 49-59; petition Exhibit "F," Revised, Attachment 1) MidAmerican reviewed potential routes by either field investigation or review of maps. (Tr. 49) Only the Direct Route and the Secondary Route were presented at the public informational meting. (Tr. 54) MidAmerican subsequently selected the Direct Route as the best route, and identified the Highway 65 Route as the second best route. (Tr. 59, 52-53).

The testimony and the exhibits clearly show that MidAmerican reviewed alternate routes. This complies with the requirements of Iowa Code § 479.6(8) and 199 IAC 10.2(1)"f." The preponderance of the evidence in the record shows that MidAmerican provided adequate justification for its decision to eliminate the NGPL, NGPL Optional, Far East, William's Corridor, Sewer, and Bike routes from further consideration. (Tr. 48-61, 219-220; Exhibit F, Revised, Attachment 1) The Secondary and Highway 65 Corridor Routes will be discussed below in further detail.

B. DIRECT v. SECONDARY ROUTE, AND DIRECT v. HIGHWAY 65 CORRIDOR ROUTE

1. Written Objections

Iowa Code § 479.9 provides that any person whose rights or interests may be affected by the proposed pipeline may file a written objection to the proposed pipeline or to the granting of the permit. Iowa Code § 479.11 provides that the board shall consider any objections filed in reaching a decision.

An objector may affect the Board's decision in two ways: 1) by presenting evidence against the granting of a petition; or 2) by raising individual concerns that the Board may choose to address through terms and conditions in the order granting the permit.

The objectors and the Consumer Advocate did not dispute the necessity for the pipeline. The majority of their concerns related to the route and location of the pipeline, and in particular, the choice of the Direct Route over the Secondary Route north of Interstate 80, and the Highway 65 Corridor Route south of Interstate 80.

Four of the objectors own land to be crossed by the pipeline: Ms. Brown, Ms. Kile, the Silver Land Company, and Mr. and Mrs. Williamson. (petition; written objections) Objectors Ms. Kile, the Silver Land Company, and Mr. and Mrs. Williamson, each own one of the parcels over which MidAmerican requested the right of eminent domain. (petition Exhibit Fourth Revised Exhibit H-1; written objections)

1. Mr. Robert D. Almendinger

Mr. Almendinger filed his objection on February 11, 2002. His primary concerns are property value, safety, and possible leaks. Mr. Almendinger stated that MidAmerican employees would not want the pipeline in their backyard due to safety concerns. He asserted the pipeline route should start in Indianola and be routed through the rural area as opposed to Pleasant Hill.

2. Ms. Shirley Bos–General Manager, Southeast Polk Rural Water District.

Ms. Bos did not file a written objection, but appeared at the hearing and questioned MidAmerican witnesses regarding the burial depth of the pipeline. Ms. Bos stated that the depth of the Southeast Polk Rural Water District is approximately five feet, which is the same as the depth for the proposed pipeline. (Tr. 314). Ms. Bos expressed concerns as to whether the District would be asked to relocate its 10-inch water line. (Tr. 315) MidAmerican witness Mr. Schwarz testified that if there were other systems in place that would interfere with the depth of the pipeline, MidAmerican would increase the depth of its pipeline to go under the system, and the Southeast Polk Rural Water District would not be asked to move its lines. (Tr. 314-316). Ms. Bos' questions appeared to be requesting information, she did not state any objection, and MidAmerican's responses appeared to satisfy her concern. (Tr. 314-316)

3. Ms. Brenda Brown – Owner of parcel pipeline will cross[1].

Ms. Brown filed her objection on January 29, 2002. Her primary concerns are that the proposed pipeline is being forced on the residential areas (the pipeline was not there when she purchased her home), infringes on the enjoyment of the open area in the backyard that is not subject to further development, she has already spent hours and dollars improving the back yard that will be lost by the route, she can no longer do what she wishes with her property, and the pipeline will devalue her property. Ms. Brown objected to the route and suggested that MidAmerican consider an alternate route that would not cut directly through the city. According to Ms. Brown, the suggested route was presented to MidAmerican at the informational meeting, and was rejected as not being in MidAmerican's best interest. Ms. Brown believes using an alternate route will reduce MidAmerican's profit margin.

Ms. Brown is also concerned that MidAmerican did not contact landowners along the proposed route because MidAmerican said their property was not directly affected. Ms. Brown contends that that it is ludicrous to state that a pipeline that does not cross your property, but runs 250 feet behind your house, does not affect the property owner. She believes that the pipeline would have an impact on the

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[1] It should be noted that Mr. Brown voluntarily signed an easement. However, the signing of an easement does not render moot any previously filed objection, nor does a landowner who voluntarily signs an easement lose the right to file an objection. In re Midwest Power, Docket Nos. E-21043, E-21044, and E-21045, Decision and Order Granting Franchise, pp. 38-39 (March 9, 1993)

entire city of Pleasant Hill, and MidAmerican should have contacted homeowners whose properties are along the proposed route.

4. Ms. Connie Buckroyd

Ms. Buckroyd filed her objection on February 6, 2002. Her primary concerns are that the proposed pipeline is within 200 feet from her home, runs directly under the power lines in a residential neighborhood, is unsafe, runs through a park where children play, and the manner in which MidAmerican has handled this situation. In support of her concerns, Buckroyd cites a pipeline explosion in New Mexico, and a statement she says was made by MidAmerican's engineer at the informational meeting, that it was conceivable that escaping gas could reach up to the power line, causing an arc, and thereby creating a spark to cause an explosion.

Ms. Buckroyd proposed that MidAmerican either use the Highway 65 Corridor Route or one of the NGPL routes from the south. Ms. Buckroyd questioned the logic and responsibility of MidAmerican in choosing the proposed route over running the route an extra one to three miles to ensure the safety of hundreds of people.

5. Mr. Dan Fogleman

Mr. Fogleman filed his objection on June 6, 2002, and he participated in the hearing. His primary concern is safety. Mr. Fogleman depicted various possible scenarios relating to pipeline ruptures, fires, explosions, terrorists, and sabotage in residential and rural areas. Mr. Fogleman stated that MidAmerican provided concerned citizens a document showing seven different routes. Five of the routes fall within $3-4 million of one another, with the Highway 65 Corridor Route appearing

to Mr. Fogleman to be the most reasonable. According to Mr. Fogleman, MidAmerican senior vice president Jack Alexander stated that the Board insists on the lowest cost route when granting an approval. Mr. Fogleman, who works for the Iowa Legislature, also contended that MidAmerican's lobbyist complained to Mr. Fogleman's boss about his involvement and efforts to effect change. Mr. Fogleman stated that MidAmerican only chose the proposed route because easements would be easier to secure under the power lines. He maintained the pipeline should be built in rural, undeveloped areas, away from populated areas. Mr. Fogleman asked the Board to reject MidAmerican's proposal to build a pipeline by the Water Park, daycare center, gas station, playground, soccer field and peaceful neighborhoods of Pleasant Hill.

On August 26, 2002, Mr. Fogleman filed a reply brief. Attached to the brief were various newspaper articles, an edited copy of Project Impact, an Office of Pipeline Safety Incident Summary, and two Internet articles regarding natural gas failures and explosions. In his brief, Mr. Fogleman contended that MidAmerican did not adequately address the possibility of static electricity igniting a gas leak, or the possibility of friction from a pressurized gas leak igniting such a blaze. Also, Mr. Fogleman asserted that there are discrepancies in MidAmerican's cost analysis, because it is based on estimates, although the two routes are almost identical[2].

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[2] In his reply brief, Mr. Fogleman introduced new evidence not previously in the record regarding possible ignition sources, terrorism, Al Qaida, and Project Impact. The proper time to introduce this evidence was at the hearing, so MidAmerican

6. Mr. Ben Freeborn

Mr. Freeborn filed his objection on February 11, 2002. His primary concern is that the house and park are within the potential damage area. Mr. Freeborn asserted the pipeline route should go around the developed residential area.

7. Mr. Robert Keller

Mr. Keller filed his objection on February 11, 2002. His primary concern was a gas line through the neighborhood.

8. Mr. Jim and Mrs. Lynn Kelly

Mr. and Mrs. Kelly filed their objection on February 11, 2002. Their primary concerns were safety (especially in light of all the recent worker accidents), and property value. The Kellys contend the only notice they received about the project was a flyer on their car. They maintain the proposed pipeline will be located approximately 50 yards from their home. The Kellys assert the pipeline should be moved to the alternate route south of town.

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would have had the opportunity to respond. Three of the objectors filed a reply brief. The objectors were not represented by an attorney. It is apparent that the objectors did not understand the purpose and process of reply briefs. For example, emailed briefs are not allowed, and the briefs contain a mixture of argument, unsworn testimony, and new documentary evidence. Some of the unsworn testimony and documentary evidence was not contained in the objectors' original written objections or previously presented at the hearing. Most of the reply brief argument and testimony was a reiteration of previously stated positions. MidAmerican has the right to respond to all testimony and documentary evidence presented by the objectors. Iowa Code § 17A.12(4). However, in administrative cases, allowances are made for unrepresented parties. Therefore, the reply briefs will be allowed and considered, to the extent they do not contain new evidence not previously presented. Any new evidence not previously presented will be disregarded.

On August 26, 2002, the Kellys filed a reply brief via e-mail. (See footnote two above.) In their brief, the Kellys reiterated their concerns about safety and property value. They raised concerns regarding third party accidents. The Kellys also request that if the pipeline is approved, MidAmerican should be ordered to buy all the objectors' homes and have the staff members responsible for the pipeline live in the homes.

9. Catherine Kile – Owner, Eminent Domain Parcel

Ms. Kile filed her objection on June17, 2002, and she participated in the hearing. Her primary concerns were that MidAmerican: 1) did not include conditions in the easement proposal; 2) made no effort to negotiate; 3) misrepresented the route and who it would serve; 3) has not sent Ms. Kile anything by certified mail during the period of April 1, 2002, to June 14, 2002; 4) will build the pipeline within 300 feet of the house Ms. Kile's family has owned for 50 years; 5) offered Ms. Kile less for an easement than she received for the electric transmission line easement located on her property; and 6) intimidated, humiliated and threatened Ms. Kile at work. In addition, Ms. Kile stated her electric line easement contains a "no chemical" clause.

10. Mr. Carl Kirschbaum

Mr. Kirschbaum filed his objection on February 1, 2002. His primary concerns were safety, property value, and disruption during the construction. Mr. Kirschbaum stated the proposed pipeline will run approximately 100 feet behind his home, and he is adamantly opposed to the project.

11. Ms. Lavonne R. Miles

Ms. Miles filed her objection on February 15, 2002. Her primary concerns were safety and property value. Ms. Miles stated that the proposed pipeline will run behind her new home and is next to her daycare. MidAmerican does not have control over third party accidents, and Ms. Miles states there is a lot of construction currently in Jordan Creek. She contended that she would not have built her new home had she known about the pipeline. The value of life is worth more than three miles of pipeline.

12. Mr. R. Scott Nichols

Mr. Nichols filed his objection on February 1, 2002, and again on February 6, 2002. His primary concerns were safety and property valuation for the landowners with easements. Mr. Nichols' property is adjacent to the proposed pipeline that would be approximately 200 feet from his back door.

13. Gary and Vicki Patterson

Mr. and Mrs. Patterson filed their objection on February 11, 2002. Their primary concerns were safety and property values. The proposed line will be less than 150 feet from the Patterson's back door and less than 100 feet from their rear yard where their grandchildren play. However, MidAmerican did not notify them or their neighbors of the project. The Patterson's request that the Board require MidAmerican to locate the high-pressure pipeline outside of all residential areas.

14. Ms. Laura Samuell

Ms. Samuell filed her objection on February 11, 2002. Ms. Samuell's primary concerns were that the pipeline is dangerous, ruins property, and lowers property values. She requested the proposed pipeline route run south of Indianola because there is less housing. Ms. Samuel stated she is not the party in possession, and her daughter just built her new home last summer.

15. Mr. Matt Schreiber

Mr. Schreiber filed his objection on March 15, 2002. His primary concerns were safety and disruption to property. Mr. Schreiber maintained the Board should look at alternative routes. After participating in meetings with MidAmerican, Mr. Schreiber believes the Highway 65 Corridor Route would not impose on the property rights of citizens of Pleasant Hill and would not go through residential areas. He contended there is already an existing corridor by the side of Highway 65 via the existing easement along the highway. According to Mr. Schreiber, MidAmerican indicated that the Board would not approve the Highway 65 Corridor Route because it would be more expensive than the route MidAmerican is proposing. Mr. Schreiber questioned MidAmerican's contention that the additional .4 miles on the Highway 65 Corridor route would require a 20" pipe that would increase the cost by an additional $3.7 million. He maintained that population density dictates the level of risk and the risk would be less on an alternate rural route.

16. The Silver Land Company (V. Louise Silver, D. Jean Silver, David M. Silver and Harold K. Silver) - Owners, Eminent Domain Parcel

The Silver Land Company filed its objection on June 18, 2002, and the Silvers participated in the hearing. The Silver family has resided on and actively farmed the property for more than 150 years. The landowners' primary concerns were that the pipeline would disrupt their farming operation, the ecology of the farm, their way of life and value of property, and safety concerns. The Silvers asserted that MidAmerican has not fully justified the proposed route, and that other optional routes are available. (Tr. 459-460). They stated that MidAmerican has alternative routes that would be less disruptive and affect fewer landowners, and they want MidAmerican to use the Secondary Route north of Interstate 80. (written objection; Tr. 462) In his opening statement, Mr. Kenneth Silver contended that MidAmerican used unscrupulous methods of coercing people into signing easements, but did not testify to this. (Tr. 28) Mr. Harold Silver also testified it would make more sense for MidAmerican to use 20" pipe and incur the expense now, rather than having to increase pressure or build another pipeline in the future. (Tr. 462-463) Additional detail regarding Mr. Silver's position is contained below.

17. Mr. Jesse and Mrs. Connie Uhl

Mr. and Mrs. Uhl filed their objection on February 11, 2002 and again on July 22, 2002. Their concerns were safety and property values. The pipeline will be close to their house, and directly under the park where children play and that is home to the Pleasant Hill Soccer League. The Uhls are completely opposed to the project and have never heard of a pipeline going directly through such a populated area. Close to 100 residents have signed a petition opposing the pipeline. The Uhls

appreciate the additional safety measures MidAmerican has added, but still oppose the line. The Uhls request the Board require MidAmerican use a rural route since this has been the standard in the past. As noted by MidAmerican, only 7 percent of all current gas lines in the country go through established neighborhoods. The additional costs of the rural route outweigh the peace of mind of residents.

18. Mr. Steve Williams

Mr. Williams filed his objection on February 6, 2002. He supports the GDMEC, but not putting the pipeline through the community. His primary concerns were the impact on public safety, property values, and an overall loss of tax revenue to the community. He referred to numerous articles on the Internet describing pipeline failure with resulting loss of life and property. Mr. Williams contended the potential for damage is higher for a pipeline located in a still developing residential neighborhood than for one in a rural area. Mr. Williams stated that the pipeline is within 200 feet of his home. Due to security concerns, he was unable to obtain maps to determine if there are similarly situated pipelines in Iowa, thus making it hard to recommend an alternative route. However, Mr. Williams was told of an alternative that would run south of Indianola and avoid residential areas entirely. Mr. Williams believes the extra cost for the alternative route would be insignificant compared to the overall cost of the project.

19. Mr. Thomas M. Williams and Mrs. Janice Hawkins

Mr. Williams and Mrs. Hawkins filed their objection on December 5, 2001. They stated that the proposed pipeline would be within approximately 300 feet of

their property. Their primary objections to the proposed pipeline were that it is dangerous, runs through residential neighborhoods and developments, some of the properties are within 100 feet of the pipeline, the growth in housing construction increases the possibility that the line could be hit by a construction company, and the pipeline is directly under the power line. They recommend that MidAmerican bring the line up through a less populated area south of the proposed plant, establish a wind energy farm within central Iowa, incorporate solar collectors at the site, and promote residential and commercial implementation of wind and solar energy via aggressive company support and rebates.

20. Mr. Ken and Mrs. Amber Williamson - Owners and Contract Buyers, Eminent Domain Parcels

Mr. and Mrs. Williamson filed their objection on July 22, 2002, and they attended the hearing and asked questions of witnesses, but did not testify. The Williamsons were dissatisfied with the reasons given by MidAmerican's representatives for the route going through their land. They were concerned about having adequate safe space to pasture their cows during construction, and about the restoration of the pasture after construction. The Williamsons stated the pipeline would greatly diminish the value of their property, and believe they have not been offered an adequate price. They objected to the above-ground valve site that MidAmerican proposes to place on their property. They pointed out the pipeline on their property will not include the special design features for safety that it will have in an established area. They believe the valve will emit a rotten egg smell. They also

objected to something on their property that might entice an act of terrorism. In addition, the Williamsons contended MidAmerican's right-of-way contractor, Meyers & Associates, lied to them.

On August 26, 2002, the Williamsons filed a reply brief. (See footnote two.) They stated it would be smarter to use the Secondary Route north of Interstate 80, because there is already a corridor with pipelines and a gas valve on 62nd Avenue. They stated it only make sense that if a terrorist situation would arise, several pipelines in the same corridor would be easier to protect. In the brief, the Williamsons raised new evidence regarding the pipeline routing across their property, the cattle lane, the property on the south side of 62nd avenue, and real estate values. The Williamsons urged the Board to deny eminent domain and the permit.

21. Ms. Brenda Wilson

Ms. Wilson filed her objection on July 22, 2002. Her primary concern was safety, and she stated the pipeline would be directly across the street from her home, right underneath huge power lines. Ms. Wilson believes MidAmerican is trying to sneak the proposal through by not notifying people. She stated that MidAmerican should be required to take a more rural route, and finds it hard to believe that it would be acceptable to have a 16-inch pipeline go through an established city.

22. The Consumer Advocate

The Consumer Advocate filed a partial objection on July 24, 2002. It specifically objected to MidAmerican's claim that Route 3 would require a larger pipe than Route 2, thereby creating an increase in cost. The Consumer Advocate did not

believe MidAmerican provided plausible and understandable evidentiary support for its claim. The Consumer Advocate attached MidAmerican responses to Consumer Advocate data requests explaining MidAmerican's reasons for selecting 16" pipe for the Direct Route and 20" pipe for the Highway 65 Corridor Route to its partial objection. It also filed a confidential exhibit in a supplement to its partial objection: a copy of MidAmerican's contract with Northern Natural Gas. At the hearing, the Consumer Advocate cross-examined MidAmerican witnesses, but did not present any witnesses of its own. It filed Exhibits 103 and 104 after the hearing. Exhibit 103 is a copy of the electric transmission line easements running along the Direct Route. Exhibit 104 is a copy of the "Clearances" section of the National Electrical Safety Code.

At the hearing, the Consumer Advocate did not state it was expanding its objection beyond that filed prior to the hearing. In its August 13, 2002, brief, the Consumer Advocate stated it had concluded that MidAmerican had not presented adequate evidence to justify its routing choice, and joined with the objectors to urge the Board to deny the permit. The Consumer Advocate cited the following four factors in support of its objection: 1) the objections of the residents; 2) the comparative absence of existing development along the Highway 65 Corridor Route; 3) the likely effect on the future development of Pleasant Hill; and 4) the absence of credible evidence of a substantial difference in the cost of the Direct and Highway 65 Corridor Routes. In addition, the Consumer Advocate stated there is a policy judgment that, absent significant comparative disadvantages, large pipelines should

be routed outside rather than through populated areas. The Consumer Advocate contended that if a pipeline is routed in unoccupied land, property owners and developers can elect whether to build and where to build. In contrast, the current residents along the Direct Route have built homes and cannot move them. Additional detail regarding the positions taken by the Consumer Advocate will be discussed below.

2. The Electric Transmission Line Corridor

MIDAMERICAN'S POSITION

Mr. Dreesman

Mr. Dreesman contended that, to the best of his knowledge, nothing can be developed within the electric transmission line corridor, because there are minimum clearances that have to be maintained on transmission lines, and easements have been acquired to limit what can be done in the 180-foot transmission corridor. (Tr. 131)

Mr. Dreesman maintained the distance from the centerline of the pipeline to the face of the electric transmission line poles varies from 10 feet to 58 feet, and the average is approximately 47 feet. (Tr. 362) He stated the electric lines above the pipeline are not a problem as far as igniting the gas is concerned. (Tr. 366-373)

In response to safety implications of building a pipeline in an electric transmission line corridor, Mr. Dreesman stated that it is positive in every way. (Tr. 73) Property owners are already familiar with the limitations resulting from electric easements. (Tr. 73) The electric transmission line is a visual reminder of the

buried gas pipeline. (Tr. 73) Third party excavator activity is limited because of the presence of the electric transmission line. (Tr. 73) The corridor has to be maintained for the electric facilities, which assists in gas pipeline patrols and leak surveys. (Tr. 73) Company personnel doing safety-related surveys will be on the route more often with two facilities on site than with any one facility. (Tr. 73) Mr. Dreesman noted that concerned citizens have raised the possibility that power lines could ignite leaking gas. (Tr. 74) In the remote chance of a large gas release, Mr. Dreesman testified that ignition could only occur if an arc would be produced at the same time that the right mixture of gas and air are present, and this is highly unlikely. (Tr. 74) The greater potential source of ignition would be the equipment that hit the gas transmission line that caused the release. (Tr. 74) Mr. Dreesman also contended that, although it does not affect the general public, impressed current could interfere with the cathodic protection system, or produce a shock when touched, if the pipeline is not designed to address these issues. (Tr. 74) This pipeline is designed to address these issues, and the effectiveness will be confirmed when the line is placed in service. (Tr. 74)

Mr. Dreesman testified that in the last five years, MidAmerican has had no leaks on its cathodically protected steel transmission lines. (Tr. 367) He stated it would be very, very unusual for a leak to occur on a pipeline such as the one being proposed. (Tr. 367) Furthermore, MidAmerican has taken a number of measures to mitigate the effects of the electric line and third-party hits. (Tr. 368) If there is a leak, generally the source of ignition is not a power line, but a third-party operator whose

vehicle creates a spark from hitting the line. (Tr. 368) In addition, natural gas is only combustible in a fairly narrow range of 4 percent to 15 percent gas concentration. (Tr. 370) The ignition source has to be at least 1200 degrees. (Tr. 370) Natural gas tends to diffuse rather quickly, so it will not stay concentrated. (Tr. 371) In addition, only 20 percent of the pipeline is under the electric line. (Tr. 371) The Federal Energy Regulatory Commission (FERC) recommends using electric transmission line corridors for pipelines, and they are widely used in the industry. (Tr. 372-373)

Mr. Grisby

Mr. Grigsby asserted the electric transmission line towers will add some difficulty to the construction of the pipeline, but MidAmerican does not see that as a major obstacle. (Tr. 236-237)

Mr. Deggenhardt

According to Mr. Deggenhardt, the presence of the structures for the electric transmission lines would not significantly affect the construction of the pipeline. (Tr. 262)

Mr. Harrison

Mr. Harrison testified the electric transmission line structures along the Direct Route are single-pole tubular steel structures, with a 345 kV circuit on one side and a 161 kV circuit on the other side. (Tr. 348, 353) The line was constructed in 1994. The base of a typical pole is five to six feet in diameter, on a concrete foundation that is two feet larger in diameter. There are a couple of poles with a base diameter of

7 feet, on 9-foot diameter foundations. The longest arm on each side of the pole extends 18 feet from the center of the pole to the end of the arm, for a total width of 36 feet. (Tr. 348-349) The NESC clearance requirements for buildings for a 345 kV line include: 1) deflection of the pole, 2) the swing-out of the conductor with a specified wind speed, and 3) an electrical clearance. Mr. Harrison contended that for one of the longer spans on this line, he calculated that a horizontal clearance of 60 feet from the centerline of the pole would be required to meet the NESC code. (Tr. 350) The code requires a vertical clearance of 21 feet from the wire at its maximum sag position. (Id) Mr. Harrison testified that in addition to the NESC requirements, there are company operational requirements for inspection and maintenance, and MidAmerican has to be able to get equipment in to do maintenance. (Tr. 351)

Mr. Harrison estimated that in the residential area, the poles are probably 700 to 800 feet apart. (Tr. 353) He testified that in general, a two-story dwelling at the center of the span would need to be at least 60 feet from the centerline of the electric poles to meet the code requirements. Mr. Harrison stated if the dwelling were closer to the pole, it could get closer to the centerline of the poles, depending on the vertical clearance that is needed. (Tr. 354-355) He stated that for a one-story home, you could get much closer, depending on the clearances you have, and on how it would affect maintenance and operation of the line. (Tr. 355-356) Mr. Harrison contended that if a landowner made a request to locate something closer than 90 feet within the easements, MidAmerican would consider each case specifically, looking at its

location in the span, the clearances, and the NESC code, then looking at the effect on operations and maintenance. (Tr. 356) Mr. Harrison maintained that a little more than 50 feet from the center of the line would be the most MidAmerican would need for maintenance purposes. (Tr. 358) He stated typical maintenance would include changing insulators, or repairing storm damage to the wire. A bucket truck would be needed, and a crane could be needed if they had to do structural work. (Tr. 358-359)

Mr. Schramm

Mr. Schramm explained in detail how the pipeline is designed, and will be constructed and operated, to protect it from the potential effects of the electric transmission line. (Tr. 277-291) Mr. Schramm stated that almost all the pipelines in the Chicago area are located within power line rights-of-way, since power line rights-of-way are the only easements available. (Tr. 290) Mr. Schramm asserted that there is no difference in how pipelines operate or their safety when in power line rights-of-way vs. pipelines not under power lines. (Tr. 290-291) Based on his experience, Mr. Schramm contended that the pipeline placed in the Direct Route within the transmission line corridor is as safe as placing it in the Highway 65 Corridor Route, so long as the precautions testified to are taken. (Tr. 290-291)

THE CONSUMER ADVOCATE'S POSITION

The Consumer Advocate questioned Mr. Dreesman’s characterization of the electric line corridor as a zone 90 feet on either side of the transmission line, running through the middle of the city, on which no new construction could occur.

(Tr. 188-190) The Consumer Advocate cited the language from the existing easements to support its contention that property owners can build within the easement with certain restrictions, primarily the National Electric Safety Code (NESC). (Consumer Advocate Brief, pp. 9–12) It stated that MidAmerican has acknowledged that the clearance requirements would not prevent land owners from locating one-story ranch homes much closer than 60 feet to the center of the electric line. (Tr. 353-357; 312) The Consumer Advocate contended there is not currently a 180-foot no build corridor running through the middle of Pleasant Hill along the transmission line. (Consumer Advocate Brief, pp. 12)

MR. STURSMA'S POSITION

Mr. Stursma stated that his primary concerns with the pipeline route in the electric line corridor were lightening strike to the metal pipe of the electric line or a ground fault. (Tr. 471) He stated that those would be direct effects from a surge in electricity into the ground or interference with the cathodic protection systems. (Id) Mr. Stursma testified that to the extent he understood everything MidAmerican's witness stated, and with the caveat the witness's level of expertise was greater than his, he would agree that MidAmerican had adequately addressed his safety concerns with respect to the electric line corridor. (Tr. 471)

Mr. Stursma contended that with 50-foot wide pipeline easements, construction could theoretically take place within 25 feet of the pipeline. (Tr. Tr. 472) He testified it appeared the pipeline would be between 40 and 50 feet from the edge of the electric line easement. (Tr. 472) On the electric line easement, any new

development of substance (not counting the fences and outbuildings that people have built on the easement) would be presumed to be at least 40 or 50 feet away from the pipeline. (Tr. 472-473)

ANALYSIS

The Consumer Advocate contended that MidAmerican's assertions that the electric transmission line corridor easement prohibits construction of any kind are incorrect. The Consumer Advocate also argued that putting the pipeline in the electric transmission line corridor could interfere with future development of the city. (Consumer Advocate Brief, pp. 12)

Subsection 9 of Iowa Code § 479.6 requires an applicant in its petition to address the relationship of the proposed project to the present and future land use and zoning ordinances. MidAmerican asserted that the proposed project will have minimum impact on future development, since it will use the existing 180' wide power line corridor in which no dwellings can be constructed within the existing right-of-way. *See* Exhibit F Revised.

On August 2, 2002, the Consumer Advocate filed Exhibit 103, consisting of copies of the easements for the 345 kV electric line running along the Direct Route. In its brief, and through cross-examination at the hearing, the Consumer Advocate argued that the terms of the easements are not as restrictive as Mr. Dreesman originally contended. It appeared to imply that therefore, adding the pipeline easement to the properties along the Direct Route would negatively impact future development within Pleasant Hill along the Direct Route.

The easements secured by MidAmerican for the electric line corridor contain the following language:

> Grantors agree that they will not construct or place any buildings, structures, plants, or other obstructions on the property described below which would result in a violation of the minimum clearance requirements of the National Electric Safety Code or would interfere with the operation and maintenance of the Line.

On August 6, 2002, the Consumer Advocate filed Exhibit 104, a copy of section 23, "Clearances," of the National Electrical Safety Code (NESC), 2002 Edition. This code has been adopted as part of the Iowa Electrical Safety Code. 199 IAC 25.2(1). Section 23 contains the requirements for minimum clearances from electric lines, including minimum clearances between electric lines and buildings.

Mr. Harrison's testimony indicated MidAmerican would not necessarily prohibit all construction within the 180-foot wide electric easement corridor (or within 90 feet of the centerline). (Tr. 350-358) He testified the NESC would allow construction of a tall (two-story) building as close as 60 feet from the centerline. He stated a short (one-story) building could be built closer under the NESC, but MidAmerican would not allow construction that would interfere with maintenance on the electric line. Mr. Harrison stated a little more than 50 feet would be needed for maintenance. (Tr. 350-358)

It appears there is a corridor 100 to 120 feet wide (or 50 to 60 feet from the centerline of the electric line) where MidAmerican would not allow construction within the electric easement corridor. Mr. Dreesman testified the distance from the

centerline of the pipeline to the face of the pole varies from 10 to 58 feet, and the average is approximately 47 feet. (Tr. 362) Adding three feet for the radius of a typical pole gives a range of 13 to 61 feet from the centerline of the pipeline to the centerline of the pole, and an average of 50 feet. It appears most of the pipeline would be within the portion of the electric line corridor where MidAmerican would not allow buildings due to NESC or maintenance requirements, but would be close to the edge of that area, and at least some of the pipeline would be installed a little outside the portion of the electric easement where MidAmerican would not allow buildings.

For the parcels where MidAmerican is requesting condemnation, the typical pipeline easement width is 50 feet wide, or 25 feet from the centerline of the pipeline on each side. (Exhibits H-2 through H-41) Assuming the voluntary easements have the same typical width, and assuming the pipeline is built along the 50-foot average from the electric line poles, building would be prohibited on an area 25 feet beyond the pipeline, extending the area where a one-story building would not be allowed an average of a little less than 25 feet beyond the current boundary, or an average of 15 feet for two-story buildings. Of course, this is only an average, as the actual distances will vary depending on the factors testified to by Mr. Harrison. (Tr. 348-359) The area where the pipeline easements will prevent building would still be within the existing 90-foot electric easement boundary.

Mr. Dreesman's testimony referred to a 180-foot-wide electric easement as one of the safety advantages of Route 2. (Tr. 145, 187-190) Later testimony by Mr. Harrison indicated the area where construction is prohibited is probably less than

the full 180 feet, at least in some locations. (Tr. 349-359) This lessens the impact of Mr. Dreesman's argument, but does not negate it. There is a corridor along the electric easements that is currently protected from development, although it is not as wide or as uniform as MidAmerican's original testimony suggested. It does appear the pipeline easements would restrict building on some property within the existing electric easements where MidAmerican might currently allow construction of new buildings. However, the siting of the gas pipeline along the existing electric transmission line corridor makes the route less objectionable through Pleasant Hill, since the corridor already restricts landowners' activity.

The testimony shows that placing the pipeline near an electric transmission line is not hazardous, so long as the precautions testified to are taken. (testimony of Mr. Schramm, tr. 277-291; testimony of Mr. Dreesman, tr. 366-373) Mr. Fogelman questioned the safety of building a pipeline near an electric transmission line. Mr. Schramm's testimony explained how the pipeline will be designed, constructed, operated, and maintained to protect the pipeline and personnel contacting the pipeline against AC fault currents, lightning strikes, and induced electrical currents or charges from the electric transmission line, which parallels the proposed pipeline for approximately five miles. At the hearing, Mr. Stursma testified MidAmerican's witness satisfactorily explained that the electric transmission line issues have been considered and adequately addressed by MidAmerican. (Tr. 471). Mr. Schramm's testimony demonstrates the pipeline will be in compliance with the applicable standards regarding pipelines near electric transmission lines. Mr. Schramm testified

that, with respect to the electric transmission line, the pipeline in the Direct Route would be as safe as a pipeline in the Highway 65 Corridor Route. (Tr. 291).

The record supports a finding that the route proposed by MidAmerican is reasonable, with respect to the portion of the route being within an electric transmission line corridor.

3. Pipe Diameter

MIDAMERICAN'S POSITION

Mr. Dreesman

Mr. Dreesman asserted that the Direct Route, using 16-inch pipe, can provide the required quantity of natural gas to the GDMEC. (Tr. 89) Mr. Dreesman maintained that, although MidAmerican's responses to the Consumer Advocate's data requests show a 553 psig required pressure at Northern, and Northern has guaranteed only 550 psig, MidAmerican has been able to reduce the pressure requirements at the GDMEC by changing the design of the gas heater, bypass valves, regulator station, and piping configurations on site to minimize pressure drops. (Tr. 89) Mr. Dreesman stated that MidAmerican has marginally met the design requirements for the Direct Route using 16-inch pipe, but there are not enough additional pressure drop alternatives left to meet the shortfalls of the Highway 65 Corridor Route using 16-inch pipe. (Tr. 89, 181-182) The Highway 65 Corridor Route cannot supply the required amount of gas using 16-inch pipe because it is approximately 4000 feet longer than the Direct Route, resulting in additional pressure loss. (Tr. 182)

According to Mr. Dreesman, the only viable alternatives for the Highway 65 Corridor Route would be to either loop a 16-inch line, or put in a bigger pipe for the first mile-and-a-quarter to mile-and-a-half. (Tr. 89) He asserted that changing pipe size along the route would add significant cost to accommodate an additional pig launcher, and it would also increase future maintenance costs and require additional land acquisition to accommodate the additional facilities. (Tr. 89-90, 408) Mr. Dreesman asserted MidAmerican tried to stay away from using two different sizes of pipe, because this pipeline is designed to accommodate internal inspections devices, or pigs. (Tr. 407-408) He testified every change in pipe diameter requires another pig launcher and receiver. (Tr. 408) There are significant costs as a result, including both an initial cost and increased maintenance costs. (Tr. 408) Therefore, all their designs used either 20-inch or 16-inch pipe for the entire length of the pipeline. (Tr. 408)

In response to a question from Mr. Kenneth Silver regarding whether MidAmerican should install a 20-inch pipeline now to allow for possible future growth in gas demand, Mr. Dreesman testified he did not know of any reason why MidAmerican would put in additional gas capacity at this point, but he cannot speak for the company, and he cannot speak about 10 or 15 years from now. (Tr. 427)

Mr. Harold Silver's Position

Mr. Silver stated MidAmerican was being shortsighted when it used 16-inch pipe instead of 20-inch pipe. He asserted it would make sense for MidAmerican to

incur the extra cost now, rather than risk having to increase the pressure or build another pipeline in the future. (Tr. 462-463)

THE CONSUMER ADVOCATE'S POSITION

The Consumer Advocate argued that MidAmerican had not provided meaningful technical information with which to establish the need for a larger pipe. (partial objection; Consumer Advocate Brief, p. 13) The Consumer Advocate cited discrepancies in MidAmerican's design criteria in response to data requests. (Consumer Advocate Brief, p. 13) The Consumer Advocate questioned why MidAmerican could find ways to overcome a shortfall of three psig in the Direct Route without increasing the size of the pipe, but claimed an inability to overcome an additional three psig in the Highway 65 Corridor Route without increasing pipe size.

ANALYSIS

In response to Consumer Advocate data requests, MidAmerican supplied computer printouts showing the results of computer modeling done to predict flow rates and pressures for various routes, with various sizes of pipe. (partial objection) These calculations showed the Direct Route, using 16-inch pipe, to be slightly inadequate at the lowest guaranteed inlet pressure, and showed the Highway 65 Corridor Route, using 16-inch pipe, would be even more inadequate at the guaranteed inlet pressure. (Tr. 88-89; partial objection, Attachment 3A) Mr. Dreesman testified the company was able to make some design changes to facilities at the proposed generating station that would make the capacity of the Direct Route marginally adequate using 16-inch pipe. (Tr. 89). Mr. Dreesman contended

MidAmerican was not able to come up with design changes sufficient to make the Highway 65 Corridor Route adequate with 16-inch pipe. (Tr. 89) In its brief, the Consumer Advocate asserted MidAmerican had not provided sufficient support for its conclusion that 16-inch pipe would not be adequate for the Highway 65 Corridor Route. However, the Consumer Advocate did not introduce engineering evidence, and the record does not include any engineering evidence suggesting that the Highway 65 Corridor Route would be adequate with 16-inch pipe. (partial objection, Consumer Advocate brief) There is no evidence in the record to support the Consumer Advocate's position.

Therefore, the preponderance of the evidence, and all of the engineering evidence, shows that if MidAmerican were to use the Highway 65 Corridor Route, it would have to use pipe with a larger diameter than 16 inches.

The record shows the Direct Route with 16-inch pipe is marginally adequate to supply the required amount of gas at the required pressure. (Tr. 89; partial objection attachment) Mr. Silver suggested it would be wiser for MidAmerican to use 20-inch pipe, rather than 16-inch pipe, to allow for possible future growth. (Tr. 462-463) The primary reason for building this pipeline is the need for a gas supply for GDMEC and PHEC. (Tr. 33) MidAmerican does not deem it necessary to build a larger pipeline to allow for possible future growth. (Tr. 427) There is nothing in the record that would support requiring MidAmerican to install a larger pipeline.

The preponderance of the evidence in the record supports a finding that 16-inch pipe would be adequate for the Direct Route, but not for the Highway 65 Corridor Route.

4. Cost

MIDAMERICAN'S POSITION

Mr. Dreesman

Exhibit F Revised, Attachment 1, is MidAmerican's route selection recommendation document. This document includes a cost comparison of the routes considered by MidAmerican, including the Direct Route and the Highway 65 Corridor Route, Exhibits 1-7. At the hearing, MidAmerican introduced Revised Exhibit 2, updated cost estimates for the Direct Route and the Highway 65 Corridor Route. The cost estimates for the Highway 65 Corridor Route include two separate estimates: one using 16-inch pipe, and one using 20-inch pipe. Mr. Dreesman testified the cost estimate at the bottom of page one, Revised Exhibit 2, included the extra cost of 0.375 wall pipe, burial depth of five feet in residential areas, and the marking tape to be used on the Direct Route. (Tr. 186; Exhibit F Revised, Attachment 1, Revised Exhibit 2) The cost estimates for the Highway 65 Corridor Route do not include such enhancements. (Tr. 187) Mr. Dreesman testified there is no scenario under which the Highway 65 Corridor Route would be cheaper than the Direct Route. (Tr. 186) He asserted that even if 16-inch pipe were used on the Highway 65 Corridor Route, it would be extremely unlikely that the pipeline costs alone would ever be cheaper than the Direct Route, and when you consider the potential of reduced capacity and

economic penalties for not being able to deliver full capacity, there is no way the costs would ever be close. (Tr. 382)

Mr. Dreesman stated the Secondary Route was given serious consideration, but it was not studied very long after MidAmerican ran the initial cost estimates. (Tr. 422) There was a significant difference in cost, and MidAmerican could not see any counterbalancing benefits to overcome those costs. (Tr. 422)

THE CONSUMER ADVOCATE'S POSITION

The Consumer Advocate specifically objected to MidAmerican's claim that the Highway 65 Corridor Route would require a larger pipe than the Direct Route, therefore creating an increase in cost. (partial objection; Consumer Advocate brief) The Consumer Advocate does not believe MidAmerican has provided plausible and understandable evidentiary support for its claim. (partial objection) MidAmerican's cost estimate in Revised Exhibit 2 for the Highway 65 Corridor Route using 16-inch pipe is less than 10 percent more than its cost estimate for the Direct Route using 16-inch pipe. (Consumer Advocate brief, p. 13) Of the difference, $576,000 is attributable to boring, and $150,000 is for the environmental study. (Consumer Advocate brief, p. 14) MidAmerican's new Exhibit J, submitted post-hearing at the Consumer Advocate's request, shows in multiple instances that higher boring figures are given for the Highway 65 Corridor Route, for apparently comparable items. (Id.) The map with new Exhibit J gives no clue as to why the total boring footage difference should be as great as claimed. (Id.) The cost of the environmental study is greater, although nearly two-thirds of the route is the same. (Id.) The Consumer

Advocate argued the study for the Direct Route was reduced due to previous work done with the construction of Highway 65, and any previous savings would also apply to the Highway 65 Corridor Route, and cited to Mr. Dreesman's testimony at transcript pages 434-439 in support. (Consumer Advocate brief, p. 14)

ANALYSIS

On July 31, 2002, MidAmerican filed Revised Exhibit 2, consisting of three pages showing the following revised cost estimates: 1) the Direct Route, 2) the Highway 65 Route using 16-inch pipe, and 3) the Highway 65 Route using 20-inch pipe. (Exhibit F Revised, Attachment 1, Revised Exhibit 2)

The Consumer Advocate questioned why the total bore length for the Highway 65 Corridor Route was 3600 feet greater than the total bore length for the Direct Route, when the difference in length between the two routes was only 4000 feet. The Consumer Advocate did not introduce evidence of its own to support a shorter required bore length. On August 5, 2002, MidAmerican filed Exhibits J and K. Exhibit J shows the location and length of each bore on the Direct Route and the Highway 65 Corridor Route, and the total bore length for each of these routes. These total bore lengths were used in the cost estimates filed as Revised Exhibit 2 on July 31, 2002. Exhibit J adequately supports the bore lengths used for each route in the Revised Exhibit 2.

The Consumer Advocate questioned why the cost estimate for an environment study for the Direct Route had been revised downward from $200,000 to $50,000, but the cost estimate for this item on the Highway 65 Corridor Route

remained $200,000. Mr. Dreesman testified MidAmerican had already gathered much of the necessary information for the Direct Route, and found that many of the possible associated types of studies would not be necessary for the Direct Route. These included archaeological studies and wetland studies, etc. Therefore, MidAmerican was able to revise the environmental study cost estimate downward for the Direct Route. (Tr. 434-435) Mr. Dreesman testified that MidAmerican had not done any additional environmental review of the Highway 65 Corridor Route, so it had no basis for revising the estimated cost of the environmental study for that route. (Tr. 435-436) Mr. Dreesman testified that MidAmerican did change other estimates where they had known quantities. (Tr. 439) For example, MidAmerican reduced the estimated cost of 20-inch pipe, based on the quote they now have for 16-inch pipe. (Tr. 439-440) Mr. Dreesman maintained that MidAmerican attempted to make all of their comparisons using the same engineering techniques and assumptions. (Tr. 439)

There is some merit to the Consumer Advocate's argument that the cost estimate for an environmental study on the Highway 65 Corridor Route should be revised downward, since a significant portion of the Direct and Highway 65 Corridor Routes are identical, and presumably, the environmental study costs for the shared portions of the routes are fairly well established. However, MidAmerican is correct that not all portions of the Highway 65 Corridor Route have been studied, and the environmental costs for that route are more unknown that those for the Direct Route. However, even if it is assumed that the costs for environmental studies on both

routes are the same, the cost estimate for the Highway 65 Corridor Route with 20-inch pipe is still $4,080,420.00 greater than the $11,720,413 cost estimate for the Direct Route. (Exhibit F Revised, Attachment 1, Revised Exhibit 2)

The record shows that the Highway 65 Corridor Route using 20-inch pipe would cost substantially more than the Direct Route using 16-inch pipe.

5. Comparison of the Routes and Response to Specific Objections

THE OJECTORS' POSITIONS

Please see above for individual objectors' positions.

THE CONSUMER ADVOCATE'S POSITION

The Consumer Advocate asserted that the record shows the two routes are of comparable length and cost. (Consumer Advocate brief, p. 15) The Consumer Advocate concluded MidAmerican did not present adequate evidence to justify its routing choice, and therefore, the Consumer Advocate joined the objecting residents in urging the Board to deny the permit. (Consumer Advocate brief, p. 2) There were four factors weighing most heavily in the Consumer Advocate's consideration: the residents' objections, the comparative absence of existing development along the Highway 65 Corridor Route, the likely effect the pipeline will have on the future development of Pleasant Hill, and the absence of credible evidence of a substantial cost difference between the two routes. (Consumer Advocate brief, pp. 2-15) The Consumer Advocate stated in its brief that at bottom, there is "a policy judgment that,

absent comparative disadvantages, large pipelines should be routed outside rather than through populated areas." (Consumer Advocate brief, pp. 3, 6)

The Consumer Advocate argued it would be more expedient in the short run to grant the permit. (Consumer Advocate brief, p. 15) However, it argues, "short run considerations should yield to conflicting long-run considerations, including safety, equity, good planning and the interests of the affected public," and the Board should deny the permit. (Consumer Advocate brief, p. 15)

MIDAMERICAN'S POSITION

Mr. Dreesman

Mr. Dreesman stated he would have no problem buying next to a pipeline or having a pipeline on his property. (Tr. 398) He asserted this pipeline will be one of the safest in the nation. (Tr. 399) Mr. Dressman contended the world is not riskless, and the natural gas pipeline industry is one of the safest modes of providing energy. (Tr. 400) He testified nothing is a hundred percent safe. (Tr. 401)

Mr. Dreesman testified that a slow leak on this pipeline would tend to move the soil, allowing the gas to vent to the surface, but a very small leak would be like a leak on a gas main or service line. (Tr. 171) If the gas did not have a lot of pressure behind it, the gas can tend to migrate along sandy soil or it could migrate underneath the frost cap. (Tr. 171-172) To address this concern, MidAmerican will odorize the gas, so a gas leak can be detected by smell, and this pipeline will leak surveyed using leak detection equipment four times per year. (Tr. 172-173)

Mr. Dreesman addressed the concerns raised by several of the objectors. (Tr. 69-76) A concern was raised that there was limited notice of the informational meeting. Mr. Dreesman testified that MidAmerican followed all Board procedures, sent notice to potential property owners who would be asked to grant an easement, and published notice in the local newspapers. (Tr. 69-70)

In response to the concern about gas leaks, Mr. Dreesman testified that the chances of buried pipe leaking are very low because of the materials used, corrosion protection placed on the pipe, construction methods, pipe testing, and MidAmerican's history in the last five years. (Tr. 70-71) Mr. Dreesman contended that if a leak would occur, it would develop slowly, because MidAmerican has agreed to increase the wall thickness of the pipe in the Pleasant Hill area. (Tr. 70-71) MidAmerican's annual and quarterly inspections would provide timely detection and repair of the leak. (Tr. 70-71) In response to meetings with the public, MidAmerican has agreed to increase inspection frequency along highways and railroads to four times per year. (Tr. 71) Mr. Dreesman stated that MidAmerican modified its design in response to concerns regarding third party hits by utilizing marking tape, increasing burial depth, providing an information brochure for homeowners, adding wall thickness, coordinating training with emergency response personnel, monitoring the line remotely 24 hours per day, seven days per week, and locating a valve at the Northern station that can be shut down remotely as part of an emergency response. (Tr. 71-72)

In response to the issue of the pipeline passing through the city park, Mr. Dreesman asserted that the pipeline is very safe, and its presence in the park has added safety aspects, such as it is controlled by the city, is free from structures that would allow gas to accumulate rather than safely vent to the atmosphere, people at the park are awake and aware of their surroundings, the gas is odorized, dead vegetation will provide visual indication of a gas leak, and pipeline aboveground markers will be more obvious. (Tr. 72)

Mr. Dreesman contended, in response to the argument that the pipeline should not be built in established neighborhoods, that building a pipeline in established neighborhoods does present some safety benefits over a developing area. (Tr. 73) There will be less third party construction in an established neighborhood. (Tr. 73) The property owners will be more familiar with pipeline safety and pipeline location. (Tr. 73) Mr. Dreesman asserted that he is not advocating construction in a residential neighborhood if there are other alternatives, but pointing out there are safety benefits in some cases. (Tr. 73)

In response to the concern of the Silver Land Company that MidAmerican gave minimal consideration to landowners during route selection, Mr. Dreesman testified that, although the company tries to achieve the shortest route, it attempted to use existing railroad rights-of-way, utility corridors, locate pipe along sections and half sections where possible, and accommodate landowners' wishes. (Tr. 82-83). Mr. Dreesman stated the route in the vicinity of the Silvers' property was impacted by the location of Interstate 80 and IDOT restrictions, and to the north, had restrictions

as to where MidAmerican could cross the railroad corridor, a stream, and some buildings. (Tr. 83) Mr. Dreesman acknowledged that during construction, the pipeline would disrupt farm operations, but stated that after construction, the impact will be minimal because of the 5-foot depth of the pipeline and the land restoration plan will restore the land to nearly its current condition. (Tr. 83-84) Mr. Dreesman testified the Secondary Route was not chosen because of its additional length and cost, and that running the line with other pipelines in the Williams Energy Corridor was not an option because the corridor is full. (Tr. 127-128; Exhibit F Revised, Attachment 1, Exhibit 6)

In response to the Williamsons' objection, Mr. Dreesman testified that he was unaware of any statement that the Board would not grant eminent domain if pipelines run diagonally through property. (Tr. 85) He testified the route was not changed to accommodate a MidAmerican employee, but because of IDOT highway crossing requirements. (Tr. 86) According to Mr. Dreesman, IDOT rules require the line to have two valve stations that are nearly equally spaced. (Tr. 86-87) MidAmerican determined the Williamsons' property to be the best site to locate the valve because of quick access for both maintenance and maintenance operation. (Tr. 87) Mr. Dreesman stated that there should not be an odor at a valve station if it is functioning correctly, and landowners should call MidAmerican if there is an odor. (Tr. 87) He also testified that the pipeline will meet all the regulatory design requirements for a pipeline passing through an urban area, and exceeds the requirements for agricultural land. (Tr. 88)

Mr. Dreesman testified that even if the Highway 65 Corridor Route could meet the capacity requirements with 16-inch pipe, MidAmerican still would have chosen the Direct Route, because the Direct Route would be cheaper to construct and maintain, supplies the required amount of capacity, and provides equal or greater safety. (Tr. 90) Mr. Dreesman stated the Direct Route would be cheaper to maintain because it is shorter, it shares a corridor with an electric transmission line, resulting in reduced right-of-way maintenance and surveillance costs, and it currently provides easier access, although in the future, access will improve along the Highway 65 Corridor Route because of development. (Tr. 91-92)

Mr. Dreesman stated that in his opinion, the Direct Route provides greater safety than the Highway 65 Corridor Route. (Tr. 92) Currently, the Direct and Highway 65 Corridor Routes impact similar numbers of properties. (Tr. 92) Although the Highway 65 Corridor Route is currently more rural, the difference is about to change, as the Highway 65 Corridor Route is under development. (Tr. 92) Because the Highway 65 Corridor Route will be developing, it has greater opportunity for third-party damage. (Tr. 92) The Highway 65 Corridor Route crosses the highway and third-party pipelines more frequently, increasing risk. (Tr. 92) The Direct Route is shorter, providing less exposure to third-party damage, and is located within an electric transmission line corridor that already has significant restrictions on activities in that zone. (Tr. 92-93) The Direct Route will allow GDMEC to start up on time, and construction of the Highway 65 Corridor Route could not be completed before the summer of 2004. (Tr. 93)

Mr. Dreesman contended that the Direct Route is the safest of the routes, as well as being the shortest and least costly. (Tr. 138) He stated that the Direct Route is safer than the Highway 65 Corridor Route, but that doesn't mean the Highway 65 Corridor Route could not be a safe route. (Tr. 139) According to Mr. Dreesman, the following are safety advantages and disadvantages of the Direct and the Highway 65 Corridor Route. (Tr. 142-143) A shorter line provides less opportunity for hits. The number of crossings of other utilities in the area is a consideration (e.g., Koch, Williams, Kinder-Morgan pipelines). Population areas are considered. Along the roads on the Direct Route, there is quite a bit of congestion and building where they would have to cross the road, but on the Highway 65 Corridor Route, it is more open. The Direct Route only has a few locations where there are structures on both sides of the pipeline. The proximity of fire protection and fire response close to existing pipelines. The terrain on the Highway 65 Corridor Route is a little rougher than on the Direct Route, although the terrain of the Highway 65 Corridor Route has not been studied as well as the Direct Route. (Tr. 143-144)

Mr. Dreesman agreed that, in the areas other than at intersections, building setback requirements with respect to the highway mean there would be minimal impact on development if MidAmerican put the pipeline along the Highway 65 corridor. (Tr. 149) When MidAmerican came to intersections, there are bows where they had to come several hundred feet east of the highway to avoid the intersections, and MidAmerican also attempted to choose crossing locations with the least impact on residents or businesses. (Tr. 149)

Mr. Grigsby

Mr. Grigsby testified MidAmerican believes if it installs a gas line on the Highway 65 Corridor Route, there will be a lot of construction over the top of the line as the area is developed. (Tr. 235) Mr. Grigsby stated MidAmerican believes most of the development on the Direct Route has already occurred, and there will be minimal work over the top of the line in the existing electric easement corridor. (Tr. 235) Mr. Grigsby testified this is the basis for MidAmerican's assertion that there is no reason to believe the Highway 65 Corridor Route would provide significantly better safety than the Direct Route. (Tr. 234-235)

Mr. Schwarz

Mr. Schwarz testified he believes the building setback requirement for construction immediately east of U.S. Highway 65 is 75 feet. (Tr. 329).

Mr. Schwarz testified that MidAmerican had attempted to negotiate with Ms. Kile in good faith. (Tr. 305-306) Mr. Schwarz stated that Ms. Kile and MidAmerican have discussed her objection, her concerns regarding her wells, and only have a difference of opinion as to the value of the easement. (Tr. 306). In response to Ms. Kile's concern about her wells, MidAmerican witness Mr. Dreesman explained that a natural gas leak would not affect the water, because the specific gravity of natural gas causes it to vent upwards in the dirt, and it will go up and out of the ground. (Tr. 410) Also, natural gas is nontoxic. (Tr. 410) Since it is primarily methane, there would be no harmful residues left in the water. (Tr. 410)

Mr. Ver Brugge

MidAmerican witness Mr. Ver Brugge testified to details of the routing of the proposed pipeline across the Silver and Williamson properties. (Tr. 195-212) He testified MidAmerican had two major targets to work around: the Interstate 80 crossing, where the IDOT would not allow MidAmerican to cross within the interchange, and the tie-in with the Northern Natural Gas pipeline. (Tr. 196). Mr. Ver Brugge testified to a number of obstacles MidAmerican had to consider when routing the pipeline in the area. (Tr. 196-212)

Several owners north of the Williamson property stated that a route along the railroad right-of-way would be more acceptable. (Tr. 196) Although it added some length to the route, MidAmerican agreed the suggestion was reasonable. (Tr. 196) In changing the route, MidAmerican discovered the property north of the Williamsons' had terraces. (Tr. 196) If the route had gone further west, the route would have crossed the terraces longitudinally and would have been costly to rebuild. (Tr. 196-197) Additionally, the wooded area on the property would have meant clearing right-of-way, resulting in a higher cost. (Tr.196-197)

According to MidAmerican, it has successfully negotiated easements for 64 of the 74 tracts of land to be crossed by the pipeline. (MidAmerican brief, p. 19)

MR. STURSMA'S POSITION

Regarding the advantages and disadvantages of building a pipeline through a developed area, Mr. Stursma testified that his interpretation of MidAmerican's case is that the primary considerations are the possibility of excavation damage, and interference with future development. (Tr. 467-468) If the pipeline is in an existing

developed area, it is less likely there will be further major new construction, any significant amount of dirt moving, land reshaping, or landscaping. (Tr. 468) Mr. Stursma testified that if a pipeline is in a rural area, and development starts to grow around the pipeline, the development has to adjust to the pipeline, which may interfere with the preferred plans of the developer, and the amount of dirt that can be removed for any landscaping or any other project may be restricted by needing to maintain adequate cover over the pipeline. (Tr. 468) He also testified there is always the chance that excavation equipment will stray into the area of the pipeline and possibly damage it. (Tr. 468)

Mr. Stursma did not take a position on whether it is safer to build in a developed area or in a developing area, but rather, that there are pros and cons of each. (Tr. 469) He testified that the project, as designed, meets or exceeds all required safety standards, and that is primarily what is reviewed. (Tr. 469) He also testified there are features in this project designed to further enhance safety that he has not seen in any other project before. (Tr. 469)

Mr. Stursma stated there is a formula for risk that says risk equals probability times consequence, and because of the extra efforts MidAmerican has taken to reduce probability, an argument could be made that risk has also been proportionately reduced. (Tr. 469-470) Mr. Stursma stated the concern with going through the populated area, in terms of the risk formula, is consequence, and in a developed area, the higher the population density, the closer development is to the line, the greater the potential consequences from an accident. (Tr. 470) According

to Mr. Stursma, an attempt is made to balance the increased consequence by reducing the probability of an accident, to bring the value of the risk back down again. (Tr. 470) Mr. Stursma maintained that, in addition to the fact that the pipeline safety standards have greater requirements in higher consequence areas, MidAmerican has gone beyond the requirements of the state and federal pipeline safety standards to reduce the probability of an accident and proportionately the risk. (Tr. 470)

Mr. Stursma testified it is hard to answer the question of whether the Direct Route would be safer than the Highway 65 Corridor Route. (Tr. 471-472) Mr. Stursma testified that it could be said that anything is safer if it is away from people, but on the other hand, there is reason to believe that the area where the Highway 65 Corridor Route would go is becoming developed, and a development could grow around the pipeline without any of the additional safeguards that MidAmerican designed in the proposed Direct Route. (Tr. 472) In addition, with the regular 50-foot easements for pipelines, construction could theoretically take place within 25 feet of the pipeline along the Highway 65 Corridor Route, as opposed to 40 or 50 feet on the electric line easement. (Tr. 472-473)

Mr. Stursma testified the main advantage of the Highway 65 Corridor Route over the Direct Route is that it would relieve some very obvious concerns and tensions among Pleasant Hill residents who are not in favor of the pipeline being placed in the neighborhood. (Tr. 474-475) He testified there are no particular engineering or technical benefits of the Highway 65 Corridor Route, and from an

engineering sense, it is not as good a route, because it is a little longer and puts additional strain on the flow capacity of the pipeline. (Tr. 475)

Mr. Stursma testified he has no knowledge of any building setback requirements from Highway 65 by the IDOT or Pleasant Hill. (Tr. 474) He testified the IDOT's control basically starts at the right-of-way line. (Tr. 474)

Mr. Stursma stated that although the two routes are generally compared as developed versus undeveloped routes, development east of Highway 65 has begun and is not insignificant. (Stursma July 12, 2002, supplemental report, page 6)

Mr. Stursma testified that if there were a slow leak in the pipeline, the migration of gas could be a hazard, but whether it becomes a safety hazard depends on whether the gas has a path to follow to a location where it could cause damage. (Tr. 477) Mr. Stursma testified that a common cause of accidents in residential areas is a leak on a gas main or service line that follows the gas main or service line through the ground to the outside of a building foundation, where it seeps into the building. (Tr. 477) On a leak on a pipeline that has no path to a building, the gas is less likely to migrate to a building. On a slow leak, once the gas reaches the surface of the ground, it quickly dissipates, instead of accumulating. (Tr. 477-478) Mr. Stursma testified that on the Direct Route, there are no paths to homes or buildings quite as direct as a gas service line would be. (Tr. 478) Mr. Stursma stated he could not speak to everything that may be under the ground that might provide a path. (Tr. 478)

Mr. Stursma testified that MidAmerican has addressed safety concerns with respect to gas migration by: 1) odorizing the gas, which should mean that if there is a significant leak that causes a significant amount of gas to escape and rise above ground, the odor of gas should be noticeable to local residents, who presumably would know to call the gas company; and 2) conducting leak surveys to detect leaks that are too small for the odor to be detectable. (Tr. 478) Mr. Stursma testified that leak surveys can detect the presence of gas down to quite small levels. (Tr. 478-479) Mr. Stursma stated the four-times-a-year leak survey MidAmerican will perform is in excess of the federal pipeline safety standards, so it is more than what would be typical for a pipeline of this type in this location. (Tr. 479) When asked whether gas migration would be a greater problem with the Direct Route than the Highway 65 Corridor Route, he stated gas migration depends on soil conditions, which can't be anticipated. (Tr. 479-480) He stated you could make the argument that it depends on whether there is something for it to migrate to or not. (Tr. 480) Mr. Stursma testified that it seems unlikely that gas from a slow, undetected leak would travel over the distances existing in either route, unless it had some sort of path to follow. (Tr. 480) According to Mr. Stursma, the most common paths are other underground-buried utilities where the disturbed earth, if not subsequently as well-compacted as natural ground, provides a preferential path for the passage of gas. (Tr. 480) Mr. Stursma stated other possible preferential paths would be sand or gravel lenses or beds in the area that provide a preferential path for the gas to

follow. (Tr. 480) Otherwise, it would be most likely for the gas to seep up through the soil and go to air. (Tr. 480-481)

ANALYSIS

Either route could meet the required safety standards. The pipeline as proposed would clearly meet the required safety standards, and MidAmerican has agreed to several safety enhancements that exceed the minimum safety standards. (See above safety discussion.) Mr. Stursma testified risk equals probability times consequence. (Tr. 469-470). Building in a more populated area increases the possible consequences of any incident that might occur, but the safety enhancements reduce the probability of an incident, and would tend to reduce the consequences if an incident occurred.

The proposed Direct Route is reasonable from an engineering and pipeline safety code compliance standpoint. (Stursma July 12, 2002, supplemental report, pp. 15-16) As Mr. Stursma points out, federal pipeline safety standards contain stricter criteria for pipelines in areas with a high concentration of buildings, but they do not restrict or prohibit placement of pipelines in such areas. However, as Mr. Stursma also notes, area residents are concerned about the safety of locating this pipeline in a residential area. In Pleasant Hill, there are dozens of residences and several commercial buildings near the Direct Route, and the route passes through a city park.

Mr. Dreesman testified MidAmerican selected the Direct Route because none of the routes investigated would provide superior safety to the Direct Route, and all

of the other routes would be more costly. He stated the Direct Route was the shortest route, and was the only route that could be built using 16-inch pipe, which contributed to the lower cost.

MidAmerican's second choice would have been Highway 65 Corridor Route. Mr. Dreesman stated it was not chosen because it was, at best, equal to the Direct Route except for cost. He testified the route would require larger diameter pipe, resulting in a substantial cost increase.

The Board has previously cited economic benefits as a sufficient basis for granting gas pipeline permits under Iowa Code § 479.12. In re: Ag Processing Inc., Docket No. P-835, Proposed Decision and Order Granting Permit, Sept. 16, 1996; In re: United States Gypsum Co., Docket No. P-833, Proposed Decision and Order Granting Permit, Mar. 21, 1996; In re: Sioux City Brick and Tile Co., Docket No. P-834, Proposed Decision and Order Granting Permit, Dec. 1, 1995.

In a recent decision, the Iowa Supreme Court held that the Board may base its finding that a proposed electric transmission line is necessary to serve a public use on economic considerations alone. S.E. Iowa Cooperative Electric Association v. Iowa Utilities Board, 633 N.W.2d 814 (Iowa 2001) The Court further found that the legislature contemplated that the Board would consider economic factors in making its decision, and that gas pipeline cases were a helpful analogy for electric franchise cases. Id. However, the cost difference between the proposed routes is only one factor to be considered, and it is inaccurate to state that the Board would always required the selection of the cheapest route.

Many of the objectors, including Ms. Buckroyd, Mr. Fogleman, Mr. Kirschbaum, Ms. Miles, Mr. Nichols, the Uhls, Mr. Schreiber, and the Williams, were concerned about the public safety of the Direct Route, since it passes through a residential neighborhood for part of the route. Mr. Dreesman testified that the Direct Route would provide greater safety than the Highway 65 Corridor Route, as well as being the shortest and least costly. (Tr. 92, 138). Mr. Stursma testified there are pros and cons of building in a developed or a developing area, and he took no position on which was safer. (Tr. 469) He also testified there are no particular engineering or technical benefits to the Highway 65 Corridor Route, and in fact, in an engineering sense, it is not as good as the Direct Route. (Tr. 475) There is no engineering testimony or other engineering evidence in the record that the Highway 65 Corridor Route is better than the Direct Route.

This project would comply with the applicable standards regarding locating a gas pipeline near an electric transmission line. MidAmerican's testimony set forth several safety advantages to building a pipeline in an electric transmission corridor. MidAmerican asserted there are some safety benefits to building a pipeline in an established neighborhood, stating that the area is already developed, with less chance of construction activity that could endanger the pipeline.

If the Highway 65 Corridor Route were chosen, MidAmerican would have to construct the pipeline outside the Highway 65 corridor itself. 761 IAC 115.25(1)"a." There was some testimony regarding building setback requirements along Highway 65, but it was unclear. (Tr. 146-150, 329) It appeared Mr. Dreesman was talking

about two different setback requirements: required setback distances for pipelines from intersections, and for buildings from the highway. (Tr. 146-147) It was not always clear which one he is referring to, and he testified he did not know what the setback requirements for buildings were. (Tr. 146-147) Mr. Schwartz testified he believed it is 75 feet. (Tr. 329) This testimony appears to indicate there may be a corridor 75 feet wide next to Highway 65 where a pipeline can be built, but buildings cannot be built. However, the testimony is far from clear on this point, and it is not clear from the testimony who would prohibit construction of buildings in this corridor, or whether a pipeline would be allowed, but buildings would not be allowed. At the hearing, Mr. Stursma seemed unaware that there were any restrictions on construction outside the highway right-of-way. (Tr. 474) Therefore, no definitive conclusions regarding building setback requirements from Highway 65 can be reached, based on the record in this case.

Two of the Consumer Advocate's arguments have merit. The existing electric easements filed reveal that current residents might be able to build in certain places inside the electric corridor, so long as the requirements of the NESC are met. Exhibit 103. Pipeline easements would apparently limit construction within 25 feet of the pipeline. As discussed above, it appears that, in some locations, the addition of the pipeline easement to the electric line easement would further restrict landowners' ability to build in certain places within the electric line corridor. In addition, the exhibits and testimony appear to support that an environmental study for the Highway 65 route would likely cost less than estimated by MidAmerican. (Tr. 434-

439; Exhibit J). The public policy question raised by the Consumer Advocate of whether large pipelines should be routed through residential areas is discussed below.

Some objectors were upset with the amount offered for easements, or were concerned the proposed pipeline would negatively affect property values. This issue is outside the scope of this case and the Board's jurisdiction. The purpose of the payment for an easement is to compensate a landowner for the negative effects of having a pipeline on the owner's property. If the landowner is dissatisfied with the amount offered for the easement, the owner may refuse to grant an easement, and wait for the company to pursue eminent domain. The proper place to address concerns regarding appropriate compensation is before the local compensation commission, which will set the amount to be paid when eminent domain is used. *See* Iowa Code Chapter 6B and § 479.46. It should also be noted that there is no evidence in the record to support the concern that there will be a negative effect on property values of property located near a pipeline, but that does not have the pipeline on the property.

A number of objectors were concerned that MidAmerican had not notified them of the informational meeting personally. Iowa Code § 479.5 required MidAmerican to individually notify each landowner owning property the pipeline would cross. The law also required MidAmerican to publish notice of the informational meeting for two consecutive weeks in the newspaper. MidAmerican

complied with the notice requirements of Iowa Code § 479.5. No other notice was required.

Some objectors were concerned that the proposed pipeline would damage their property in certain ways. MidAmerican has filed with the Board a statement of how it will pay damages resulting from construction of the pipeline, other than in eminent domain cases, as required by Iowa Code § 479.43. It also filed a land restoration plan to address prevention of, and payment for, damages to agricultural land. Compensable types of losses are listed in Iowa Code § 479.45. If any landowner's property is damaged by construction of the pipeline, the landowner should contact MidAmerican to discuss compensation under either the statement of damages or the land restoration plan.

With respect to Ms. Kile's objection, Mr. Schwartz testified that MidAmerican had attempted to negotiate in good faith, and that he had had two visits with her subsequent to the land acquisition agent contacting her. (See above discussion, and Tr. 305-306) Mr. Schwartz testified they have a considerable difference of opinion as to the easement value, and they agreed to meet further. (Tr. 306) As discussed above, the Board does not address easement valuation. The concerns expressed by Ms. Kile do not provide a basis to deny the permit. However, Ms. Kile stated she has a "no spray" clause in her easement, and this is supported by the copy of her easement she submitted. (written objection) MidAmerican is directed to offer Ms. Kile the same "no spray" option for the pipeline easement if she still wishes it for her property. MidAmerican is also directed to work with Ms. Kile on the specific location

of the pipeline across her land, to minimize, as much as possible, the impact of the pipeline on her property. Without making any findings as to the interaction between Ms. Kile and MidAmerican's agent, it is expected that MidAmerican and its agents will treat landowners with whom they are negotiating carefully and with respect.

The Silvers were unhappy with the route of the proposed pipeline across their property. MidAmerican avoided certain obstacles on the Silvers' property when it designed the 700-foot diagonal route on the property. Although we are sympathetic to the Silvers' concerns, there does not appear to be any feasible modification that can be made to the route. However, MidAmerican is directed to work with the Silvers to minimize the impact of the pipeline on the Silvers' property as much as it is possible. MidAmerican is required to follow the terms of its land restoration plan and restore the Silvers' property to the condition it was in prior to construction, and pay for certain types of damages, such as crop losses, if they occur. Other issues raised by the Silvers were addressed above. The Silvers' objection does not justify denying the permit, nor is the objection of a nature, which can be addressed through special terms or conditions in the order granting the permit.

The Williamsons were also unhappy with the route of the pipeline across their property. As with all of the briefs filed by the objectors, the Williamsons' brief contains evidence not in the record. The new evidence only further confirms what is already in the record regarding the route across the Williamsons' property and their concerns. (Tr. 195-198; 200-212; 493-497; Fourth Revised Exhibit H) During the hearing, it was discussed several times why the route could not run along the fence

line or section lines across the property. (Tr.117-123; 200-202; 204-206) Mr. Williamson also questioned Mr. Ver Brugge, and responded to questions from the administrative law judge regarding moving the pipeline closer to the cattle lane. (Tr. 206-209; 495-496) The route as proposed runs across Tracts 9 and 10, which are owned by the Williamsons. There are no engineering or safety reasons why the route across the Williamsons' property on Tract 9 cannot be modified to address their concerns. The route on Tract 9 of the Williamsons' property should be modified as follows: modify the portion of the route that runs approximately north-south near the Williamsons' east property line on Tract 9, locating the pipeline approximately 25 feet west of the Williamsons' east property line, so as to avoid creating a notice problem to the adjoining landowner. MidAmerican is directed to replace the fence on the Williamsons' property if it is necessary to remove the existing fence for construction. MidAmerican is directed to work with the Williamsons on details of this modification. The other concerns raised by the Williamsons were addressed above.

Eminent domain should be granted for the Williamsons' property, conditioned upon MidAmerican filing a revised Exhibit H in accordance with the route modification.

The Williamsons' objection does not justify denying the permit, but it is of a nature that can be addressed through special terms or conditions in the order granting the permit.

The preponderance of the evidence in the record supports the reasonableness of the choice of the Direct Route. It meets and exceeds all design,

construction, operation, and maintenance requirements, uses an existing restricted electric corridor, and costs an estimated $4,080,420.00 less than the Highway 65 Corridor Route. None of the specific concerns expressed by the objectors or the Consumer Advocate provide a reason that it would be just and reasonable to deny the permit, or to impose additional terms, conditions, or restrictions concerning safety requirements or the location and route of the pipeline, except as discussed above with respect to the Kile, Silver, and Williamson properties. The only issue remaining to be considered is that expressed by the Consumer Advocate and a number of the objectors who opposed the Direct Route and favored the Highway the Highway 65 Corridor Route: in the absence of significant comparative disadvantages, large pipelines should be routed outside rather than through populated areas.

6. Routing Outside, Rather than Through, Populated Areas

OBJECTORS AND CONSUMER ADVOCATE'S POSITION

The Consumer Advocate argued there is a policy judgment that, absent significant comparative disadvantages, large pipelines should be routed outside rather than through populated areas. (Consumer Advocate brief)

ANALYSIS

Iowa Code § 479.1 confers upon the Board the authority to supervise, among other things, natural gas pipelines, to protect the safety and welfare of the public in its use of public or private highways, grounds, waters, and streams of any kind in this state. The public means all the public. It does not mean one group of the public, such as only those persons owning land along and near the Direct Route.

Underlying the Consumer Advocate and objectors' position is the assumption that a pipeline outside a populated area would be safer. When constructing and operating pipelines, safety is obviously a critical factor. Iowa Code Chapter 479 and federal and state rules are largely concerned with the safety of pipelines. Although it appears reasonable to make the general statement that, absent significant disadvantages, pipelines should be routed outside, rather than through, populated areas, the specifics of the alternate routes must be examined before one can say that the alternate route is safer, and therefore must be required. For example, assuming all other factors being equal, if the alternate route were in a rural area with little existing development, and little expected future development, it might be reasonable to require the alternate route, because it would be expected that the pipeline would impact far fewer people, and have a much smaller chance of third-party damage to the pipeline, because it could be expected that there would be less digging in the area of the pipeline.

However, the evidence in the record in this case does not support a finding that the Highway 65 Corridor Route would be safer. (See above Section II.) It is true that currently, the part of the Direct Route that is separate from the Highway 65 Corridor Route is more developed. However, the evidence also shows that development east of the Highway 65 Corridor Route has begun and is not insignificant. (petition for permit; Stursma reports; testimony of Mr. Stursma, testimony of Mr. Dreesman) The evidence also shows that the area around the Highway 65 Corridor Route is developing. (Id.)

The argument can be made that, because there are currently fewer people along the Highway 65 Corridor Route, it would currently be safer than the Direct Route, merely due to the presence of fewer people. However, it can just as easily be argued that the Direct Route is safer, because the main cause of pipeline accidents is damage from third parties excavating in the area of the pipeline and damaging it, and in the developing Highway 65 Corridor Route, there will be much more excavation, and thus a much greater likelihood of third party hits. In addition, it could be argued that the Direct Route is safer, because MidAmerican has agreed to a number of enhancements to improve the safety of the pipeline along the Direct Route. There is nothing in the record to indicate that MidAmerican would place these safety enhancements in a pipeline along the Highway 65 Corridor Route. Since the evidence in the record is that the Highway 65 Corridor Route is becoming developed, this development would grow around the pipeline without any of the additional safeguards that MidAmerican would use with the Direct Route.

There is also the presence of the existing electric transmission line easement. Although, as the Consumer Advocate has shown, the easement is not as free from restrictions on development as originally testified to by Mr. Dreesman, it does contain significant restrictions on development that are already in place. In parts of the transmission line easement, the pipeline would be farther from allowable development than would be the case along the Highway 65 Corridor Route.

The evidence in the record supports a finding that in this particular case, the Direct Route is at least as safe as the Highway 65 Corridor Route, and will be safer

as the area to the east of Highway 65 develops, due to the safety enhancements. The undersigned administrative law judge cannot consider only those members of the public along the Direct Route, but must consider all the members of the public along both potential routes when considering the safety of the proposed pipeline.

The preponderance of the evidence in the record does not provide a basis to find that MidAmerican should be required to use the Highway 65 Corridor Route because the Direct Route is currently more populated. (petition for permit; Stursma reports; testimony of Mr. Stursma, Mr. Dreesman, Mr. Degenhart, Mr. Grigsby, and Mr. Schramm)

Board rule 10.7 states that "Where proposed construction has not been established definitely, the permit will be issued on the route or location as set forth in the petition, subject to deviation of up to 160 rods on either side of the proposed route." One hundred sixty rods is one-half mile. In Mr. Stursma's April 24, 2002, report, he stated that the proposed route set forth in the petition route appears to have been "established definitely" and the permissive deviation would not apply. Mr. Stursma further stated that minor adjustments may be made in order to respond to unexpected conditions or landowner requests, but allowing a deviation of this magnitude could negate the effort to minimize interference with future land use provided by the specific routing proposed in the petition. Mr. Stursma recommended that the 160-rod permissive deviation that may be allowed under Board rules not be extended to this project, although it is not intended that minor route adjustments to respond to unexpected conditions or landowner requests be prohibited. Mr.

Stursma's recommendation is correct. The record shows the route proposed by MidAmerican has been established definitely, and the 160-rod deviation should not apply.

IV. PROPERTY OWNERSHIP

In accordance with Iowa Code § 479.26, MidAmerican has satisfactorily demonstrated that it owns non-pipeline property within the state, subject to execution, of a reasonable value in excess of $250,000. (petition exhibit D; testimony of Mr. Grigsby, Tr. 224) Iowa Code § 479.26; 199 IAC §10.2(1)(d).

V. EMINENT DOMAIN

Iowa Code § 479.24 provides in part:

> A pipeline company granted a pipeline permit under this chapter shall be vested with the right of eminent domain to the extent necessary and as prescribed and approved by the board, not exceeding seventy-five feet in width for right-of-way and not exceeding one acre in any one location in addition to right-of-way for the location of pumps, pressure apparatus, or other stations or equipment necessary to the proper operation of its pipeline. The board may grant additional eminent domain rights where the pipeline company has presented sufficient evidence to adequately demonstrate that a greater area is required for the proper construction, operation, and maintenance of the pipeline or for the location of pumps, pressure apparatus, or other stations or equipment necessary to the proper operation of its pipeline.

MIDAMERICAN'S POSITION

Mr. Schwarz: Direct, Tr. 296-299; Supplemental, Tr. 300-304

Mr. Schwarz described the efforts to obtain voluntary easements. MidAmerican continues to negotiate easements with the landowners of the ten

remaining parcels. (Tr. 301). According to Mr. Schwarz, the average number of contacts with the property owners for the remaining unsigned parcels is nine. (Tr. 304). Every landowner has been contacted at least six times. (Tr. 322). MidAmerican has made a good faith effort to negotiate easements with the landowners. (Tr. 304, 322-323). According to Mr. Schwarz, the restrictions contained within the easement do have an effect on the value of the property, and this is a large factor in the payment for an easement. (Tr. 301-302) However, Mr. Schwarz is confident that there is no impact on value of any adjacent parcels. (Tr. 302) Mr. Schwarz is sponsoring Exhibits "A" (legal description), "G" (Affidavit regarding informational meeting) and "H" (legal descriptions of individual parcels). (Tr. 303-304)

Mr. Degenhardt: Supplemental, Tr. 256-261

Mr. Degenhardt addressed the need for additional area for construction easements on Tract Nos. 1, 9, 10, 11, 17, 18, 26A, 28, 32 and 60. Additional space is needed on Tract 1, because the 90° bend requires more space for the contractor to move equipment and store top soil and spoil excavated from the pipeline. (Tr. 256) More space is needed on Tract No. 9 on the south end to slick bore (a process to install pipelines under roads and railroads by boring a straight hole between two pits to pull the pipe through) NE 62nd Avenue. (Tr. 256) On Tract No. 10, more work area is necessary to slick bore NE 62nd and the Union Pacific Railroad. (Tr. 257-258) Additional workspace is required on Tract No. 11 to slick bore the Union Pacific Railroad. (Tr. 258) On Tract No. 17, additional construction

easements are required to directionally drill Interstate 80. (Tr. 258) On Tract No. 18, more workspace is needed to traverse a 90° bend and slick bore NE 46th Avenue. (Tr. 258-259) Tract 26A requires more space to directionally drill across U.S. Hwy. 6, the property of Thermo King Sales and Service, Inc., 46th Avenue Transfer Company and NE 46th Avenue. (Tr. 259) Tract 28 requires more space to slick bore NE 56th Street and make a 63° bend. (Tr. 259-260) Additional workspace is required on Tract 32 to slick bore NE 27th Avenue. (Tr. 260) Tract 60 requires a construction easement to slick bore Oakland Drive. (Tr. 260)

Mr. Degenhardt contended the request for the extra workspace was based upon engineering experience with projects of similar size. (Tr. 266, 269-270) The workspace required for each parcel differs based upon how the pipeline crosses a road or stream and the lay of the land. (Tr. 270-271)

ANALYSIS

In accordance with Iowa Code § 479.24, the Board may vest a permit holder with the power to take interest in private property by eminent domain. Prior to the Board's granting eminent domain, the Board must find that a taking is necessary for public use, it must prescribe the extent of the taking, and it must approve the taking. A determination of the extent of the taking cannot be left for future determination. Race v. Iowa Electric Light & Power Co., 134 N.W.2d at 338 (Iowa 1965).

MidAmerican notified all landowners by certified mail regarding the informational meeting. The notice was also published, which is considered notice to landowners whose residence is not known pursuant to Iowa Code § 479.7. It is

necessary for affected parties to have a reasonable opportunity to know of the claims that affect them and to be able to meet those claims. Fischer v. Iowa State Commerce Commission, 368 N.W. 2d at 94 (Iowa 1985).

There do not appear to be any discrepancies with the easements, legal descriptions or maps. The evidence established that the condemnation of easement right-of-way is necessary in order to construct, operate, and maintain this pipeline, and also that the pipeline is necessary for a public use. Eminent domain is necessary to the extent requested by MidAmerican. MidAmerican has adequately demonstrated its need for additional area for construction of the pipeline. Therefore, a taking to the extent described below is approved, and MidAmerican may be vested with the right of eminent domain in this docket, to the extent described below. Iowa Code § 479.24.

The petition for a pipeline permit requested the power of eminent domain over ten parcels, and Exhibit H of the petition contains, for each individual parcel for which eminent domain is sought, the names of the affected parties, the nature of the easement sought, and legal descriptions and maps of the properties and desired easements. Each of these individual parcel descriptions is labeled, for example, Exhibit H-10, Exhibit H-11, etc. A copy of each of these exhibits, for the parcels over which MidAmerican is being granted the right of eminent domain, is attached to this order. It should be noted that the attached maps are not to scale, because they have been reduced for copying purposes. As discussed above, there may be slight modifications to the route of the pipeline over the Kile, Silver, and Williamson

properties. If such modifications are made, MidAmerican is directed to file a revised Exhibit H for those properties describing the new easements needed, and this order granting eminent domain will be modified to accommodate the changes. The right of eminent domain is granted over the parcels listed in the attached exhibits, to the extent described in the exhibits, and as potentially modified for the Kile, Silver, and Williamson properties.

FINDINGS OF FACT

1. MidAmerican is a pipeline company within the meaning of Iowa Code § 479.2. (petition for permit)

2. On January 31, 2002, MidAmerican filed a petition for a permit to construct, operate, and maintain approximately 12.6 miles of 6-inch diameter steel pipeline in Polk County, Iowa. (petition for permit; testimony of Mr. Stursma; Stursma reports) MidAmerican amended its petition on March 27, April 30, June 12, June 27, July 24, July 31, and August 5, 2002, and among other things, increased the length of the proposed pipeline to 12.9 miles. (petition for permit) MidAmerican filed a land restoration plan with its petition, and amended the plan on June 12 and July 31, 2002. (land restoration plan)

3. MidAmerican caused notice of the hearing to be published in Polk County in the Des Moines Register, a newspaper of general circulation in the county, on July 8 and 15, 2002. (affidavit of publication) MidAmerican filed proof of payment of the costs of publication of these notices as required by Iowa Code § 479.13 and 199 IAC § 10.4. (affidavit of publication)

4. This pipeline is necessary to provide natural gas service to the new Greater Des Moines Energy Center and the existing Pleasant Hill Energy Center in Polk County, Iowa. (petition for permit; Stursma reports; testimony of Mr. Alexander) Therefore, the service promotes the public convenience and necessity as required by Iowa Code § 479.12. (petition for permit; Stursma reports; testimony of Mr. Alexander)

5. The pipeline complies with the construction, safety and design requirements of Iowa Code Chapter 479, 199 IAC § 10.12, 49 C.F.R. Part 192, and ASME B31.8 1999. (petition for permit; Stursma reports; testimony of Mr. Stursma, Mr. Degenhart, Mr. Harrison, Mr. Grigsby, Mr. Schramm, and Mr. Dreesman) In addition, MidAmerican has agreed to the following pipeline design and construction features that will exceed the requirements, and they must be included in the permit and followed as a condition of the grant of the permit.

a) Pipe with at least 0.375-inch wall thickness will be used in residential areas of Pleasant Hill.

b) The pipe will be buried with at least 5 feet of cover in agricultural land and in residential portions of Pleasant Hill, and with at least 4 feet of cover in all other areas.

c) 100 percent of field welds will be x-rayed.

d) A remote operated shutdown valve will be located at the transfer point from Northern Natural Gas.

e) Pipe-marking tape will be installed above the pipeline in locations where the pipe will be trenched within Pleasant Hill city limits.

f) Gas will be odorized at the point of custody transfer from Northern Natural Gas.

g) The entire pipeline will be designed to Class Location 3 requirements.

MidAmerican has agreed to the following post-construction measures not specifically required by pipeline safety standards, and they must be included in the permit and followed as a condition of the grant of the permit.

a) MidAmerican will leak survey the pipeline with leak detection equipment four times per year in the residential areas of Pleasant Hill.

b) MidAmerican will continuously monitor the pipeline flow rate and pressure.

c) MidAmerican will provide emergency response training to local emergency responders and coordinate this training with other pipeline operators within Pleasant Hill.

d) MidAmerican will provide informational brochures and conduct meetings with local residents to inform them of gas safety issues and also promote awareness. MidAmerican will send the informational brochures to all the landowners along the route, initially at approximately the time the pipeline is constructed, then periodically thereafter. MidAmerican will consider whether landowners near (but not on) the route should be included.

e) The pipeline will have a maximum allowable operating pressure (MAOP) of 800 psig.

No further terms, conditions, or restrictions as to safety need to be imposed pursuant to Iowa Code § 479.12. (petition for permit; Stursma reports; testimony of Mr. Stursma, Mr. Degenhart, Mr. Harrison, Mr. Grigsby, Mr. Schramm, and Mr. Dreesman)

6. The location and route of the proposed pipeline is reasonable and no further terms, conditions, or restrictions need to be imposed pursuant to Iowa Code § 479.12, except as follows.

a) MidAmerican is directed to offer Ms. Kile the same "no spray" option for the pipeline easement if she still wishes it for her property. MidAmerican is also directed to work with Ms. Kile on the specific location of the pipeline across her land, to minimize, as much as possible, the impact of the pipeline on her property.

b) MidAmerican is directed to work with the Silvers to minimize the impact of the pipeline on the Silvers' property as much as it is possible.

c) The route on Tract 9 of the Williamsons' property should be modified as follows: modify the portion of the route that runs approximately north-south near the Williamsons' east property line on Tract 9, locating the pipeline approximately 25 feet west of the Williamsons' east property line, so as to avoid creating a notice problem to the adjoining landowner. MidAmerican is directed to replace the fence on the Williamsons' property if it

is necessary to remove the existing fence for construction. MidAmerican is directed to work with the Williamsons on details of this modification. (petition for permit; Stursma reports; testimony of Mr. Stursma, Mr. Dreesman, Mr. Ver Brugge, Mr. Degenhart, Mr. Harrison, Mr. Grigsby, Mr. Schramm, Mr. Schwarz, the Silvers; Consumer Advocate partial objection attachments; written objections of Ms. Kile, the Silver Land Company, and the Williamsons)

7. MidAmerican has property subject to execution within this state, other than pipelines, of a value in excess of $250,000, as required by Iowa Code § 479.26 and 199 IAC § 10.2(1)(d). (testimony of Mr. Grigsby; petition exhibit D)

8. Twenty-one persons filed written objections questioning the safety of the pipeline and opposing the route selected by MidAmerican, and the Consumer Advocate joined in the objections. Mr. Fogleman filed a petition he stated contained the signatures of 312 people who opposed the route of the pipeline. (written objections; Consumer Advocate partial objection and brief) Despite the objections, the petition should be granted.

9. MidAmerican filed a land restoration plan that adequately addresses all land restoration issues contained in Iowa Code §479.29 and 199 IAC Chapter 9. (land restoration plan; testimony of Mr. Stursma and Mr. Degenhardt)

10. There is a public necessity for the use of certain easements, described in the attached exhibits regarding ten parcels of land, to construct, operate, and maintain the pipeline for the public use. The only property to be taken is reasonable and necessary for this public use. MidAmerican has complied with the requirements

for eminent domain in Iowa Code Chapter 479. Therefore, MidAmerican will be vested with the right of eminent domain to the extent requested, subject to the following. As discussed above, there may be slight modifications to the route of the pipeline over the Kile, Silver, and Williamson properties. If such modifications are made, MidAmerican is directed to file a revised Exhibit H for those properties describing the new easements needed, and this order granting eminent domain will be modified to accommodate the changes. (petition for permit; Stursma reports; testimony of Mr. Ver Brugge, Mr. Schwarz, Mr. Dreesman, Mr. Alexander, Mr. Grigsby, and Mr. Degenhardt)

CONCLUSIONS OF LAW

1. The Board has the authority to grant, amend, and renew permits for the construction, operation, and maintenance of pipelines for the intrastate transportation of natural gas. Iowa Code §§ 479.1, 479.4, 479.12 and 479.18; 199 IAC § 10.7.

2. The Board has jurisdiction over MidAmerican and over the petition for a natural gas pipeline permit it has filed. Iowa Code §§ 479.2, 479.5, 479.6, 479.12 and 479.18.

3. The petition of MidAmerican for issuance of a permit for the natural gas pipeline in Docket No. P-844 should be granted. Iowa Code §§ 479.11, 479.12, 479.26, and 479.29; 199 IAC Chapters 9 and 10.

4. The Board has the authority to vest a pipeline company having a pipeline permit with the right of eminent domain to the extent such right is necessary for a public use, as prescribed and approved by the Board. Iowa Code § 479.24.

ORDERING CLAUSES

IT IS THEREFORE ORDERED:

1. Official notice is taken of the reports dated March 14, April 26, and July 12, 2002, filed in this docket by Mr. Don Stursma, manager of the Safety & Engineering Section.

2. Pursuant to Iowa Code Chapter 479, the petition for a pipeline permit filed by MidAmerican in this docket is granted, subject to MidAmerican's compliance with the additional safety enhancements listed in finding of fact number five, and the additional routing requirements listed in finding of fact number six. A permit will be issued if this proposed decision and order becomes the final order of the Board.

3. The use of the right of eminent domain by MidAmerican is hereby approved for the acquisition of the easements described in the attached exhibits for ten parcels of property, for the construction, operation, and maintenance of the pipeline, subject to the possible modifications in finding of fact number ten.

4. MidAmerican must comply with the land restoration plan it filed with the petition (as amended) and the provisions of Iowa Code § 479.29 and 199 IAC Chapter 9.

5. MidAmerican must provide timely notice to the Utilities Division before beginning construction of the pipeline, and must also file weekly progress reports during construction of the pipeline with the Utilities Division.

6. After MidAmerican completes construction of the new pipeline, it must file a construction completion report with the Utilities Division. This report must

include information regarding any unusual construction problems or occurrences, and a copy of the pressure test procedures used and the results obtained.

7. Within 180 days after completion of the construction of the new pipeline, MidAmerican must file a map that accurately shows the location of the pipeline route as constructed. The map will be a part of the record in this case, and will represent the final route as authorized by the permit.

8. The Board retains jurisdiction of the subject matter in this docket.

9. This proposed decision will become the final decision of the Board unless appealed to the Board within 15 days of its issuance. Iowa Code § 17A.15(3); 199 IAC § 7.8(2).

UTILITIES BOARD

/s/ Amy L. Christensen
Amy L. Christensen
Administrative Law Judge

ATTEST:

/s/ Judi K. Cooper
Executive Secretary

Dated at Des Moines, Iowa, this 25th day of September, 2002.