

May 17, 2002

Cecil I. Wright  
Assistant General Counsel  
Iowa Utilities Board  
350 Maple Street  
Des Moines, IA 50319-0069

Dear Mr. Wright:

We have reviewed the Iowa Utilities Board's (IAUB) order granting the MidAmerican Energy Company (MidAmerican) a waiver of the maximum allowable operating pressure (MAOP) requirement in 49 CFR 192.619(a)(2)(ii). The waiver, which applies to a 7.8-mile segment of a steel main in Sioux City, permits continued operation of the segment at an uprated MAOP of 135 psig without a qualifying pressure test.

The order indicates that uprating without the required test was the only reasonable alternative to maintain service to 21,000 customers. In addition, the order indicates that while there are no safety problems on the segment, MidAmerican will survey the segment annually for leaks to assure that possible future problems are found and corrected. The order also requires MidAmerican to submit to the IAUB reports of any leaks, failures, problems, or repairs on the segment. Under these circumstances, we have no objection to the waiver.

Sincerely yours,  
Stacey Gerard  
Associate Administrator for Pipeline Safety.

State of Iowa  
Iowa Utilities Board  
Iowa Department of Commerce  
350 Maple Street  
Des Moines, Iowa 50319-0069

January 15, 2002

Stacey L. Gerard  
Associate Administrator for Pipeline Safety  
U.S. Department of Transportation  
400 Seventh St. SW, Room 7128  
Washington, D.C.20590

Re: Waiver request by MidAmerican Energy Company (Iowa Utilities Board Docket No. WRU-01-55-156)

Dear Ms. Gerard:

Enclosed you will find the order of the Iowa Utilities Board (Board) granting a waiver of 49 CFR 192.619(a)(2)(ii) to MidAmerican Energy Company (MidAmerican). The information required by Office of Pipeline Safety regulations is set out below. The Board did not give notice and an opportunity for comments or hearing of this waiver request because the testing of the uprated pipeline had already been completed and comment on the annual leak survey commitment was deemed unnecessary. A copy of the waiver request is also included for your reference.

This letter and the enclosed order are being sent by Federal Express today and a copy is being faxed to you at 202-366-4566.

1. Name and address of applicant:  
MidAmerican Energy Company 106 East Second Street  
P.O. Box 4350  
Davenport, IA 52808  
319-333-8005 Telephone  
319-333-8021 Fax
2. In its pleading, MidAmerican stated that the waiver involved 49 CFR 192.553(d), 192.619(a), and 192.619(a)(2)(ii). The Board after reviewing the specific waiver request found that the requested waiver was for 49 CFR 192.619(a)(2)(ii).
3. The waiver concerns a 7.8 miles long segment of gas distribution main that serves Sioux City, Iowa. This main forms the backbone of the distribution system that serves 21,000 customers through seven district regulator stations. See the map attached to the enclosed waiver request.
4. The Board approved the waiver of 49 CFR 619(a)(2)(ii) because it determined that the safety requirements of the pressure testing of the uprated pipeline had been met and that the annual leak surveys provided assurances that any future problems would be found and corrected. MidAmerican removed the regulator station on the line and uprated the line by increasing the pressure from 55 psig to 135 psig in four equal increments and found no problems. Board staff conducted an inspection of the line and found that other than the uprating there were no other problems with the line. Additionally, because of the location and the changed usage along the line, other alternatives, such as installing another regulator station were not possible. Finally, this all occurred with the understanding that the line served approximately 21,000 customers and there was no other alternative for providing gas service to these customers if the line was reduced back to 55 psig or taken out of service.

The issue of upgrading existing lines is being discussed by the joint committee of the National Association of Pipeline Safety Representatives (NAPSR) and the American Gas Association. The natural gas industry may consider the leak surveys to be a superior method of ensuring safety for upgraded lines rather than pressure testing. Also, the Board considered that similar waivers had been granted by the Missouri Public Service Commission and accepted by OPS.

5. As indicated above, the Board's order is enclosed.

Sincerely,  
Cecil I. Wright  
Assistant General Counsel  
(515) 281-6104

Mid American Energy  
106 East Second Street  
P.O. Box 4350  
Davenport, Iowa 52808

December 14, 2001

By UPS Overnight

Judi Cooper  
Executive Secretary  
Iowa Utilities Board  
350 Maple Street  
Des Moines, Iowa 50309

Re: MidAmerican Energy Company Request for Waiver-199 I.A.C. §19.5(2)

Dear Ms. Cooper:

Enclosed are an original and eleven copies of MidAmerican Energy Company's Request for Waiver concerning 199 I.A.C. § 19.5(2).

Please date-stamp and return one copy for our files.

Sincerely,  
Robert P. Jared

**CERTIFICATE OF SERVICE**

I hereby certify that I have on this 14<sup>th</sup> day of December, 2001, served a copy of the foregoing document upon the individuals listed below, properly addressed, postage prepaid, in accordance with the rules of the Iowa Utilities Board.

Allan Kniep  
General Counsel  
Iowa Utilities Board  
350 Maple Street  
Des Moines, Iowa 50319-0069

John R. Perkins  
Consumer Advocate  
Office of Consumer Advocate  
310 Maple Street  
Des Moines, Iowa 50319-0063

Robert P. Jared

STATE OF IOWA  
DEPARTMENT OF COMMERCE  
UTILITIES BOARD

IN RE: )  
)  
MIDAMERICAN ENERGY COMPANY ) DOCKET NO. WRU-01-55-156  
)

**REQUEST FOR WAIVER**

COMES NOW, MidAmerican Energy Company ("MidAmerican"), and, pursuant to 199 I.A.C. § 1.3, respectfully requests a limited waiver of 199 I.A.C. § 19.5(2). In support of this request, MidAmerican states as follows:

1. 199 I.A.C. § 19.5(2) adopts, by reference, certain standards for the design, construction, operation and maintenance of gas facilities. Among these standards is 49 CFR Part 192 consisting of federal safety standards for the transportation of natural gas by pipeline.

2. MidAmerican's request for waiver concerns a 7.8 miles long segment of the gas distribution main that serves Sioux City, Iowa. (Please refer to Exhibit A). This main forms the backbone of the distribution system that serves approximately 21,000 customers through seven district regulator stations. The main cannot be taken out of service without interrupting natural gas supply to all or a major portion of the 21,000 customers.

Specifically, MidAmerican uprated this main from a maximum allowable operating pressure (MAOP) of 55 pounds per square inch gauge (psig) to 135 psig. This uprating in pressure was done in accordance with MidAmerican's longstanding practices and interpretations of 49 CFR Part 192. However, MidAmerican has now been advised that its interpretation of the requirements of 49 CFR Part 192 is incorrect. As detailed hereafter, the specific circumstances associated with this segment of main do not allow the line to be taken out of service. MidAmerican submits that the alternative procedures it has followed substantively satisfy the concerns addressed by 49 CFR Part 192. Accordingly, MidAmerican requests that a limited waiver of 49 CFR Part 192 be granted directed solely to the Sioux City main segment identified and discussed herein.

3. The specific sections of 49 CFR Part 192 which are at issue are 192.553(2)(d), 192.619(a), and 192.619(a)(2)(ii). (Please refer to Exhibit B).

4. On September 28, 2000, MidAmerican retired a district regulator station at Gordon Drive and Nebraska Street in Sioux City. At this time, MidAmerican uprated the line shown in Attachment A from 55 psig to 135 psig. This uprating of the MAOP was done in accordance with MidAmerican's interpretation of 49 CFR 192, "Subpart K—Uprating." Prior to the uprating, a detailed investigation was made of the main. The main consists of 6", 8", 12", and 16" diameter, 100%-welded pipe. This steel main was installed in various stages, dating back to 1951. The 6" and 8" pipe sections have a wall thickness of .219" and the 12" and 16" pipe sections have a wall thickness of .250". The main had no evidence of active corrosion and the cathodic records comply with the relevant code. Pressure test records could only be found for a portion of the main. Historic leak records showed two gas leaks, but both leaks were on valves and both had been repaired. The flanged and welded valves on the main segment had a minimum pressure rating of 200 psig. The regulator valves and meter cocks were rated for at least 150 psig.

At 135 psig, the weakest portion of the main operates at an 18% Specified Minimum Yield Strength (SMYS), which is substantially less than the 30% SMYS threshold requirements of 49 CFR Section 192.557. (Please refer to Exhibit C). Therefore, the requirements of Section 192.557 were applied to the uprate. The uprate was completed by raising the line pressure in four equal steps from 55 psig to 135 psig, with a leak survey conducted between each step. Leaks found as a result of the survey included a tap tee cap and two O-ring leaks on a regulator station. Several weeks after the uprate was completed, a final leak survey of the main segment was made and no leaks were found. The regulator station that was located on street right-of-way was removed from service, retired and razed. The City incorporated the former regulator site into a green space adjacent to a major highway intersection.

5. In May, 2001, a periodic Board Staff inspection determined that MidAmerican's interpretation of 49 CFR 192, Subpart K—Uprating, was not consistent with the state and federal interpretation, specifically Section 192.619(a)(2)(ii). MidAmerican's interpretation was that 49 CFR Sections 192.553(2)(d), 192.619(a), and 192.619(a)(2)(ii) did not apply to the uprate of this main. As a result of the inspection's findings, MidAmerican reviewed and changed its uprating requirements. MidAmerican is also in the process of changing the Operating and Maintenance manual to be consistent with the state and federal interpretation. MidAmerican also conducted an evaluation as to how the Sioux City main could be brought into compliance with the state and federal interpretation of Part 192.

6. The fundamental problem is that MidAmerican cannot meet the existing customers' gas demand by returning the pressure of the main to its previous MAOP of 55 psig. Because the main segment is located on public right-of-way in a set-aside green space, the City has not allowed MidAmerican to install a new regulator station at the former location. Also, since the main is located in a congested transportation and commercial corridor, alternative sites for a new regulator station would have to be located closer to the town border station and further away from the customers' gas load. MidAmerican's analysis of the pressure and flow capacity of the proposed new regulator station determined that the additional pressure drop due to line loss would prevent MidAmerican from serving the existing gas load with a 55 psig MAOP. (Please refer to Exhibit D).

7. Consequently, MidAmerican identified and evaluated four alternatives to enable it to provide continued gas service to customers:

- A. Pressure uprate to 150% of MAOP.
- B. Pressure test to 150% of MAOP.
- C. Install a pressure regulation station and operate the system at 99 psig.
- D. Uprate to 135 psig and conduct additional leak surveys.

MidAmerican's analysis of each alternative, and MidAmerican's Proposed Resolution of its Request for Waiver follows.

#### **A. Pressure Uprate to 150% of MAOP**

If the main was uprated to a 135 psig MAOP, the line pressure would have to be increased to 202.5 psig [1.5 times the new MAOP, as required by section 192.619(a)(2)001 in four equal increments, with a leak survey conducted between each incremental pressure increase. When the final step is completed, the line pressure could then be reduced to its new 135 psig MAOP. Normally, the advantage of an uprate is that gas continues to flow to customers during the process. An uprate is highly dependent on having a source of natural gas that can provide the needed pressure (202.5 psig in this case). The pipeline feeding this main has a MAOP of only 135 psig. This feeder line has segments that consist of 14" and 16" bare steel that were installed in 1934. Raising the pressure on this line above its current 135 psig MAOP is not consistent with the condition of the pipe. In addition, many of the components of the main segment are not designed to operate at 202.5 psig.

#### **B. Pressure Test to 150% of MAOP**

A pressure test, unlike the previously discussed pressure uprate procedure, would require that the main be taken out of service and isolated from the distribution system during low flow conditions. The main's pressure would then be raised to the same 202.5 psig as would be required for a pressure uprate. At the completion of the test, the pressure would be lowered to a MAOP of 135 psig. For this alternative, the main to be tested is the only source of natural gas to approximately 21,000 residential, commercial, hospital, and industrial customers. Four hundred Mcfh of natural gas capacity would have to be supplied to these customers during the duration of the test at two locations. (Please refer to Exhibit E). The supplemental natural gas would be either Compressed Natural Gas or Liquefied Natural Gas. The equipment to store and to inject this supplemental natural gas in the quantities required is not available. In addition, the coordination required to simultaneously perform the pressure test and to maintain service to customers is complex and presents reliability of service and safety concerns. As was true for the uprate, many of the components in the main are not designed to operate at 202.5 psig.

#### **C. Install Pressure Regulation Station and Operate at 99 psig**

The third alternative analyzed was to reinstall a new regulator station on the main as close as possible to the location of the former regulator station. An uprate to 99 psig, which is the maximum allowed for steel pipe under 192.619(a)(2)(ii), would then be done. The advantage of this alternative is that MidAmerican could raise the MAOP of the main without interrupting service to customers, and the pressure on the line feeding the main would not be raised above its 135 psig MAOP. In addition, none of the main components would be operated above their design limits. However, as with the previously discussed uprate procedure, the site where the original regulator station was located is no longer available. Consequently, the regulator station would need to be located closer to the town border station and further from the gas load. MidAmerican conducted an analysis of the pressure and flow capacity of such a new regulator station and determined that MidAmerican could not serve its existing customers' gas demands with a main operating at a MAOP of 99 psig. In addition, the design of a regulator station to operate properly at low load and peak load could not be achieved with a regulator station operating with a 99 psig station outlet pressure.

#### **D. Uprate and Additional Leak Survey**

The fourth alternative requires the main to be uprated to a 135 psig MAOP from its current 55 psig MAOP by increasing the pressure from 55 psig to 135 psig in four equal steps. After each step, the main would be surveyed and any leaks that are discovered would be evaluated and repaired. (This is the procedure that was used on September 28, 2000). On an annual basis, the main would be leak-surveyed and new leaks would be evaluated and repaired. This alternative presents several advantages:

1. It provides sufficient gas supply to current customers.
2. It provides the least intrusive way of continuing to provide gas service to existing customers. The uprate procedure can be completed without interrupting gas service to customers and with minimal safety risks. No supplemental gas sources need to be brought in and temporarily installed.
3. It is consistent with the documented design and operational history of the main. The line is welded, operating at less than 18% SMYS, has no active corrosion, is cathodically protected, and has had a history of minimum leakage.
4. It provides safety, which meets or exceeds the requirements of Part 192. A catastrophic failure of a welded steel line operating at 17% SMYS is highly unlikely to occur. The purpose of a pressure test on pipe operating below 30% SMYS is primarily to detect gas leaks in a more timely manner. By doing annual leak surveys, rather than a survey once in five years as required by Part 192, MidAmerican will significantly increase the opportunity to detect leaks

#### **Proposed Resolution**

Based on its evaluation of the four alternatives, MidAmerican respectfully submits that the fourth alternative of uprating the line segment in four equal increments from 55 psig to 135 psig and conducting annual leak surveys should be pursued. It is the only alternative that:

- a. Provides uninterrupted service to 21,000 commercial, industrial, and residential customers while a new MAOP is being established. An extended curtailment of service to establish a new MAOP will create economic hardship for impacted customers.
- b. Provides protection to customers, which meets or exceeds the requirements of Part 192 by requiring annual leak surveys of the main segment. For main segments operating under 30% SMYS, the objective of an uprate or pressure test is to find leaks rather than test the strength of the pipe. Annual leak surveys will result in five times as many opportunities to find leaks as compared to the five- year requirement of Part 192.
- c. Provides substantially equal protection for customers by taking into consideration the historical performance of the facility and the addition of both the uprate procedure and more frequent leak survey.
- d. Provides the least complex method of establishing a new MAOP. Alternate sources of gas will



not have to be brought in and complex procedures would not have to be implemented as would be the case if the line was taken out-of-service. It will require fewer manual operations and less opportunity for inadvertent errors that would result in customer outages.

- e. Provides adequate peak day gas supply to existing customers.

#### **Request for Waiver**

To implement Alternative 4, it appears that a waiver of 199 I.A.C. § 19.5(2), incorporating by reference 49 CFR Part 192.619(a)(2)(ii), 192.553(2)(d), and 192.619(a), is required.

199 I.A.C. § 1.3 provides that the Board may grant a waiver from a rule adopted by the Board, in whole or in part, as applied to a specific set of circumstances, if the Board finds, based on clear and convincing evidence, that:

1. The application of the rule would pose an undue hardship on the person for whom the waiver is requested;
2. The waiver would not prejudice the substantial legal rights of any person;
3. The provisions of the rule subject to a petition for waiver are not specifically mandated by statute or another provision of law; and
4. Substantially equal protection of public health, safety, and welfare will be afforded by a means other than that prescribed in the rule for which the waiver is requested.

MidAmerican respectfully submits that the relief sought herein satisfies the requirements of 199 I.A.C. §1.3.

First, as detailed above, it is a practical impossibility to restore the main to its previous MAOP without jeopardizing gas service to several thousand customers. The granting of the waiver would avoid creating a hardship for these customers.

Second, the granting of the waiver would not prejudice the substantial legal rights of any person. To the contrary, the interests of MidAmerican's existing customers will be advantaged as they will benefit from a noninterruption of service and an enhanced inspection program.

Third, the uprating procedure at issue is not mandated by statute, but is contained in the United States Department of Transportation's Office of Pipeline Safety's regulations.

Finally, where, as here, an alternative approach has been identified and supported which provides an equivalent level of protection and oversight, the interests of the public are furthered by the granting of the waiver.

WHEREFORE, MidAmerican Energy Company respectfully requests the Iowa Utilities Board grant a waiver of 199 I.A.C. § 19.5(2) to permit it to implement the uprating/annual leak survey program on its Sioux City main.

Respectfully submitted,  
MIDAMERICAN ENERGY COMPANY  
Robert P. Jared  
Senior Attorney  
MidAmerican Energy Company  
One River Center Place  
106 East Second Street  
P.O. Box 4350  
Davenport, Iowa 52808  
563/333-8005 (Voice)  
563/333-8021 (Facsimile)

**192.553(2)(d)** Limitation on increase in maximum allowable operating pressure. Except as provided in § 192.555(c), a new maximum allowable operating pressure established under this subpart may not exceed the maximum that would be allowed under this part for a new segment of pipeline constructed of the same materials in the same location. However, when upgrading a steel pipeline, if any variable necessary to determine the design pressure under the design formula

(§ 192.105) is unknown, the MAOP may be increased as provided in § 192.619(a)(1).

**§ 192.619(a) Except** as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following:

\* \* \*

**§ 192.619(a)(2)(ii)** For steel pipe operated at 100 p.s.i. (689 kPa) gage or more, the test pressure is divided by a factor determined in accordance with the following table:

Class Location	Factors% segment		Covered under § 192.14
	Installed before (Nov. 12, 1970)	Installed after (Nov. 11, 1970)	
1	1.1	1.1	1.25
2	1.25	1.25	1.25
3	1.4	1.5	1.5
4	1.4	1.5	1.5

SMYS CALCULATION FOR 135 UPRATING.XLS  
SMYS Calculations for 135 psi Upgrade

**SMYS 831.8 Barlow Eqn**

Pressure (psi)	135.0
Diameter (OD inches)	16.000
Wall Thickness (inches)	0.250
Minimum Yield Strength (psi)	24000
Class Location Design Factor	0.5
Joint Factor	1
Temperature Factor	1
<b>Percent SMYS</b>	<b>18.00%</b>
<b>Maximum Design Pressure (psi)</b>	<b>375</b>

**SMYS B31.8 Barlow Eqn**

Pressure (psi)	135.0
Diameter (OD inches)	6.625
Wall Thickness (inches)	0.219
Minimum Yield Strength (psi)	35000
Class Location Design Factor	0.5
Joint Factor	1
Temperature Factor	1
<b>Percent SMYS</b>	<b>5.83%</b>
<b>Maximum Design Pressure (psi)</b>	<b>1157</b>

**SMYS B31.8 Barlow Eqn**

Pressure (psi)	135.0
Diameter (OD inches)	8.625
Wall Thickness (inches)	0.219
Minimum Yield Strength (psi)	35000
Class Location Design Factor	0.5
Joint Factor	1
Temperature Factor	1
<b>Percent SMYS</b>	<b>7.60%</b>
<b>Maximum Design Pressure (psi)</b>	<b>889</b>

**SMYS B31.8 BARLOW EQN**

Pressure (psi)	135.0
Diameter (OD inches)	12.750
Wall Thickness (inches)	0.250
Minimum Yield Strength (psi)	35000
Class Location Design Factor	0.5
Joint Factor	1
Temperature Factor	1
<b>Percent SMYS</b>	<b>9.84%</b>
<b>Maximum Design Pressure (psi)</b>	<b>686</b>

STATE OF IOWA  
DEPARTMENT OF COMMERCE  
UTILITIES BOARD

IN RE: MIDAMERICAN ENERGY COMPANY  
DOCKET NO. WRU-01-55-156

ORDER GRANTING WAIVER  
(Issued January 15 , 2002)

On December 17, 2001, MidAmerican Energy Company (MidAmerican) filed with the Utilities Board (Board) a request to waive a part of Board rule 199 IAC 19.5(2) that relates to pipeline safety standards. In subrule 19.5(2) the Board adopted federal safety standards for the design, construction, operation, and maintenance of gas facilities. The federal safety standards for the transportation of natural gas by pipeline are found in 49 CFR Part 192. MidAmerican is seeking waiver of the requirements of 49 CFR 192.553(2)(d) and the pressure test component of the Maximum Allowable Operating Pressure (MAOP) as provided in 49 CFR 192.619(a). The specific pressure test requirements are in 49 CFR 192.619(a)(2)(ii), which establishes requirements for the pressure testing of a steel gas pipeline operating at 100 pounds per square inch gauge (psig) or more.

MidAmerican states that the waiver concerns a 7.8 mile segment of gas distribution main that serves Sioux City, Iowa. This main forms the backbone of the distribution system that serves approximately 21,000 customers through seven district regulator stations. MidAmerican states that the main cannot be taken out of service without interrupting natural gas supply to all or a major portion of the 21,000 customers.

MidAmerican on September 28, 2000, retired a district regulator station at Gordon Drive and Nebraska Street in Sioux City and at that time uprated the main from 55 psig to 135 psig. Prior to the uprating, MidAmerican states that it conducted a detailed investigation of the main and the main had no evidence of active corrosion and the cathodic records complied with the relevant federal standards. MidAmerican states that it could find pressure test records for only a portion of the main and historically the leak records showed two gas leaks that were repaired. Also, the flanged and welded valves on the main segment had a minimum pressure rating of 200 psig and the regulator valves and meter cocks were rated for at least 150 psig.

MidAmerican then states that it subsequently was told by Board pipeline safety staff that the procedures it took to uprate the main did not comply with the federal standards in 49 CFR Part 192. MidAmerican states that it cannot meet existing customers' gas demands by returning the pressure of the main to the previous of 55 psig and the city who owns the right of way will not let MidAmerican install a new regulator station at the former location. MidAmerican states that there are no alternatives for location of regulator stations in the area that would allow it to meet the federal safety requirements.

MidAmerican described four alternatives that it had considered and stated that it is requesting the adoption of the fourth alternative, which accepts the uprating of the line segment in four equal increments from 55 psig to 135 psig performed by MidAmerican on September 28, 2000, and commits MidAmerican to performing annual leak surveys on the line. MidAmerican asserts that this alternative is the only one that provides uninterrupted service to the 21,000 customers while the new MAOP is being established, provides protection for customers which meets or exceeds the requirements of 49 CFR Part 192 through the use of annual leak surveys, provides equal protection for customers by taking into consideration the historical performance of the facility and the addition of both the uprate and leak surveys, provides the least complex method of establishing MAOP, and provides adequate peak day gas supply to existing customers.

The Board enforces the federal safety standards under a certificate granted by the U.S. Department of Transportation, Office of Pipeline Safety (OPS), pursuant to 49 U.S.C.A. § 60105. Pursuant to 49 U.S.C.A. § 60118(d), a certificated state may grant a waiver of a federal pipeline safety regulation. However, a state waiver must be submitted to OPS for review and OPS has 60 days to stay a waiver it finds objectionable. OPS requires that the state agency give notice and opportunity for written comments and hearing before granting a waiver, unless the state agency finds that

notice is impracticable, unnecessary, or not in the public interest. The Board finds that notice in this matter is impracticable and unnecessary and therefore notice and an opportunity for filing comments and a hearing have been omitted from the review of the waiver request.

As noted by MidAmerican, in May 2001 Board staff conducted a routine safety code compliance inspection of the Sioux City area. That inspection reviewed the uprating and cited a probable violation of § 192.619(a)(2)(ii) for operating the uprated section at a higher pressure than allowed under the cited pressure test standard. In all other respects the uprating was found properly conducted.

The Board in reviewing the request for a waiver of the pressure test component of the MAOP for the pipeline in Sioux City has considered three issues. Those issues are: 1) Is there any evidence the pipeline cannot safely operate at 135 psig; 2) what is the safety impact of not pressure testing the pipeline to 202.5 psig; and 3) has OPS accepted waivers in similar cases and, if so, has OPS applied any additional conditions.

1. The issue of whether there is any evidence that the pipeline cannot operate safely at 135 psig is a question the pipeline operator must consider in the planning process for an uprating. Board staff in its inspection report concluded that MidAmerican had conducted a thorough review of the system and replaced all components that demonstrated insufficient pressure ratings. MidAmerican found no corrosion problems on the pipeline and found only two historic leaks, both at valves and both subsequently repaired. Leak surveys done as part of the uprating process found only three minor leaks at seals. An additional leak survey conducted several weeks after the uprating found no new leaks. The Board finds that based upon the above information there is no evidence that the pipeline cannot safely operate at 135 psig.

2. The issue of the safety impact of not pressure testing an uprated pipeline resulted from the Board staff inspection that found past test records showing recent installations were tested to 225-239 psig and some older pipe was tested to 100 psig, but for most of the line there are no test records at all. Therefore, most of the line was not tested to current standards for an operating pressure of 135 psig (1.5 MAOP, or 202.5 psig in this instance) or the test pressure is unknown.

This issue of not pressure testing an uprated pipeline is currently being considered by a joint committee of the National Association of Pipeline Safety Representatives (NAPSR) and the American Gas Association. The gas industry contends that meeting the pressure test component of the current rules may be impractical or impossible in situations where increasing a pipeline's operating pressure is needed to serve demand growth but past pressure tests are insufficient to support the desired new MAOP. The difficulty is that the systems often cannot be taken out of service for testing or raised to the test pressure without affecting a significant number of customers, similar to the situation in Sioux City. The gas industry would classify pressure tests as either "strength" or "leak" tests. Strength tests would proof the integrity of the pipeline materials by subjecting them to significant stress, while in a leak test the higher pressure makes any leaks more readily detectable so they can be found and repaired. The industry position is that the pressures in distribution tests are not high enough to significantly stress the pipe materials. In an uprating, the gas pressure is raised in increments while the system remains in service and as the pressure is raised a series of leak surveys are performed to determine if any leaks develop. The gas industry's proposal is to conduct an additional survey 10 to 30 days after the uprating raises the system pressure to its new MAOP. Small but still potentially dangerous leaks may not release enough gas to be detected at the time of the uprating, but by waiting enough gas will escape for the leak to be found.

The existing federal standards do not require that a pressure test be conducted at the time of uprating. A pressure test from the time of installation suffices, which in this instance was 1951 for parts of the pipeline in Sioux City. A new test is required at uprating only if the old test was inadequate under current standards. The gas industry contends that the proposed additional leak survey would be of more benefit to public safety than relying on an original pressure test that may be decades old and would find leaks as effectively as a higher pressure test at the time of the uprating.

The joint committee has not yet submitted its recommendations for rule changes to OPS and some states have expressed reservations about removing the pressure test requirement. The issue though is significant since it shows that there is a body of opinion that feels an uprating conducted in the above manner provides a reasonable alternative to the pressure test requirement of the existing rules. MidAmerican's uprating was conducted in a manner consistent with the proposed alternative method.

3. The waiver request made by MidAmerican is similar to waivers granted by the Missouri Public Service Commission (PSC) in 1998 and 2001. In Missouri, a utility wanted to increase the MAOP of three miles of pipeline from 118 to 175 psig. The line had not been previously pressure tested consistent with operating at that level. The line was the sole source of supply to Nevada, Missouri, and could not be removed from service for testing without discontinuing service to the city. The line could not be tested with gas while remaining in service because sufficient pressure could not be obtained from the upstream source. The Missouri PSC initially granted a three-year waiver to gain experience operating the pipeline at 175 psig and required annual leak surveys (instead of every five years as otherwise required). In 2001 the waiver was made permanent, with the condition that annual leak surveys continue. OPS accepted the waiver in both cases and made particular note of the annual leak survey requirement. Although there are some differences between the situation in Missouri and the current case, that the pipeline had been previously tested to 175 psig and that pressure caused a stress of only 6 percent of yield in the pipe wall, MidAmerican's proposal to conduct annual leak surveys is consistent with waiver granted by the Missouri PSC and accepted by OPS.

Based upon the discussion above, the earlier completion by MidAmerican of the uprating of the line segment in equal increments from 55 psig to 135 psig and the commitment to conduct annual leak surveys, the Board finds the safety requirements of 49 CFR Part 192 have been substantially met. This provides the safety protection to the 21,000 customers while giving the customers continued uninterrupted service.

To waive one of its rules, the Board must find based upon clear and convincing evidence that the four criteria in 199 IAC 1.3 are met. Those criteria are: 1) that the application of the rule would pose an undue hardship, 2) that the waiver would not prejudice the substantial legal rights of any person, 3) that the provisions waived are not specifically mandated by statute or another provision of law, and 4) substantially equal protection of public health, safety, and welfare will be afforded after the waiver.

The Board finds that there is clear and convincing evidence that the application of the rule would pose an undue hardship on MidAmerican and its customers. The violation of the rule was inadvertent based on an erroneous interpretation of the federal pipeline safety standards and a return to the original operating condition is not possible. Compliance with the rule would require interruption of service to approximately 21,000 residential, commercial, hospital and industrial customers, or arrangements to maintain service on the numerous mains served by this line of questionable practicality and great expense. The Board finds that the waiver will not prejudice the substantial legal rights of any person. It would rather assure continuity of service to affected customers.

The provisions of the rule subject to the petition for waiver are not specifically mandated by statute, but are required by federal regulations. Those regulations though provide for a waiver of the federal safety requirements by a certificated state where the state finds that the waiver is not inconsistent with pipeline safety. 49 U.S.C.A § 60118. The statute then requires that OPS be given 60 days to review the waiver before the waiver is effective. The Board finds that the waiver is not inconsistent with pipeline safety and the Board will comply with the 60-day review requirement and therefore meets this criteria.

The Board finds that substantially equal protection of public health, safety, and welfare will be afforded by other means as described in this order. The pipeline was uprated using a process that the American Gas Association is proposing as an alternative to the current requirements, similar waivers have been granted in Missouri and accepted by OPS, and MidAmerican has committed to conducting annual leak surveys for the life of the pipeline.

The Board also finds that certain conditions in addition to the annual leak survey will be placed on MidAmerican in approving this waiver. For a period of three years from the effective date of this waiver, MidAmerican shall report to the Board any leaks, failures, problems, or repairs on this pipeline, including cause, impact, and disposition, and the Board will retain the authority to rescind or modify this waiver if a history of problems attributable to the higher pressure is found.

This waiver shall not become effective until reviewed and not stayed by written objection of the federal Office of Pipeline Safety pursuant to 49 U.S.C.A. § 60118(d).

**IT IS THEREFORE ORDERED:**

1. The request filed by MidAmerican Energy Company on December 17, 2001, for a waiver of 199 IAC 19.5(2) and the applicable provisions of 49 CFR Part 192 is granted subject to the conditions described in this order.
2. A copy of this order will be sent to the U.S. Department of Transportation, Office of Pipeline Safety.
3. The waiver granted in this order shall become effective 65 days from the date of the order, unless the waiver is stayed by written objection from the U.S. Department of Transportation, Office of Pipeline Safety.

Dated at Des Moines, Iowa, this 15th day of January, 2002.