BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Case No. GO-2000-705

MISSOURI GAS ENERGY
RELIABILITY REPORT
JULY 1, 2000 THROUGH JUNE 30, 2001

HIGHLY CONFIDENTIAL

This report contains material that has been classified HIGHLY CONFIDENTIAL under the terms of a Protective Order issued in Case No. GO-2000-705. Only authorized persons are entitled to view the HIGHLY CONFIDENTIAL portions.

July 1, 2000

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SCHEDULE DNC-8
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LIST OF TABLES AND FIGURES

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I. PROJECTIONS

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PEAK DAY PROJECTIONS

A key consideration in the forecasting process is the firm demand during extreme weather conditions. This information is necessary to allow the Company to ensure adequate supplies and pipeline capacity to meet all of its firm sales obligations under such conditions.

Because they account for a small portion of total sales, peak day loads have a modest revenue impact. Nevertheless, they are important because of the operating and fixed costs that are incurred in providing a system to meet peak loads. Such costs include activating peaking supply contracts and purchasing additional volumes on the open market, as well as those associated with providing adequate transmission and distribution capacity to meet peak demand.

The peak day load is calculated based on an analysis of the relationship between daily weather and daily sales requirements. The data are developed from firm sales and historic weather information. The design peak day forecast is calculated by averaging the heating degree days of the four most recent coldest winter days and applied to usage per heating degree day. The historic peak day forecast is based on the single, coldest 24-hour period for which there are verifiable records. A series of regression analyses are performed on the historic data described above to determine the base (constant) and weather sensitive or heat load (variable) factors. These factors can then be applied to degree day figures and projected customer growth patterns to approximate load requirements for a peak day. Load

requirements or volumes of gas are expressed in Dekatherms (Dth) and daily volumes are expressed as Dekatherms per day or Dth/day.

Historic Peak Day

The historic peak day is based on the lowest temperatures that might be expected in a service area. The Company's predecessor for its Missouri operations advised the Company that this peak occurred on December 23, 1989 at a level of 89 HDD. Through independent research the Company verified that the actual peak was 85 HDD and that it occurred in the Kansas City market area on December 21, 1989. This represents an average daily temperature of -20 degrees Fahrenheit. Because it is weather that was actually experienced, the Company believes that 85 HDD is the extreme that should be used for planning purposes. The Company does not believe this weather is likely to occur regularly. Conversely, it may not be the coldest weather the region will ever experience. The Company believes that failure to plan for actually experienced extreme cold weather may limit its ability to meeting its firm service obligations.

Design Peak Day

The four most recent peak days experienced in the Company's service area occurred on January 10, 1982 with 76 HDD, December 24, 1983 with 77 HDD, December 21, 1989 with 85 HDD, and February 2, 1996 with 73 HDD. The average of these winter peak days is 77 HDD. The Company uses 77 HDD for its design peak day and has determined that at this point 99 percent of Missouri's peak demand will be met. This is one of the Company's key points for supply and capacity planning purposes.

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Peak Day/Heating Degree Day Analysis

1999

The peak day for the 1998-1999 heating season occurred on January 3, 1999. The market area experienced 62 HDD with an average wind speed of 10 mph for the 24 hour period. Because wind speeds equal to or less than 10 miles per hour are not considered to have any substantial impact on system demand, the Company used 62 HDD for purposes of forecasting peak system loads. The following table illustrates how the current projections for the historic and design peak day demands were extrapolated.

January 3, 1999		
62 HDD (Recorded at MCI)	Dth/day	Dth/day

Notwithstanding the unusually warm weather generated by a strong La Niña, the slight difference of [redacted] percent in historic peak day projections between the 1998 and 1999 forecasts [redacted]* Dth for 1998 compared to *[redacted] Dth for 1999 provides added confidence in the Company's forecasting methodologies. This indicates that The Company's average annual escalator continues to be substantially accurate. The results of the revised peak day projections are shown in Figure I-1 and Figure I-2. This newest study covers a time horizon of 2000 through 2011, and continues to indicate a need for incremental capacity to cover the historic peak day prior to the 2003-2004 winter season.

The strong La Niña pattern continued through the 1999-2000 heating season and only generated a peak day of 50 HDD on December 20, 1999. The Company does not consider this to be a sufficient level of HDD on which to extrapolate a forecasted historic peak and was not used in the calculations.

Figure I-1

Figure I-2

ANNUAL LOAD PROJECTIONS

As in the peak day forecast, the annual load forecast is calculated based on an analysis if the relationship between daily weather and daily sales. Annual load forecasts are maintained on a twelve month rolling basis (short-term). Long-term (ten-year) forecasts are developed by calculating and applying an average annual escalation factor to the short term totals. The Company develops three separate forecasts for planning purposes; a base case, high case, and low case forecast.

Base Case

The base case forecast is a "most likely" scenario. The "base load" component of this forecast is arrived at by calculating an average daily volume for the summer months of July and August and applying it to each month of the forecast period. Notwithstanding the addition of incremental load that would necessitate an immediate adjustment, this component remains constant and is updated once each year for the prior 12 month period. The "heat load" component of this forecast is developed by "weather normalizing" delivery volumes from the most recent 12 months ended. Once weather and delivery volumes are known for a month, a "normalization" factor is calculated by dividing the actual heating degree days by the normal heating degree days. The monthly heat load is arrived at by subtracting the base load (see above) from the total delivered volume. The normalized heat load is calculated by dividing this remainder by the "normalization" factor. The base case totals are the sum of the normalized heat load and the base load for each month, multiplied by an average annual escalation factor.

High Case

The high case scenario is developed using the coldest weather that has occurred, on a month-by-month basis, during the preceding 15 year period. A "high case factor" is calculated by dividing actual heating degree days (for the coldest month) by the normal heating degree days for the same month. The weather normalized volumes calculated in the base case are divided by the high case factor to establish the adjusted heat load. The high case totals are the sum of the adjusted heat load and the base load for each month, multiplied by an average annual escalation factor.

Low Case

The low case scenario is developed using a similar methodology, but uses the warmest weather that has occurred on a month-by-month basis during the preceding 15 year period. A "low case factor" is calculated by dividing actual heating degree days (for the warmest month) by the normal heating degree days for the same month. The weather normalized volumes calculated in the base case are divided by the low case factor to establish the adjusted heat load. The low case totals are the sum of the adjusted heat load and the base load for each month multiplied by an average annual escalation factor.

Monthly Peak/Heating Degree Day Analysis

When all months are combined the high and low cases represent unlikely annual periods. The purpose of these scenarios is to identify a range of demand that could occur during any given month included in the study horizon. The "most likely" high and low annual forecasts

are arrived at by adjusting the base case scenario by a percent of normal weather (e.g., 105 percent for high and 95 percent for low).

Included are two annual load forecasts for fiscal year 2001. The first study, shown in Table I-3, utilizes 30-year weather data and is the basis for the Company's current projections. The second study, Table I-4, utilizes 10-year weather data. Since projections based on 30 years result in a more conservative forecast, for reliability purposes, the Company will use it for fiscal 2001 planning. During this time, the Company will monitor the actual results and may base future plans wholly on 10-year weather data. In any event, the differences appear slight. Monthly weather-induced variations in demand can be viewed as the difference between the "low," "base," and "high" case scenarios.

Table I-3

Table I-4

PROJECTED SUPPLY/TRANSPORTATION REQUIREMENTS

Introduction

Accurate forecasting of demand over short (one year) and long (ten year) time horizons provides the Company with the planning tool it needs to contract for additional gas supplies and transportation capacity in a timely and cost effective manner. The following are the Company's projections of supply and transportation requirements for the forecast period.

Supply Requirements

The system requirements include the forecasted customer demand, including fuel, plus the storage injection. The available supply consists of the monthly contract quantity plus the storage withdrawal. The difference between these two totals is the additional supply needed.

The Company's supply needs are discussed further in Section II., "Additional Supplies To Be Contracted For."

Transportation Requirements

As previously described, forecasts are developed for both annual and peak day requirements. However, it is the peak day forecast that drives the level of firm transportation service that will be necessary in a given year. The planning process must result in a transportation portfolio that meets firm customers' peak day requirements during the period of the study.

The planning cycle of a pipeline company is substantially longer than for a local distribution company (LDC). This is due to the longer lead times and economics associated with pipeline construction and capacity expansion projects. For this reason, the LDC must contract capacity in longer blocks of time, usually five to ten years. The timing of pipeline expansion projects does not necessarily match the needs of the LDC and may result in a temporary surplus or temporary deficiency of firm capacity. Because The Company's capacity is contracted for in longer blocks and added periodically over a five to ten year time horizon, capacity may be lower or higher than the historic peak day at any given point in time. There is, however, sufficient capacity to meet the design peak day over the 10-year forecast horizon, which ensures 99 percent of the Company's peak demand will be met. The Company endeavors to maintain a reasonable reserve margin above the design day minimum to meet the historic peak.

A comparison of projected peak day demand to transportation capacity is shown in Figure I-1 and transportation capacity compared to projected design day demand is shown in Figure I-2. Table I-3 and Table I-4 show the annual demand for the forecast period. A detailed discussion of transportation requirements can be found in Section III., "Additional Actions Taken To Ensure Reliability."

II. SUPPLY/DELIVERY RESOURCES

II. SUPPLY/DELIVERY RESOURCES

PIPELINE TRANSPORTATION/STORAGE CAPACITY

Pipeline Capacity

The Company currently holds firm transportation contracts on four interstate pipelines; Williams Gas Pipelines-Central (Williams), Panhandle Eastern Pipe Line (PEPL), Kansas Pipeline Company (KPC), and Pony Express Pipeline (PXP), which is owned and operated by Kinder Morgan Interstate Gas Transmission LLC (KMIGT). The combined firm deliverability on the four pipelines is [redacted] Dekatherms per day (Dth/day). This level of service is adequate to cover the projected design peak day of [redacted] and is [redacted] Dth above the projected historical peak day of [redacted] Dth projected for the 2000-2001 heating season. This should ensure reliable delivery of gas in the coming heating season for the Company's high priority customers. As discussed previously in Section I, "Transportation Requirements," capacity is typically contracted for in five to ten year blocks and added periodically over a five to ten year time horizon. Because of this phenomenon, the contracted capacity in any given year may be lower or higher than the projected historical peak day demand.

In addition to the firm capacity described above, the Company holds interruptible contracts on two of the four pipelines with a total deliverability of [redacted] Dth/day. The Company believes that some level of interruptible transportation may be available on a peak day. Maintaining these interruptible contracts for service provides an additional alternative to meet peak demand although they cannot be relied upon.

Storage Deliverability

The Company currently owns storage capacity rights totaling [redacted] Dth on two interstate pipelines, Williams Gas Pipelines-Central and Panhandle Eastern Pipe Line. The combined deliverability of [redacted] Dth/day is utilized to augment flowing gas during the withdrawal months of November through March and represents approximately [redacted] percent of the total supply used to meet the peak day demand. Total storage capacity rights will increase to [redacted] Dth and deliverability will increase to [redacted] Dth/day with new PEPL contracts that have a planned effective date of October 1, 2000 as shown in Table III-1.

Identified Needs for Transportation or Storage Capacity

There is an identified need to add capacity prior to the 2003-2004 heating season to cover the projected historic peak day. The peak day forecasts and transportation capacity are shown in Figure I-1 and Figure I-2. A detailed discussion of transportation capacity is in Section III, "Additional Actions Taken To Ensure Reliability." Notwithstanding a slight increase in deliverability due to the Williams ROFR process and the restructuring of the PEPL contracts, there is no identified need to procure additional storage services at this time.

FERC Order 637

FERC Order 637 allows pipelines to file pro-forma tariff sheets to institute peak/off-peak rates for short-term services including multi-year seasonal contracts, and to file for term-differentiated rates as part of a Section 4 rate proceeding, both on a voluntary basis. The Company currently holds seasonal capacity arrangements on the PEPL system, but tariffs for the other pipeline suppliers have not allowed this structure. The Company is closely

monitoring compliance filings and will investigate opportunities to enhance reliability and reduce costs by seasonalizing its capacity. The following Tables and Figures show the Company's efforts to identify excess production and market area capacity on a seasonal basis. The Company would expect any move to a more seasonal capacity contract structure will take several years.

Table II-1

Missouri Gas Energy

Figure II-2

Figure II-3

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Table II-4

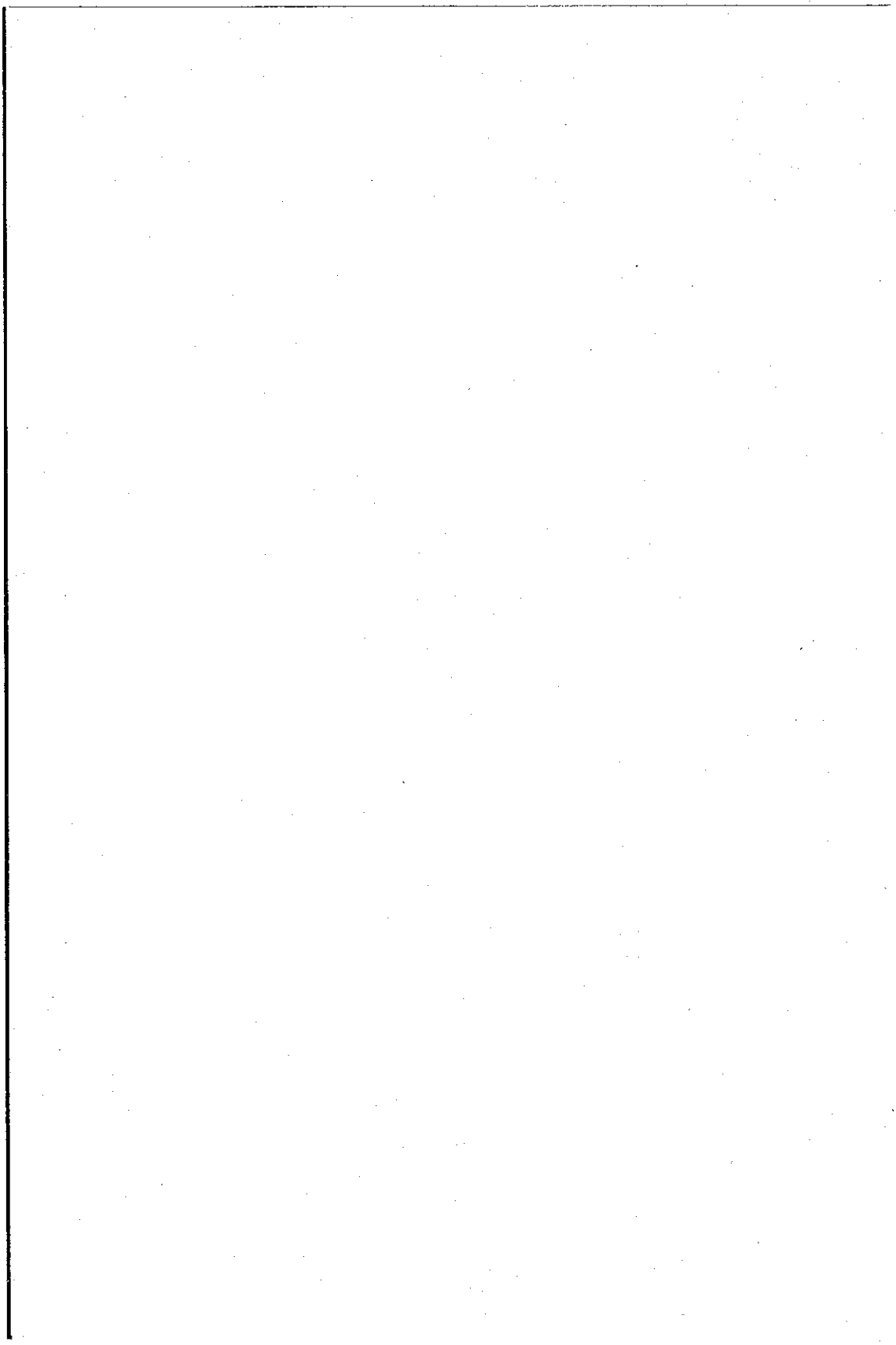

Figure II-5

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GAS SUPPLY RESOURCES

Supplies Under Contract

Table II-6 shows the Company's firm supplies currently under contract.

Table II-6

MISSOURI GAS ENERGY
FIRM CONTRACTS
2000

CONTRACT	CONTRACT NUMBER	MAXIMUM ANNUAL QUANTITY at MMBTU	MAXIMUM DAILY QUANTITY at MMBTU	TERMINATION DATE
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	(1)	(2)	[redacted]

(1) [redacted] over primary term of agreement (10/1/97 to 10/30/02)
(2) Minimum take of [redacted] during periods April through October

Additional Supplies To Be Contracted For

Demand

To determine new supply requirements, the Company reviewed demand and developed a Base Case, High Case, and Low Case scenario as described in Section I, "Annual Load Projections." Projected monthly demand was calculated as the Base Case scenario because it is the "most likely" to occur.

Supply

In addition to the available supply from the three long-term contracts shown in Table II-6, the Company recently went through a bid process and selected Duke Energy Trading and Marketing (DETM) to to provide additional gas supplies needed by MGE. The Company will provide DETM with annual, monthly, and daily demand forecasts and DETM will provide all incremental supply needed to meet 100 percent of the Company'a needs, subject to successfully completing all necessary contracts.

III. SUMMARY AND CONCLUSIONS

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ADDITIONAL ACTIONS TAKEN TO ENSURE RELIABILITY

Supply

The supply options of the Company's portfolio consist of various components. These include firm supplies contracted for on a long-term basis, firm or interruptible transportation on four interstate pipelines, and two storage services. The utilization of these components varies depending on demand and operating conditions.

In addition to the available supply from the three long-term contracts (Table II-6), the Company recently went through a bid process and selected Duke Energy Trading and Marketing (DETM) to manage its gas supplies. The Company will provide DETM with annual, monthly, and daily demand forecasts and DETM will provide all incremental supply needed to meet 100 percent of the Company's needs through this period.

Transportation

The Company's service territory is located in western Missouri, with service primarily in the St. Joseph, Joplin, and Kansas City, Missouri areas. The St. Joseph and Joplin areas are served exclusively by Williams Gas Pipelines-Central. The Kansas City area is currently served by four interstate pipeline systems including: 1.) Williams Gas Pipelines-Central, 2.) Kansas Pipeline Company, 3.) Panhandle Eastern Pipe Line, and 4.) KMIGT-Pony Express Pipeline.

Williams Gas Pipelines-Central

Focusing on the Kansas City area, which consumes the majority of the gas supplies, the Company has primary interconnects with the Williams system in four locations: 1.) Riverside Station located in Riverside, Missouri, 2.) 47th and Belinder Station located on the west side of Kansas City, Missouri, 3.) Glavin State Line Station located in southwest Kansas City, Missouri on the Missouri and Kansas state line, and 4.) Grain Valley Station located on the eastern edge of the city. These four stations feed into a high-pressure loop system that provides essential feeds into the downtown area and the surrounding suburban communities.

Panhandle Eastern Pipe Line

The Panhandle Eastern system currently provides exclusive service to small farming communities located east of Kansas City, Missouri. Panhandle Eastern also provides limited service to the Kansas City metropolitan area through two interconnects located on the southwest side of the city.

The Kansas Pipeline system currently delivers at a single point, the Riverside Station, with such deliveries paralleling those made by Williams in the same area.

The following table further illustrates the Company's pipeline capacity and storage deliverability. Table III-1 shows pipeline capacity and storage deliverability effective October 1, 2000. These volumes remain subject to change based on ongoing negotiations with the respective pipelines.

Table III-1

EMERGENCY CURTAILMENT PLAN

The following is Section 13 of the Company's General Terms and Conditions as approved in Case No. GR-96-285. This section addresses the Priorities of Service under which the Company will curtail service during periods of supply deficiencies or limitation of pipeline capacity. The Company stands ready to execute this plan as conditions warrant.

The Company believes this report verifies that adequate steps have been taken to ensure the reliability of supply for its resale customers. The inability to control volumes delivered for end use by the Company's transport customers may lead to the implementation of this plan in the event there are major failures in third party supplies.

13. PRIORITY OF SERVICE

13.01 PURPOSE: The purpose of this rule is to establish the priority of service required to be provided by Company during periods of natural gas supply deficiencies and/or capacity constraints on the Company's distribution system.

13.02 CURTAILMENT: During periods of natural gas supply deficiencies and/or capacity constraints on the Company's distribution system, the Company will curtail or limit gas service to its customers (or conversely, allocate its available supply of gas) as provided in this Rule 13. Curtailment may be initiated due to a supply deficiency or limitation of pipeline capacity or a combination of both. For purposes of this Rule, interruption of service to a particular customer due to the failure of the customer's transportation volumes to be delivered to Company does not constitute curtailment under this rule.

13.03 PRIORITY CATEGORIES: Each customer's requirements shall be classified into priority categories. The priority categories, to be utilized by the Company for allocating available gas service, listed in descending order of priority, with Category 3 being the lowest priority and Category 1 being the highest priority of service to be retained are listed below:

For an MGE Sales Service Supply Deficiency

Category 1.

Sales service to residential customers, public housing authorities, public schools, hospitals, and other human needs customers receiving firm sales service from the Company

Category 2.

Commercial sales service

Category 3.

Industrial sales service

For an MGE Distribution System Capacity Deficiency

Category 1.

Sales or transportation service to residential customers, public housing authorities, public schools, hospitals, and other human needs customers receiving firm sales service from the Company

Category 2.

Commercial sales service and commercial transportation service

Category 3.

Industrial sales service and industrial transportation service

13.04 CURTAILMENT PROCEDURES: Notice shall be given to all affected LVS customers by telephone or in writing. Notice shall be given to all other affected customers via mass media (radio and television). Notice shall be given as far in advance as possible and may be changed by the company as conditions warrant.

Curtailment shall be assigned initially to the lowest priority category (Category 3) and successively to each higher priority category as required. Should partial service only be available to an affected category, deliveries to individual customers shall be limited to the customer's pro rata share of available supply, such allocation to be based on the ratio of the customer's requirements in the category for which partial service is available to the aggregate requirements of all the Company's customers in the same category.

13.05 UNAUTHORIZED OVERRUN DELIVERIES: If during any period of curtailment, any customer takes, without the Company's advance approval, a volume of gas in excess of the volumes authorized to be used by such customer, said excess volumes shall be considered "unauthorized use" and will be billed pursuant to the Unauthorized Use Charges as set forth in the Company's approved tariff.