

0019

November 17, 1982

Memo to Coal File:

#10

RE: Subsidence considerations
beneath the Mountain Fuel
Supply Pipeline
Belina Complex
Valley Camp of Utah
ACT/007/001
Carbon County, Utah

The letter and exhibit attached to this memo were discussed at a meeting on November 15, 1982 in the Division's offices with Mr. Ed Kimball and Kim Blair of Mountain Fuel Supply Company. The company has been unable to reach an accord with Valley Camp of Utah over the information pertinent to their concerns about subsidence under their pipeline.

The pipeline, constructed on a leased right of way from the Forest Service was apparently preceded by the leases held by Valley Camp. The MMS has approved the mining plan for the area beneath the pipeline. Additional commitments requested by the Division for Valley Camp concerning mitigation proposed for potential damage to the pipeline due to subsidence was submitted to the Division on November 9, 1982, and is adequate to meet the regulations.

Assistance was given to Mountain Fuel's representatives to locate and obtain copies of information in the MRP. An additional visit to obtain more information came on November 16, 1982.

There is, in my opinion, practically no chance of subsidence affecting the pipeline given the type of overburden, the depth of mining, the room and pillar technique of mining employed and the 35° angle of draw used by Valley Camp as safeguard measures. Furthermore, the commitment by Valley Camp to mitigate any potential damage seems clear enough. However, it appears that the utility wishes to produce an in-house report, possibly with the use of a consultant, to substantiate this fact.

THOMAS N. TETTING
ENGINEERING GEOLOGIST



TNT/lm

cc: Sarah Bransome, OSM



MOUNTAIN FUEL SUPPLY COMPANY

TRANSMISSION DIVISION

79 SOUTH STATE STREET • P.O. BOX 11150 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2500

October 13, 1982

Mr. Tom Teetting
Utah State Oil, Gas and Mining Division
4241 State Office Building
Salt Lake City, UT 84114

Dear Mr. Teetting:

Mountain Fuel Supply Company (MFS) is very concerned about the safety of the existing MFS pipeline which will be undermined by the Belina #1 mining activity. Attached is a copy of a letter sent to Mr. Trevor Whiteside of Valley Camp of Utah, Inc. (Valley Camp). In this letter two reasons (facts) are given for MFS's concern about coal removal from under the pipeline. Also stated in this letter are the liabilities MFS believes Valley Camp will incur if damage does occur to the MFS pipeline because of Belina #1 mining activity.

MFS has requested information from Valley Camp concerning Valley Camp's proposal to mine under the pipeline but leave supporting pillars. Any assistance your office could provide in helping MFS obtain this information would be appreciated.

Sincerely,

Donn Hilton
Attorney

Attachment

RECEIVED
OCT 15 1982

DIVISION OF
OIL, GAS & MINING



MOUNTAIN FUEL SUPPLY COMPANY

TRANSMISSION DIVISION

79 SOUTH STATE STREET • P.O. BOX 11150 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2500

October 13, 1982

Mr. Trevor G. Whiteside
Senior Mining Engineer
Valley Camp of Utah, Inc.
Scofield Route
Helper, UT 84256

Dear Mr. Whiteside:

Mountain Fuel Supply Company (MFS) is very concerned about the removal of any coal from under the existing MFS pipeline that crosses the Belina #1 Coal Mine operated by Valley Camp of Utah, Inc. Mountain Fuel Supply's concern is based on two facts:

1. If the gas flow in the pipeline that crosses the Belina #1 mine is interrupted in the late fall, winter or early spring, most of the natural gas service provided to MFS customers in Utah Valley will be cut off.
2. Information obtained by MFS from a private consultant concerning this situation indicates that subsidence under the pipeline can occur as well as damage to the pipeline.

Valley Camp has stated that it will repair or compensate MFS for damages to the pipeline caused by subsidence from the Belina #1 mining activities. However, MFS believes Valley Camp will be responsible not only for damages to the pipeline but also for consequential damages including any property damage, public inconvenience or life and health problems which will occur if the natural gas supply to Utah Valley is interrupted because of subsidence from the Belina #1 mining activity.

In order to better understand Valley Camp's proposal of mining under the pipeline but leaving the pillars, MFS would like to further investigate this matter. MFS requests that Valley Camp supply the following information to be analyzed by MFS's own consultant:

1. The size of the pillars to be left in place (dimensions).
2. The amount of space between the pillars.
3. The type of coal being removed (physical, mechanical properties).
4. A lithology of the overburden above the mining activity.

October 13, 1982
Page 2

5. A generalized map showing the below ground configuration of the mining activity with above ground facilities, contours, etc.
6. A detailed drawing of the below ground mining activity and the location of the MFS pipeline in relation to the mining activity.

Your prompt response in this matter is appreciated.

Sincerely,



Donn Hilton
Attorney

NOTE: Provo Area has 56,300 customers
both residential and commercial

Case No. 81-057-17
Lowell F. Gill
Exhibit 5.9

ESTIMATE OF COSTS
ASSOCIATED WITH A PEAK DAY SHORTFALL

April 21, 1982

CONSEQUENCES OF INADEQUATE H.P. PIPE CAPACITY
FACILITIES TO SUPPORT LOGAN DIVISION

The consequences of inadequate H.P. pipe capacity facilities to support our northern service system (Logan Division) would be of a devastating catastrophic magnitude to Mountain Fuel, the customers we serve, and the general public of the area.

A catastrophe of this nature would probably occur during the worst of weather and temperature conditions, and would require a minimum of five days to restore service to the users of the area after conditions were such that our present capacity could satisfy the demand. The dollar cost to Mountain Fuel would be in the millions of dollars, and the users and general public would suffer severe hardships with possibly some deaths resulting.

The consequences of an outage of this magnitude are far reaching and would intensify with longevity resulting in:

1. Possible deaths.
2. Extensive property damage due to water facilities freezing and rupturing.
3. Spoilage of foodstuffs from freezing.
4. Unavailability of foodstuffs and other vital services.
5. Business and industry closure with revenue loss.

Liability costs associated with such an outage to Mountain Fuel would be:

1. Litigation from any deaths attributed to the outage.
2. Property damage settlements attributed to the outage.
3. Spoilage of foodstuffs (individual and commercial).
4. Loss of revenue of business and industry.
5. Damage to equipment and materials.

Immediate costs to Mountain Fuel would be:

1. Mountain Fuel personnel labor and equipment.
2. Personnel and equipment costs of other gas companies assisting.
 - A. Transportation (air fare, bus, auto)
 - B. Housing
 - C. Food
 - D. Rental equipment (cars, trucks)
 - E. Insurance, etc.
3. Transportation, housing and meals for relocating some people (elderly, sick, small children, and those requesting) during outage.
4. Food preparation and transportation to the area for working personnel and general public.
5. Housing and meal accommodations for Mountain Fuel personnel who would be brought in from other divisions during outage.
6. Overtime costs of employees who would be maintaining their home service area.

April 21, 1982

RESPONSE PROCEDURES TO COPE WITH OUTAGE

26,000 CUSTOMERS

1. News media communication announcement by Mountain Fuel informing people of the area of outage and issuing information and assistance instructions, by means of radio and television, which would be on-going until restoration of service is completed.
2. Information and assistance centers established (Appendix 1).
3. Regulation stations shut down (Appendix 2).
4. Personnel assembled and gas meters shut off (Appendix 3).
5. Assistance request for service technician personnel made to assisting gas companies (Appendix 4).
6. Housing accommodations acquired for assisting personnel (Appendix 4).
7. Rental vehicles acquired (Appendix 5).
8. Tool acquisition for assisting personnel (Appendix 6).
9. Temporary relocation of customers (Appendix 7).
10. Meal service - customers (Appendix 8).
11. Regulation station turn on (Appendix 9).
12. Restoration of service (Appendix 10).
13. Maintain service area not involved in outage (Appendix 11).
14. Property damage settlement (Appendix 12).
15. Commercial customer revenue loss settlement (Appendix 13).

APPENDIX 1
Information and Assistance Centers

Information and assistance centers would be established at Mountain Fuel office facilities in Logan, Brigham City, and Tremonton. These facilities are centrally located in the populated service area of the Logan Division and are equipped with radio base stations and telephone facilities. The three locations would be manned 24 hours per day during the outage by 60 people, 20 people per office working 10 people a shift in 12 hour shifts. The cost of manning these facilities for just the 5 days for restoration of service would be \$50,400.

	<u>Per/Hour</u>	<u>Hours</u>	<u>Cost/Hour</u>	<u># People</u>	<u>Total</u>
Reg. Pay	\$12	40	\$480	60	\$28,800
Overtime	\$18	20	\$360	60	<u>\$21,600</u>
			TOTAL		\$50,400

APPENDIX 2

Regulation Station Shut Down

Regulation stations consist of a series of regulators to reduce the gas pressure from high pressure (above 60# PSIA) for introduction and pressure maintenance of normally 30-35# PSIA in the Distribution IHP system. When gas pressure is very low, foreign material in the pipeline will move with the flow of gas, collecting in the regulators, and are very destructive to the components of the regulator.

	<u># People</u>	<u>Per/Hour</u>	<u>Hours</u>	<u>Cost/Hour</u>	<u>Total</u>
Reg. Pay	12	\$13	8	\$156	\$1,248

APPENDIX 3
Gas Meter Shut Off

The shut off valve on every gas meter in the affected area must be closed. This is to prevent rupturing the diaphragm in the regulator (This regulator reduces the gas pressure from 30-35 PSIA to 4 ounce pressure.) from a sudden burst of pressure during repressuring of the system. The regulator is designed with a pressure relief vent to exhaust the gas to atmosphere to compensate for such occurrences, but if the bug screen on the relief vent was plugged with some substance such as snow or ice, IHP pressure (30-35# PSIA) would enter the fuel line and rupture the controls of appliances which are designed for maximum pressure of 8 ounces releasing combustible gas through the appliance into the structure. Another reason for this precaution is even if the regulator was functional but a safety valve on an appliance was not functional, combustible gas would be released through the appliance into the structure.

	<u># Meters</u>	<u>Hours</u>	<u>Hours/Task</u>	<u>Cost/Task</u>	<u>Total</u>
Reg. Pay	17,330	8	5 min.	\$1.15	\$19,929
Overtime	8,670	4	5 min.	\$1.60	\$13,872
Travel Time	190 men	2	@\$19.20 per/hr Man&Veh		<u>\$ 7,296</u>
			TOTAL		\$41,097

APPENDIX 4

Additional Service Personnel

Three hundred service technician personnel would have to be brought in from assisting gas companies, with Mountain Fuel standing the total expense which would include wages, travel, housing, meals, laundry, communications & etc., tools, and equipment

Air Fare	@ \$250		\$ 75,000
Travel Days Wages	16 hours	\$12/Hour	\$ 57,600
Housing	6 Days	\$30/Day	\$ 54,000
Meals	6 Days	\$18/Day	\$ 32,400
Meals MFS Employees (100)	5 Days	\$12/Day	<u>\$ 6,000</u>
		TOTAL	\$225,000

100 MFS emp -> 400 -
300 others

$\frac{25,000 \text{ cust}}{400 \times 3 \text{ days}} \Rightarrow 21 \text{ cust/day} -$

APPENDIX 5

Rental Vehicles

Three hundred vehicles would have to be rented to accommodate the 400 service technicians in the service restoration procedures.

<u># Units</u>	<u>Unit Cost/Day</u>	<u>Total Cost/Day</u>	<u>Total Cost</u>
300	\$35	\$10,500	\$52,500

APPENDIX 6

Tools

Mountain Fuel would have to furnish assisting personnel with small tools, etc. necessary to perform service restoration procedures.

<u>Type</u>	<u>Number</u>	<u>Unit/Cost</u>	<u>Total Cost</u>
Coveralls	300	\$ 8.25	\$ 2,475
Flashlight	300	\$ 6.00	\$ 1,800
Batteries	4,000	\$.28	\$ 1,120
10" Pipe Wrench	300	\$10.98	\$ 3,294
Pliers	300	\$ 4.17	\$ 1,251
Screw Driver	300	\$ 3.03	\$ 909
Paper Towels	<u>2,000 boxes</u>	\$ 3.91	\$ 7,820
Matches	14 cases	\$13.90	<u>\$ 200</u>
		TOTAL	\$18,869

(1) 12 rolls/box x 2000 Boxes => 24,000 rolls -

APPENDIX 7

Temporary Relocation Customers

Freeze damage would render 5% (1,300) customers housing to be temporarily uninhabitable. Mountain Fuel could be faced with housing, meals, and transportation of these people. Using a very conservative estimate of 3 people to a customer premise would be housing, meals, and transportation for 3,900 people.

	<u>#People</u>	<u>#Days</u>	<u>#Rooms</u>	<u>Cost/Day</u>	<u>TotalCost/Day</u>	<u>Total</u>
Housing	3,900	3	1,300	\$50	\$65,000	\$195,000
Meals	3,900			\$15		\$175,500
Transportation						<u>\$ 20,000</u>
				TOTAL		\$390,500

APPENDIX 8

Meal Service - Customers

Twenty percent (5,200 customers @ 3 people per customer = 15,600 people) would be without food preparation facilities. Mountain Fuel would request the use of high schools and Utah State University that have food preparation facilities and alternate heating fuel capability and prepare and serve meals to these people. This would be accomplished by connecting propane-air vaporizers to the meters serving the food preparation areas. The space heating would be by alternate fuel.

<u># People</u>	<u># Days</u>	<u>Cost/Day</u>	<u>Total Cost/Day</u>	<u>Total Cost</u>
15,600	3	\$8	\$124,800	\$374,400

APPENDIX 9
Regulation Station Turn On

Regulator stations when restored into operation would require maintenance of regulators and monitoring by personnel because of movement of foreign material in pipeline when system is repressured.

	<u># People</u>	<u>Per/Hour</u>	<u>Hours</u>	<u>Total</u>
Reg. Pay	12	\$13	40	\$ 6,240
Overtime	12	\$18	20	<u>\$ 4,320</u>
			TOTAL	\$10,560

APPENDIX 10

Restore Service to 26,000 Customers

To restore service to the 26,000 gas customers in the Logan Division will require 400 service technicians working 12 hours a day 5 days to completely restore gas service to all customers in the affected area.

Because this type of outage would probably occur during the worst type of weather conditions, Mountain Fuel would only be able to release approximately 100 of its own technicians to work restoring service to the outage area. The remainder of Mountain Fuel technicians would remain in their home service area and would work extended hours. Three hundred service technicians would be from assisting gas companies.

Restoring service to each customer will require 45 minutes per customer. Procedure for restoring to each customer is:

1. Turn on gas at meter.
2. Purge and light each appliance.
3. Monitor cycle of operation.
4. Make necessary adjustments.
5. Check flue, vent, and controls.
6. Complete service order.

18 hrs / day -

26,000 cust

APPENDIX 10

(continued)

<u>Service Tech.</u>	<u># Meters</u>	<u>Man Hrs/Task</u>	<u>Cost Task</u>	<u>Total</u>
Reg. Pay	17,330	45 min.	\$13.05	\$226,156
Overtime	8,670	45 min.	\$19.09	\$171,666

<u>Travel Time</u>	<u>Number</u>	<u>Hours</u>	<u>Rate</u>	<u>Total</u>
Overtime	400	2	\$19.20	\$ 76,800

<u>Supervisors</u>	<u>Number</u>	<u>Rate/Day</u>	<u>Cost/5Days</u>	<u>Total</u>
(incl. trans.)	20	\$173	\$17,300	\$ 17,300
TOTAL				\$491,922

$$\frac{12 \text{ hrs}}{.75 \text{ hrs/home}} = 16 \text{ homes/day}$$

APPENDIX 11
Overtime Cost of Maintaining
Unaffected Service Area

The severe weather conditions would encompass the entire Mountain Fuel service area. Reducing the manpower of other service areas to restore the Logan Division would place a large work burden on the technicians remaining in the home areas with overtime required to maintain service to them.

<u># People</u>	<u># Days</u>	<u>Hrs/Day</u>	<u>Cost/Hour</u>	<u>Cost/Day</u>	<u>Total Cost</u>
131	5	4	\$19.20	\$10,061	\$50,304

APPENDIX 12
Property Damage - Homes

The longer an outage continued would magnify the damage sustained. A conservative estimate would be 20% (5,200) residential customers would sustain moderate to severe damage and 75% of a total of 1,300 commercial establishments.

<u>Type</u>	<u>#/Cost</u>	<u>Avg. Cost/Customer</u>	<u>Total Cost</u>
Residential	5,200	\$ 2,000	\$10,400,000
Commercial	1,000	\$13,000	<u>\$13,000,000</u>
		TOTAL	\$23,400,000

APPENDIX 13

Loss of Revenue

The longer an outage continued would magnify the loss of revenue by commercial establishments. A conservative estimate for 5 days outage would be:

<u>Number</u>	<u>Avg./Cost</u>	<u>Avg./Days</u>	<u>Total Cost</u>
1,300	\$400	4 days	\$2,080,000

SUMMARY

Information and Assistance Centers	\$	50,400
Regulation Station Shut Down	\$	1,248
Gas Meter Shut Off	\$	41,097
Additional Service Personnel & Some MFS	\$	225,000
Vehicle Rental	\$	52,500
Tools for Assistance Personnel	\$	18,869
Temporary Customer Relocation	\$	390,500
Meal Service - Customers	\$	374,400
Regulation Station Turn On Operations	\$	10,560
Service Restoration	\$	491,922
Overtime Expenses - Other MFS Employees	\$	50,304
Property Damage - Residential & Commercial	\$	23,400,000
Commercial Revenue Loss	\$	2,080,000
Contingency, Labor Overhead, Etc.	\$	2,718,680
TOTAL		\$29,905,480

75,000/day
13.5
4.8
21 BCF
from sources which require MKM/Storage -
U.S. 75,000/day
100 days
7.5 BCF

1 Mcf/day can come from existing sources and be injected during
 2 summer months thereby allowing the Company more flexibility in
 3 negotiating for new and more expensive gas supplies. This
 4 means that the Company can be more selective in acquiring new
 5 higher cost gas supplies for its future needs.

1) Cap stand higher take 9%
2) Certain extent it may allow us to "by-pass" extremely expensive supplies because of 86,000/day capacity

6
 7 These are all benefits that affect all Mountain Fuel's
 8 customers--particularly firm customers.

9
 10 Q. Are there other reasons why Mr. Hanson's proposal on rate
 11 treatment is deficient?

12
 13 A. Yes. Even if we had not demonstrated the need for Clay Basin,
 14 his proposal to assign the costs to interruptibles is not work-
 15 able. It is unreasonable to assign costs to interruptible
 16 customers and then deny them the use of the storage field
 17 throughout part of the winter heating season by interrupting
 18 their service. It simply is not equitable to charge customers for
 19 firm service that is not received.

20
 21 Q. Mr. Hanson has testified that the Company's estimate of peak
 22 day sendout is too large. Please explain the Company's current
 23 peak-day estimate.

24
 25 A. Mr. Durtschi discusses the estimate in detail. We have revised
 26 the peak-day sendout slightly downward and are continuing to
 27 analyze our peak-day estimate because of its overall importance
 28 to the Company's operations. As explained in the testimony of
 29 Mr. Durtschi, a substantial effort is underway in the Company
 30 in an effort to adequately forecast peak day.

31
 32 Q. What is the potential impact of the inability of the Company to
 33 meet its peak demands?

1 A. The impact of such a shortfall could be extremely serious.
2 There is the potential for significant personal property damage
3 and threats to life and health. In addition, the Company would
4 incur abnormally high costs to rectify the resulting problems.
5 In addition, since we are expected to meet the customers' energy
6 needs, the customers' confidence in the Company could be
7 severely shaken. For these reasons, the Company has attempted
8 to be conservative in its forecast. It is our position that a
9 shortfall cannot be tolerated. The Division, on the other hand,
10 appears to be more concerned about cost-allocation problems
11 associated with the peak-day forecast than with Mountain Fuel
12 Supply's ability to serve its customers.

bu: → low-ball of peak day
estimate of loss to gas
→ assignment of cost -
↳ 2.5% to 3.5%
→ Hanson comments that
"object of exercise
is to reduce residential
rates -"

14 Q. What are the general consequences of a peak-day shortfall on the
15 Company's system?

17 A. The consequences of such a shortfall are far-reaching and would
18 intensify with its magnitude and length. We anticipate that an
19 outage of this type would result in threats to health, extensive
20 property damage due to water facilities freezing and rupturing,
21 spoilage of food from freezing, unavailability of food and other
22 vital services and the revenue loss associated with business and
23 industry closure. In addition, certain liability costs could be
24 incurred by the Company. These costs could include the ele-
25 ments listed above in addition to the damage to equipment and
26 materials such as inventories in commercial establishments.

28 The immediate cost would include the cost of Mountain Fuel
29 personnel, labor and equipment, and the cost of personnel and
30 equipment of other gas companies which could be required to
31 assist in the restoration of service to the affected customers.
32 These latter costs would include transportation of people from
33 their current location to this area, housing, food, and necessary
34 rental equipment such as vehicles and insurance.

1 In addition, for some number of our customers such as elderly,
2 sick or those with small children and others requesting such
3 service, some transportation, housing, and meals for people that
4 are relocated may be required during the outage. These costs
5 would have to also include the housing and meal accommodations
6 for those Mountain Fuel people which would be brought from
7 other divisions to help with this outage. It is anticipated that a
8 significant amount of overtime would be required both for those
9 people who are involved with the immediate outage and those
10 people which would be left to provide necessary service for the
11 remaining 380,000 customers.

12
13 Q. Does the Company have an estimate of the cost of a peak-day
14 shortfall on its system?

15
16 A. The precise impact and cost could only be determined if such a
17 shortfall were to occur. It depends greatly upon the part of the
18 Company affected, the precise reason for the problem, the
19 number of customers affected, the severity of the weather
20 following the shortfall and other factors. We have, however,
21 conducted a study in an attempt to project the costs that might
22 be associated with such an occurrence.

23
24 Q. Briefly describe this study.

25
26 A. For purposes of the study, we chose to model the Logan Division
27 which has about 26,000 customers or 6.5% of our total number of
28 customers. The Logan Division represents about 50,000 Mcf on a
29 peak day.

30
31 The model assumes it would take approximately two days to
32 isolate the system and at least three days to relight and restore
33 service. We also assumed that we would have only one

1 occurrence of a shortfall. Sequential or multiple occurrences
2 would significantly raise the estimated costs.

3
4 Q. Has the Company included in this study any costs for possible
5 personal injury or loss of life resulting from this outage?

6
7 A. No, this would obviously be impossible to determine. However,
8 it is anticipated that some severe injuries or deaths could occur
9 because of the freezing conditions. The elderly and handicapped
10 would be more susceptible to such conditions than other cus-
11 tomers.

12
13 Q. Please briefly summarize the results of the study.

14
15 A. This information is shown in Exhibit 5.9, entitled "Estimate of
16 Costs Associated with a Peak Day Shortfall." Page 18 of this
17 exhibit details the cost elements of the study resulting in total
18 outage costs of almost \$30 million, which the Company believes to
19 be a conservative estimate. The factors and assumptions used
20 on estimating these costs are explained in pages 1 through 17 of
21 the exhibit.

22
23 Q. Mr. Hanson has proposed a cost allocation for transmission costs
24 that requires a forecast of transportation revenues to complete.
25 Do you agree with his approach?

26
27 A. No. Transportation revenues are now credited directly to
28 Account 191 to reduce rates, as a result of the Division's
29 position in Case No. 80-057-10. In that case, the Division took
30 the position that these revenues are difficult to forecast and
31 should therefore be removed from the general rate case
32 cost-allocation process. The Company took the position that
33 transportation revenues should not be credited to the 191
34 Account but should stay in Account 489 and receive general rate