

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
400 Seventh St. S.W.
Washington, D.C. 20590

APR 15 2005

Ms. Zee Wong
Chief, Utilities Safety and Reliability Branch
Consumer Protection and Safety Division
State of California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Ms. Wong:

We have received your letter of January 28, 2005, notifying us of the waiver granted by the State of California Public Utilities Commission (CA-PUC) to the Pacific Gas and Electric Company (PG&E), from the requirements of 49 CFR 192.611(a), Change in class location: Confirmation or revision of maximum allowable operating pressure.

Section 192.611(a) requires that an operator confirm or revise the maximum allowable operating pressure (MAOP) of its pipeline if the hoop stress corresponding to the established MAOP of a segment of pipeline is not commensurate with the present class location.

PG&E is requesting a waiver from 49 CFR 192.611(a) because the city of Tracy, California is planning to build an outdoor Youth Sports Facility which will change the existing class location from Class 1 to Class 3 and affect a 0.91 mile section of PG&E's transmission line 401 (L-401) after it is completed. The waiver would allow PG&E to perform alternative risk control activities to achieve a higher level of safety in lieu of pressure reduction or pipeline segment replacement.

The CA-PUC granted PG&E a waiver from 49 CFR 192.611(a), provided PG&E perform the following risk control, assessment, and mitigation activities, as more fully explained in the waiver, on its transmission lines L-401 and L-002 in the waiver area in the city of Tracy:

- Take protective measures during the construction of the sports facility in the Tracy Parcel;
- Perform activities as long as the waiver is in effect for the pipeline segments between mile posts (MP) 324 and 328 for L-401 and between MPs 138 and 142 for L-002 to ensure the safety of the public;
- Conduct required inspections to ensure the integrity of the pipeline;
- Perform an external corrosion direct assessment (ECDA) survey for L-401 located at MPs 324 and 328, and for L-002 located between MPs 138 and 142; and
- Identify and mitigate potential threats to pipeline integrity and use the threat identification in its integrity program for L-401 and L-002 in the waiver area; as required in 49 CFR 192.917.

As a condition of the waiver, CA-PUC also requires that PG&E meet the following reporting requirements as more fully explained in the waiver:

- Immediately report any outside force contact with L-401 or L-002 in the Tracy, California parcel as long as the waiver is in effect;
- Submit reports on a quarterly basis until the construction of the sports facility is completed;
- Submit a schedule of all activities for L-401 and L-002 within 3 months following approval of the class location waiver; and
- Submit an annual report at the end of every calendar year for a minimum of 5 years after the waiver is

granted.

CA-PUC found that PG&E's pipe condition and active integrity management program provides a level of safety greater than, or equal to, that which could be achieved through pipe replacement or pressure reduction.

CA-PUC examined PG&E's pipeline records, operating and maintenance history, hydrostatic test pressure and welding records. PG&E also conducted field inspections of the pipeline to examine the type and condition of PG&E's pipeline coating.

CA-PUC is satisfied that PG&E has considered the potential threats to the pipeline and that PG&E has either mitigated those threats or determined that the threats do not exist. CA-PUC is further satisfied that the PG&E pipeline application provides adequate information to address all OPS criteria for waiver. Lastly, CA-PUC is satisfied that PG&E's pipeline application is in accordance with the guidelines developed for consideration of requests for waiver of § 192.611(a).

We concur with the conclusion of the CA-PUC and find that this waiver is not inconsistent with pipeline safety.

Sincerely,
Theodore L. Willke
Deputy Associate Administrator for Pipeline Safety

State of California
PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

January 28, 2005

Mr. Richard Huriaux
Manager, Standards, Waivers, and Case Management
Office of Pipeline Safety
400 7th Street, S.W., Room 7128
Washington, D.C. 20590

SUBJECT: Waiver of Compliance Approved by California Public Utilities Commission

Dear Mr. Huriaux:

Pacific Gas and Electric Company (PG&E) requested a waiver from the requirements of Title 49, Code of Federal Regulations 192.611 for a 0.91-mile section of its transmission line 401 in the city of Tracy, CA. The class location will change from 1 to 3 for this line section as a result of the development of a youth sports facility near PG&E's pipelines.

On Thursday, December 16, 2004, the California Public Utilities Commission approved the requested waiver. A copy of the Resolution (SU-58) along with PG&E's application is enclosed. The resolution essentially authorizes a deviation from the Federal Pipeline Regulation requirement to lower the pressure or replace that portion of the pipeline where the class code changes. PG&E will perform alternative risk control activities to achieve a higher level of safety in lieu of pressure reduction or pipeline segment replacement. The justification and conditions of our approval are discussed in detail in the attached resolution.

We are requesting the concurrence of the U.S. Department of Transportation to grant this waiver. Please respond at your earliest convenience with your decision to expedite the process.

If you have any questions or concerns regarding this matter, please contact me at 415-703-4712 or Banu Acimis at 415-703-2360.

Sincerely,
Zee Wong, Chief
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division
California Public Utilities Commission

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

CONSUMER PROTECTION AND SAFETY DIVISION
SAFETY AND RELIABILITY BRANCH

RESOLUTION SU-58
DATE: DECEMBER 16, 2004

RESOLUTION

RESOLUTION SU-58, ORDER GRANTING PACIFIC GAS AND ELECTRIC COMPANY A DEVIATION FROM TITLE 49 CODE OF FEDERAL REGULATIONS 192.611 AS ADOPTED UNDER GENERAL ORDER 112E, RULE 101.2.

SUMMARY

1. Pacific Gas and Electric Company (PG&E) petitions the Commission to authorize a deviation from General Order (G.O.) 112E, Natural Gas Safety Standards, Rule 101.2, for a portion of its natural gas transmission pipelines.
2. G.O. 112E, Rule 101.2 incorporates United States Department of Transportation (DOT) regulations contained in Title 49, Code of Federal Regulations, Part 192 (49 CFR 192). The waiver is sought under G.O. 112E, Rule 101.3, and is subject to the requirements of Section 3(e) of the Natural Gas Pipeline Safety Act of 1968.
3. DOT regulations require a gas pipeline operator to complete a class location change study whenever it believes an increase in population density near pipelines may have caused a change in class location. If a new, higher class location is confirmed, the operator is required to verify that its pipeline pressure corresponds to the new class location requirement. If not, the operator must either reduce pressure or replace the pipe.
4. PG&E requests a deviation for a 0.91-mile section of its transmission line 401 (L-401) in the city of Tracy, where the class location has increased due to the development of a youth sports facility near PG&E's pipeline.
5. The deviation would allow PG&E to perform alternative risk control activities in lieu of pressure reduction or pipeline segment replacement based on DOT regulations. The SRB believes that a higher level of safety will be achieved.
6. This resolution grants PG&E's class location waiver request. The waiver essentially authorizes a deviation from DOT regulations to lower the pressure or replace the portion of the pipeline.

BACKGROUND

PG&E has requested a waiver from 49 CFR § 192.611, "Change in class location: Confirmation or revision of maximum allowable operating pressure" (MAOP) for a section of its L-401, located in Tracy between Mile Posts (MPs) 325.44 and 326.35. The city of Tracy is planning to build an outdoor Youth Sports Facility (sports facility) which will change the class location from Class 1 to Class 3 after it is completed. Class location is an important parameter, which categorizes locations based on population densities along natural gas pipelines. There are four Class locations numbered from 1 to 4. Class location 1 has the lowest population density; class location 4 has the highest population density.

Section § 192.611 "Change in class location: Confirmation or revision of maximum allowable operating pressure" requires that in class 3 locations, the MAOP of the gas transmission pipeline shall be 0.667 times the test pressure. The affected pipeline section of L-401 does not meet this requirement. Therefore, PG&E is required to either reduce the MAOP and operate the pipeline accordingly, or replace the pipeline segment with a thicker wall pipe to lower pipe wall stress to acceptable percentages of specified minimum yield strength (SMYS).

PG&E stated that reducing pressure is not an option due to higher capacity requirements, which necessitate more gas usage. Thus, PG&E has applied for a Waiver from the requirements of Section § 192.611. In exchange for the requested Waiver, PG&E would perform alternative risk control activities to achieve a higher level of safety in lieu of pressure reduction or pipeline segment replacement.

DOT has established guidelines for the consideration of requests for waivers of 49 CFR § 192.611, to confirm or revise the MAOP of a natural gas pipeline after a change in class location has occurred ("Class location waiver"). DOT recognizes the safety benefits of granting class location waivers, even though current regulations require that pipelines in the higher populated areas operate at lower stress levels to provide an extra safety margin in those areas.

The City of Tracy held a public meeting in early 2004. In attendance were local officials including the Mayor, the public, and the representatives from PG&E. PG&E presented an overview of its pipelines and safety impact to the residents. There were no oppositions to PG&E's safety plan from the government officials or the residents.

NOTICE

Notice of the waiver application was made by PG&E via written communication to the potentially affected parties.

PROTEST

No protest of the waiver application has been filed with the Commission.

DISCUSSION

The staff of Consumer Protection and Safety Division, Safety and Reliability Branch (SRB) evaluated the waiver application, examined pipeline records, and conducted field inspections to analyze the deviation's impact on public safety. Some of the factors considered for this application are the age and manufacturing process of the pipe, construction processes used, and operating and maintenance history. In addition, the SRB reviewed and analyzed hydrostatic test pressure and welding records, and conducted a field trip to examine the type and condition of the pipe coating.

PG&E has another gas transmission line, Line 002 (L-002) that is adjacent to L-401 located in the same parcel. PG&E is not required to lower the pressure or replace a portion of L-002 in the Tracy parcel according to DOT regulations. However, due to its close proximity to the sports facility and L-401, the SRB also examined and analyzed the records of L-002 in order to evaluate its impact on public safety.

The evaluation of the waiver request followed guidelines established by DOT. The guidelines include some of the essential elements such as:

- Pipe Design and Construction records;
- Pressure Testing records;

- Environmental Considerations;
- Operational Considerations;
- Integrity Management Program; and
- Inspection and Enforcement History.

The SRB also analyzed PG&E's class location waiver risk assessment study. The study shows that significant risk reduction will be accomplished by performing a thorough engineering evaluation and verifying the integrity of both L-401 and L-002, as opposed to replacing the affected segment of L-401 in the Tracy parcel. The study also indicates that performing various threat mitigation techniques will provide a higher overall risk reduction than replacing the segment of the pipeline.

As a result of our investigation, the SRB determined that in lieu of compliance with 49 CFR § 192.611, PG&E's proposal of performing alternative risk control activities based on the principles and requirements of DOT regulation would not compromise the safety of the public, nor create additional risk. The SRB believes that an equal or greater level of safety would be achieved.

Therefore, the SRB is recommending the Commission grant the waiver to PG&E subject to the conditions and reporting requirements described below.

CONDITIONS

PG&E shall perform the following risk control, assessment, and mitigation activities on its transmission lines L-401 and L-002 in the waiver area in the city of Tracy:

1. PG&E is required to take the following protective measures during the construction of the sports facility in the Tracy Parcel:
 - a) Temporary protective fence will be installed around L-401 and L-002;
 - b) Daily surveillance of the lines will be performed;
 - c) Stand by inspections will be conducted for any construction in the Tracy parcel;
 - d) Warning signs which show PG&E's 24-hour phone number will be installed in the parcel to inform the public and the excavators of the presence of high pressure pipelines;
 - e) Public Safety Education will be provided to residents of Tracy and all excavators working at the site in the Tracy parcel.

2. PG&E is required to perform the following activities as long as the waiver is in effect for the pipeline segments between MPs 324 and 328 for L-401 and between MPs 138 and 142 for L-002 to ensure the safety of the public. Records should be generated clearly indicating date, person performing, area covered, abnormal conditions found, and remedial actions, if any.
 - a) Monthly ground patrol of the parcel (an aerial patrol is not acceptable);
 - b) Bi-monthly leak survey (foot survey) (a vegetation survey is not acceptable);
 - c) Bi-monthly pipe-to-soil potential readings; and
 - d) Bi-monthly rectifier voltage and amperage readings.

3. PG&E is required to conduct the following inspections to ensure the integrity of the pipelines:
 - a) High resolution Magnetic Flux Leakage In-line inspection of L-401 shall be performed in 2005 in the Tracy parcel and additional 110 miles of L-401 between MPs 317.93 and 428.06;
 - b) High resolution Magnetic Flux Leakage In-line inspection of L-002 will be performed in 2006 in the Tracy parcel and additional 26 miles of L-002;
 - c) All abnormal conditions found that suggest damage shall be investigated and remediated; and
 - d) Re-verification of the integrity of L-401 and L-002 shall be done by subsequent in-line inspections at

intervals not exceeding 7 years in accordance with 49 CFR 192 Subpart O requirements.

4. External Corrosion Direct Assessment (ECDA): PG&E shall perform an ECDA survey for L-401 located between MPs 324 and 328, and for L-002 located between MPs 138 and 142. PG&E shall provide a schedule for the four-step process with projected completion dates of each step. As a result of the direct assessments, all abnormal conditions found that suggest damage in the ECDA regions shall be investigated and remediated.
5. PG&E shall identify and mitigate potential threats to pipeline integrity and use the threat identification in its integrity program for L-401 and L-002 in the waiver area, as required in 49 CFR, Subpart O, § 192.917. PG&E shall report to the SRB any pipeline integrity threats, such as internal corrosion, third party damage, outside force damage or human error, which are detected by any means.

REPORTING REQUIREMENTS

1. PG&E shall immediately report any outside force contact with L-401 or L-002 in the Tracy parcel as long as the waiver is in effect even if it does not meet reportable incident criteria.
2. PG&E shall report the following on a quarterly basis until the construction of the sports facility is completed:
 - a) Monthly ground patrol records,
 - b) Bi-monthly leak survey records,
 - c) Bi-monthly pipe-to-soil potential readings, and
 - d) Bi-monthly rectifier voltage and amperage readings.
3. PG&E shall submit a schedule of all activities listed below for L-401 and L-002 within 3 months following approval of the class location waiver.
 - a) In-line inspection schedule, highlighting all activities with projected completion dates;
 - b) ECDA schedule, highlighting projected completion dates of each ECDA step;
 - c) Describe the economic impact to the company that results from the waiver, include both the cost avoided from not replacing the pipe as well as the added costs and benefits of the inspection program; and
 - d) Describe the benefit to the public in terms of energy availability, avoided disruptions that would have been required for pipe replacement, and the benefit of maintaining system capacity.
 - e) Any future filings with the Commission involving L-401 or L-002 shall be reported to the SRB.
4. PG&E will submit an annual report at the end of every calendar year for minimum of 5 years after the waiver is granted, documenting the following items listed below:
 - a) The results of any in-line inspection and ECDA performed within the inspection area containing the waiver location during the previous year;
 - b) Any new integrity threats identified within the inspection area containing the waiver location, and any mitigation and remedial actions planned and performed during the previous year;
 - c) Any encroachment in the inspection area including the waiver location including the number of new residences or gathering areas.;
 - d) Any reportable and non-reportable incidents associated with the inspection area containing the waiver location that occurred during the previous year;
 - e) Any leaks on the pipeline in the inspection area containing the waiver location that occurred during the previous year;
 - f) List of all repairs on the pipeline in the inspection area containing the waiver location made during the previous year;

- g) On-going damage prevention initiatives on the pipeline in the inspection area containing the waiver location and a discussion on its success; and
- h) Any mergers, acquisitions, transfers of assets, or other events affecting the regulatory responsibility of the company operating the pipeline to which the waiver applies;
- i) Any filings with the Commission involving L-401 or L-002 occurred during the previous year.

COMMENTS

This is an uncontested matter in which the decision grants the requested relief.

Therefore, pursuant to Public Utilities Code § 311(g)(2), the otherwise applicable 30-day period for public review and comment is being waived.

FINDINGS

1. The SRB recommends that this waiver request be granted, contingent on safety measures proposed by the SRB as described herein.
2. Furthermore, the granting of the waiver applies only to this specific request and should not be interpreted as applicable to any other location on PG&E's pipeline system.
3. Through our participation in the US DOT Pipeline Safety Program, the Commission may waive Federal Safety Regulations only with the concurrence of the US DOT. Thus Commission's approval is required before the US DOT will consider the waiver.

THEREFORE, IT IS ORDERED THAT:

1. PG&E be granted a waiver from 49 CFR, § 192.611 for its segment of L-401, located in the city of Tracy between MPs 325.44 and 326.35.
2. PG&E shall conduct the integrity management and risk mitigation activities recommended by the SRB as detailed herein.
3. PG&E shall report to the SRB on the items, and in the manner and time frames advanced by the SRB herein.
4. This resolution shall be effective immediately; however, concurrence by the US DOT must also be obtained. The effective date of the waiver will be the date the US DOT issues concurrence.

I hereby certify that this Resolution was adopted by the California Public Utilities Commission at its regular meeting on December 16, 2004. The following Commissioners approved it:

STEVE LARSON
Executive Director

MICHAEL R. PEEVEY
President

CARL W. WOOD
LORETTA M. LYNCH
GEOFFREY F. BROWN
SUSAN P. KENNEDY
Commissioners

Pacific Gas and Electric Company
123 Mission Street, Room 1521
San Francisco, CA 94105

March 19, 2004

Ms. Zee Wong, Chief
Safety and Reliability Branch
California Public Utilities Commission
505 Van Ness Avenue, Room 2005
San Francisco, California 94102-3298

Dear Ms. Wong:

Attached is an Application for a Class Location Waiver to 49 CFR 192.611, Class Location requirements for Pacific Gas and Electric's (PG&E) Natural Gas Transmission (NGT) Line 401, between mile points 325.44 and 326.35. The city of Tracy is preparing to construct an outdoor sports complex on this parcel, with construction to possibly begin later this year. After construction, this pipeline segment would change from Class 1 to Class 3, and would either require a pressure reduction or pipeline replacement.

PG&E's California Gas Transmission (CGT) department is responsible for the operations and maintenance of this pipeline. As noted in the waiver application, in lieu of reducing pressure or replacing the Line 401 pipeline segment, CGT is requesting a Class Location Waiver that will utilize integrity management inspection and prevention activities, meeting and exceeding the minimum requirements of the new Department of Transportation (DOT) 49 CFR Part 192 Subpart O, Integrity Management Rule, to achieve a higher level of safety for this pipeline segment.

CGT has worked closely with representatives of the Department of Transportation (DOT), Office of Pipeline Safety (OPS), and the Interstate Natural Gas Association of America (INGAA) in the development of this application. CGT has verified that this pipeline segment is an excellent candidate for using the new 49 CFR Part 192 Subpart O, Integrity Management Rule requirements in lieu of 49 CFR 192.611 requirements to achieve a higher level of safety for this

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Pacific Gas and Electric Company
California Gas Transmission

Application for a Class Location Waiver
March 19, 2004

Transmission Pipeline: Line 401 MP 325.44 to 326.35

Description of Application

Pacific Gas and Electric (PG&E), California Gas Transmission (CGT) respectfully requests a waiver to existing Department of Transportation (DOT) 49 CFR Class Location rules (192.611 and 192.5) for gas transmission Line 401, between mile points (MP) 325.44 to 326.35 (see Figure 1). The city of Tracy, California is planning to construct an outdoor Youth Sports Complex in the same parcel as this pipeline segment. In accordance with existing 49 CFR requirements (192.611 and 192.5,) this pipeline section would change from class 1 to class 3, resulting in either a pipeline section replacement or pressure reduction. Pressure reduction is not feasible, due to capacity requirements of the system.

In lieu of replacing the effected Line 401 pipeline segment, PG&E is proposing a class location waiver that will utilize Integrity Management inspection and prevention activities, meeting and exceeding the minimum requirements of the new DOT 49 CFR Part 192, Subpart O, Integrity Management Rule, to achieve a higher level of safety. As explained by this document, PG&E is confident this recommendation will yield a higher level of pipeline safety for this pipeline segment, for the adjacent Line 002 gas transmission pipeline, and for the additional pipeline mileage that will be assessed under the provisions of this waiver. This waiver request recommends the following,

- Perform a thorough Engineering evaluation and verify the integrity of the pipeline in accordance with the new DOT Integrity Management Rule, 49 CFR Part 192 Subpart O. Additionally, the Interstate Natural Gas Association of America (INGAA) and Office of Pipeline Safety (OPS) draft Class Location Waiver Protocol, that addresses the overlapping requirements of existing class location and integrity management rule language, was used as a guideline in the preparation of this recommendation.
- A high resolution Magnetic Flux Leakage In-Line Inspection (MFL-ILI, called a smart pig from this point forward) will be performed as a primary means to verify the integrity of this pipeline segment. To accommodate this inspection, PG&E will perform a smart pig inspection to verify the integrity of 110 total miles of L-401, including the Tracy parcel, from MP 317.93 to 428.06. Additionally, a caliper pig inspection to detect any significant geometric abnormalities, such as dents, will be performed prior to the smart pig inspection.
- Additional measures of protection (see the section in this notification entitled "Additional Measures of Protection") will also be implemented to ensure a higher level of on-going pipeline protection and safety than currently afforded by existing 49 CFR part 192 code requirements. These measures include 1) installing temporary protective fencing around the pipelines and performing a daily patrol during construction of the proposed sports complex, 2) providing continual stand by inspection by PG&E personnel during construction, 3) increasing signage in the parcel, 4) performing a close interval corrosion survey, 5) performing monthly patrols of the parcel, and 6) perform pipe to soil potential reads every 2 months.
- Re-verify the integrity of the 401-pipeline segment at intervals not exceeding 7 years by smart pigging. Re-inspections may be performed using alternate methods with prior approval from the California Public Utilities Commission, Safety and Reliability Branch (CPUC/SRB) and DOT/OPS.
- As part of this waiver application, PG&E is also committing to verify the integrity of Line 2, which currently resides within the same right-of-way, by using the same caliper tool and smart pig inspection.. This section on Line 2 will not require pipe replacement or pressure reduction in accordance with the same existing code sections.

**See original for picture.

Process for Waiver Submittal

To ensure that CGT's waiver request is consistent with the Best Practices of others in the industry, and to ensure that the controls afforded by the INGAA protocol are complied with, CGT's waiver will be implemented as part of the INGAA Class Location Pilot Program. In accordance with previous communication with DOT/OPS representatives working on this initiative, CGT respectfully is providing OPS with a copy as directed. In this manner the CPUC/SRB and DOT/OPS can work to ensure that the waiver submittal and evaluation process is consistent with other industry/DOT-OPS waiver submittals.

Description of the Pipeline and Corridor

Line 401 was installed in 1992/1993 as part of PG&E's L-400/401 Pipeline Expansion Project. This project resulted in the construction of pipeline starting in Northwest CA near Malin Oregon, through the Sacramento and San Joaquin Valleys terminating at PG&E's Panoche Station in the central California valley.. It serves to transport gas from the northern California border into California, and also serves as an interconnect between CGT's northern and southern pipeline system. The pipeline is pivotal to serving California's existing and ever expanding demand for natural gas.

Line 401, between MP 325.44 to 326.35 is located approximately 60 miles southeast of San Francisco, in the city of Tracy, Ca. It is one of three pipelines occupying a common utility corridor. The other pipelines include PG&E's gas transmission Line 2, and a Chevron liquid pipeline. The parcel where the proposed Tracy Sports Complex will be built is approximately 4818 feet long.

This segment of Line 401 is a 36-inch diameter double submerged arc welded pipe (DSAW), with a specified minimum yield strength (SMYS) of 70,000 psi and a 0.372-inch wall thickness. The pipe was manufactured by the NAPA pipe mill. It has a maximum allowable operating pressure (MAOP) of 1040, operating at 71.89% of it's SMYS. It was originally coated with fusion bonded epoxy coating (FBE). It was hydrotested to a minimum test pressure of 1302 psig for 8 hours.

PG&E's Line 2 is a 26-inch diameter DSAW pipeline with an SMYS of 60,000 psi and a 0.322- inch wall thickness. It was installed in 1972 and has an MAOP of 890 psig, operating at 59.89% of it's SMYS. It was originally coated with tape coating. It was hydrotested to a minimum test pressure of 1486 psig for 8 hours

Operations and Maintenance History of Line 401

The line 401 pipeline segment has a very healthy maintenance history. No leaks, ruptures, or incidences of any kind have been recorded for this pipeline segment. The pipeline segment currently complies with all existing 49 CFR operations and maintenance requirements.

Four pipeline inspections were performed in this pipeline segment in 2000 as part of a Underground Service Alert (USA) ticket. At each of the locations the pipeline was unearthed and directly examined. No corrosion or other damage was documented, and the coating was found to be in very good condition.

Threat and Risk Assessment

In 1997 CGT implemented a comprehensive Risk Management Program. Currently every pipe segment in CGT's 5600 mile transmission pipeline system is risk assessed to determine it's likelihood and consequences of failure. Individual pipeline segments are established within CGT's GIS system whenever a change in design (such as wall thickness, coating type, etc.) or operation occurs (such as MAOP). Accordingly, CGT's system is currently comprised of approximately 17,000 individual pipe segments.

CGT's Risk Management Program assesses the likelihood of failure of each segment due to the primary gas transmission pipeline threats, including 3rd party damage (Ltp), external corrosion (Lee), material and construction defects (Lwm), and ground movement/outside forces (Lgm). Currently CGT's Risk Management algorithm does not assess the threat of Stress Corrosion Cracking, Internal Corrosion, or Incorrect Operations due to little or no history of these types of failures in our transmission system. However, to meet the requirements of subpart 0, CGT is integrating these threat

assessments into our existing Risk Assessment algorithms, and will follow the guidance set forth in ASME B31.8S.

For the purpose of this study, CGT will assess the risk of the subject pipeline segment using both the comprehensive criterion in CGT's risk model, and in accordance with ASME B31.8S threat analysis. Additionally, the draft Vintage Pipe Report was also used as a reference.

The threats to this segment are as follows:

Threat	Threat exists?	Comments
External Corrosion	Y	A time dependent threat present on all buried natural gas pipelines.
Internal Corrosion	N	Dry Gas, no history, however smart pig will detect if present.
Stress Corrosion Cracking	N	FBE coating, no history anywhere in PG&E system.
Manufacturing	N	New DSAW pipe, Arc welded, nothing documented for this vintage of pipe in the entire industry
Construction	N	No wrinkles or other documented concerns.

These threats can be effectively mitigated by a smart pig inspection, third party prevention activities and regular maintenance and operations audits.

Using CGT's existing risk algorithm, the risk within the Tracy Parcel was evaluated. The risk of the L-401 pipeline segment for the various threat mitigation alternatives and the overall risk reduction for the 401/002-pipeline corridor through the parcel is as follows:

Action	Ltp	Lec	Lgm	Lwm	Risk	Relative Ranking	Normalized* Risk Reduction
Do nothing. not an option	21.2	12.1	0	9.5	873	Top 25%	n/a
Replace 401 Pipe	9.1	0	0	0	264	Bottom 10%	556
ILI 401/002 and 3rd Party Prevention	6.7	0	0	9.5	225	Bottom 10%	1128

* For comparison of multi-segment projects, the risk reduction for each segment is normalized based on its length. For the portion through the Tracy Parcel, the risk reduction was normalized by multiplying by the length of the crossing (4818') and dividing by 5280' or one mile. The Likelihood of Welds and Materials risk (Lwm) is reflected as 0 for the replace option only due to an increase in hydrotest pressure of the new pipe. The existing pipe does not have any welds or material threats.

In addition to maintaining a relatively low risk for the segment traversing the Tracy Parcel, a smart pig inspection would significantly reduce risks along the entire length of both pipeline pig runs, including many portions in proximity to businesses and dwellings. As shown below, a smart pig inspection would provide 16x more risk reduction for CGT's pipeline system than the 4818' replacement.

Action	Appx. Cost (\$Million)	Risk Reduction (normalized by segment length)	B/C (Risk Red/Million)
Replace Pipe	2.5	556	222.4
ILI 401 & 002	5.0	9333	1866.6

Detailed Scope of the Waiver Recommendation

The waiver request recommends the following, in lieu of replacing the subject segment of line 401.

- Perform a thorough Engineering evaluation and verify the integrity of the pipelines in the corridor in accordance with the INGAA/DOT-OPS established protocol. A high-resolution smart pig inspection will be performed on 110 miles of line 401 and on 26 miles of line 002 (see Figure 2), as a primary means of verifying the integrity of these pipeline segments and neighboring segments. Additionally, a caliper tool inspection will be performed to detect any geometric abnormalities.

Discussion: Replacing the 4818 feet of line 401 pipeline to reduce its operating stress to something below 50% SMYS, or reducing its maximum operating pressure to achieve the same would be required under the present day code requirements. The cost of the pipe replacement is expected to be at least \$2.5 million dollars. The pipeline was recently installed and is currently assessed to be very low risk in its present condition. In lieu of accomplishing a very minimal risk reduction for this small 4818' area by reducing operating stress (and arguably doing little to reduce the actual risk due to leading threats such as 3rd party damage), performing a caliper tool and smart pig inspection of the Line 401 pipeline segment across the Tracy parcel and the adjacent pipeline mileage (110 miles) clearly provides a more significant risk reduction for the costs expended.

CGT has performed a cursory count of structures and people within the Line 401 and Line 2 potential impact circles (as determined by DOT 192.903) that would benefit from the increased pipeline safety afforded by the two smart pig runs.

- There are approximately 90 single family dwellings
- 420 people are estimated to live or regularly assemble and an additional 850 are estimated to live or assemble within 1000' of the extent of the potential impact circles.
- The corridor parallels Interstate Freeway 1-5 for 47 miles.
- Two foreign oil lines reside in parts of the corridor.

See Figure 2, for the overall scope of the proposed smart pig inspections and the location of structures and businesses along the route.

It is apparent that the smart pig inspections will significantly enhance the integrity of the pipelines across the Tracy Parcel, as well as in areas outside of the Parcel, and will provide increased pipeline safety for a large number of structures and people.

- Implement additional measures of protection to ensure a higher level of on-going protection and safety than currently afforded by existing code requirements.

Discussion: This waiver request also recommends the following additional measures of protection for the line 401 and 002 pipeline segments and the associated corridor.

- During construction PG&E will install temporary protective fencing around the natural gas pipelines and perform daily patrols to prevent 3rd party damage.
- Mandatory Standby By will be performed anytime construction occurs within the pipeline easement during construction of the sports park. This will ensure against 3rd party damage when construction activities are anywhere near the pipelines.
- In concert with the smart pigging, perform an interrupted close interval pipe to soil potential survey on both pipeline segments crossing the Tracy Sports Complex. This will ensure cathodic protection is fully acceptable at close intervals along the pipeline.
- Perform monthly patrols on an on-going basis. These patrols will focus on detecting any construction that may be taking place, or for any evidence of construction since the last patrol.
- Perform Bi-monthly-pipe to soil potential measurements at monitoring locations. This will ensure effective cathodic protection at more frequent intervals, allowing prompt remediation in the event protection falls below acceptable criterion.
- Install increased signage (to be negotiated with the City of Tracy).

- **Re-verify the integrity of both the Line 401 and Line 2 pipeline segments at regular intervals not to exceed 7 years using smart pigging. Re-inspections may be performed using alternate methods with approval from the CPUC/SRB and DOT/OPS.**

Discussion: Performing smart pigging every 7 years may not have increased risk reduction value over time. The pipeline is well constructed and maintained, and should not suffer any damage due to time dependent damage mechanisms such as corrosion. Additionally, it has been shown that 3rd party damage prevention activities are more effective than inspection. To achieve a solid baseline of continued exceptional performance, it is proposed to perform a baseline smart pig inspection, and to perform the first 7-year re-inspection by smart pigging. After these two inspections have been performed, and have verified that the other protection measures are effective, CGT may seek approval from the CPUC/SRB and DOT/OPS, via a written waiver revision request, to use an alternate inspection methodology to verify integrity at the 7-year intervals between smart pig inspections every 14 years.

Review of Compliance with INGAA/DOT-OPS Draft Waiver Protocol

The following table confirms that this recommendation fully complies with the Draft Waiver Protocol being developed by INGAA and DOT/OPS.

<u>Threat</u>	<u>Acceptance Criteria</u>
External Corrosion	Will remediate any external corrosion indications with response requirements classified as "immediate" or "scheduled" per 49 CFR Part 192 Subpart O
Internal Corrosion	Will remediate any external corrosion indications with response requirements classified as "immediate" or "scheduled" per 49 CFR Part 192 Subpart O.
Stress Corrosion Cracking	No history of SCC
Third Party Damage	Covered by damage prevention and public awareness programs meeting industry standards and regulatory requirements per 49 CFR 192.707.
Incorrect Operations	Operating history reviewed. OQ program per 49 CFR Part 192, Subpart N.
Weather and Outside Forces	No factors present per B31.8S
Manufacturing Defects	Segment pressure tested to at least 125% MAOP. No history of defects.
Construction Defects	Segment pressure tested to at least 125% MAOP. No history of defects.
Equipment	Contains no equipment listed in B31.8S.

Reporting

For the pipeline segments (Line 401 and 2) within the Tracy Parcel, CGT will document and track the data listed below. This data will be reported to the CPUC/SRB on an annual basis as part of Cal's annual Risk Management Report. The following data, as a minimum, will be included in this report.

- All smart pig data, per PG&E and B31.8S procedures.
- Number of USA tickets that occurred and were in conflict with the pipeline.
- Patrol reports.
- Bi-monthly pipe to soil potentials.
- Any incidences that were reported (leaks, 3rd party damage, etc.)
- Any pipe to soil readings that fell below code criterion, and actions taken to restore protection to code required levels.

Reynolds, James <PHMSA>

From: Finch, Thomas <RSPA>
Sent: Tuesday, February 08, 2005 3:52 PM
To: Huriaux, Richard <RSPA>; Gute, William
Cc: Hoidal, Chris <RSPA>; Reynolds, James <RSPA>; Wong, Zee Z.; Ajello, Julian E.; Acimis, Banu
Subject: PG&E's waiver that Chris would like to let you know about. the class location waiver protocol and

Mr. Huriaux:

Chris Hoidal wanted me to make you aware that you should have received this "Waiver of Compliance Approved by the California Public Utilities Commission". Chris is in concurrence with the California Public Utilities Commission and has no objections to the approval of this Waiver.

Sincerely,
Tom Finch
State Liaison
OPS Western Region
(720) 963-3160