

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

COMMISSIONER MICHEL PETER FLORIO,  
COMMISSIONER CATHERINE J.K. SANDOVAL,  
COMMISSIONER MARK J. FERRON and  
ADMINISTRATIVE LAW JUDGE MARIBETH A. BUSHEY,  
co-presiding.

) ORDER TO SHOW  
) CAUSE  
)  
)

Order Instituting Rulemaking on the )  
Commission's Own Motion to Adopt New )  
Safety and Reliability Regulations ) Rulemaking  
for Natural Gas Transmission and ) 11-02-019  
Distribution Pipelines and Related )  
Ratemaking Mechanisms. )  
)  
)

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PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2421

1 INDEX

2

WITNESSES: PAGE

3

MANLEY KIRK JOHNSON and SUMEET SINGH

4

Direct Examination By Mr. Malkin 2424

Examination By Commissioner Ferron 2471

5

Examination By Commissioner Sandoval 2481

Examination By Commissioner Florio 2498

6

7

8

9 Exhibits: Iden. Evid.

10 OSC-4 2513 2513

11

12

13

14

15

16

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18

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20  
21  
22  
23  
24  
25  
26  
27  
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PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2422

1           SAN FRANCISCO, CALIFORNIA  
2           06 SEPTEMBER 2013 - 1:37 P.M.  
3                   \* \* \* \* \*  
4           ADMINISTRATIVE LAW JUDGE BUSHEY: The  
5 Commission will come to order.  
6           This is the time and place set for  
7 the order to show cause hearing on the ruling  
8 of the assigned Commissioner and assigned  
9 Administrative Law Judge directing Pacific  
10 Gas and Electric Company to appear and show  
11 cause why all Commission Decisions  
12 authorizing increased operating pressures  
13 should not be stayed pending demonstration

14 that records are reliable.

15 Good afternoon. I'm Administrative  
16 Law Judge Maribeth Bushey, the assigned  
17 Administrative Law Judge assigned to this  
18 proceeding. Also presiding with me this  
19 afternoon are three Commissioners,  
20 Commissioner Ferron; the assigned  
21 Commissioner Florio; as well as Commissioner  
22 Sandoval.

23 Our order of the proceeding this  
24 afternoon will be to first check with the  
25 Commissioners to see if any of them have  
26 opening statements that they would like to  
27 make? No?

28 COMMISSIONER FLORIO: Just briefly.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2423

1 ALJ BUSHEY: Commissioner Florio?

2 COMMISSIONER FLORIO: Yes. I think one  
3 of the reasons we're here -- there are  
4 technical compliance issues and operational  
5 issues, but I think also there's a question  
6 of public confidence. And I think it's  
7 important for PG&E to present not just what

8 it did and what -- what it is doing going  
9 forward, but to the extent you think it's  
10 justified, try to restore the confidence of  
11 people who are a little bit shaken by this  
12 latest -- latest incident. So you know, what  
13 we're all concerned about is is the system  
14 safe and are there any other hidden surprises  
15 out there. So to the extent that you're able  
16 to address that, say little more broadly than  
17 just this specific case, I would certainly  
18 appreciate that.

19 ALJ BUSHEY: Thank you, Commissioner  
20 Florio.

21 Other Commissioners? No? All  
22 right.

23 Then we'll get right down to  
24 business. Mr. Malkin, would you like to call  
25 your first witnesses?

26 MR. MALKIN: Yes, your Honor. PG&E  
27 calls Kirk Johnson and Sumeet Singh.

28 ALJ BUSHEY: Put your things down.

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SAN FRANCISCO, CALIFORNIA

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2424

1 Both of you raise your right hand.

2           MANLEY KIRK JOHNSON and SUMEET  
SINGH, called as a witness by Pacific  
3           Gas and Electric Company, having been  
sworn, testified as follows:  
4

5           WITNESS SINGH: I do.

6           WITNESS JOHNSON: I do.

7           ALJ BUSHEY: Please be seated. State

8 your full name for the record. Spell your

9 last name.

10          WITNESS JOHNSON: My name is Manley

11 Kirk Johnson, J-o-h-n-s-o-n.

12          WITNESS SINGH: My name is Sumeet

13 Singh, S-i-n-g-h.

14          ALJ BUSHEY: Mr. Malkin, please

15 proceed.

16          MR. MALKIN: Thank you, your Honor.

17                   DIRECT EXAMINATION

18 BY MR. MALKIN:

19          Q Mr. Johnson, you submitted a

20 verified statement to the Commission last

21 Friday that sets out your present position,

22 but would you please describe your

23 responsibilities as Vice President, Gas

24 Transmission, Maintenance, and Construction?

25          WITNESS JOHNSON: A I am responsible

26 for all the construction and maintenance

27 activities associated with PG&E's gas

28 transmission lines, and I am also the lead

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2425

1 officer for PG&E's Pipeline Safety  
2 Enhancement Plan. That includes the  
3 engineering, project management, and  
4 construction of all the PSEP activities,  
5 including hydrostatic testing, pressure  
6 testing, valve automation, pipeline  
7 replacement, and making our lines piggable.

8 Q Mr. Singh, you did not submit a  
9 statement last Friday, so I'm going to ask  
10 you a few more questions about your  
11 background. Could you please describe for  
12 the Commission your educational and  
13 professional background?

14 WITNESS SINGH: A I have a bachelors  
15 of science in civil engineering from UC  
16 Berkeley. I'm a Registered Professional  
17 Engineer in the State of California. I also  
18 have my masters of business administration  
19 from UCLA.

20 In regards to my professional  
21 background, I've been employed with PG&E for  
22 a combined of 11 years, 9 of which has been  
23 with gas operations.

24 Q What is your current position with  
25 PG&E?

26 A My current position is I'm the  
27 Senior Director of Asset Knowledge Management  
28 in Gas Operations.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2426

1 Q How long have you held that  
2 position?

3 A A little over 18 months.

4 Q What was your position before that?

5 A Prior to this position, I was the  
6 Director of Engineering for our MAOP  
7 Validation Project.

8 Q And your current position as Senior  
9 Director Asset Knowledge Management and Gas  
10 Operations, what with your job  
11 responsibilities?

12 A My job responsibilities include  
13 overseeing our records verification and  
14 management programs, including the MAOP  
15 validation project, also our production  
16 mapping organization, who is responsible for  
17 updating our maps and our asset management



18 information systems, as well as deploying  
19 technology and tools in gas operations.  
20 Q Okay. Now that we've given a  
21 little background on the two of you, I want  
22 to turn to the substance. And as described  
23 by ALJ Bushey, the focus of today's hearing  
24 is -- and as Commissioner Florio said,  
25 reassuring the Commission and the public that  
26 PG&E's pipelines are safe and its records  
27 reliable so that the Commission doesn't feel  
28 that it needs to suspend the pressure

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2427

1 restoration orders that it has issued. And  
2 that's how I'm going to try to focus my  
3 questions.

4 So Mr. Johnson, I'd like to start  
5 with you. In the 2011 filing to restore the  
6 pressure on Lines 101, 132A, and 147, you  
7 certified that in your professional judgment,  
8 those lines were safe to operate at  
9 365 pounds. Do you remember that?

10 WITNESS JOHNSON: A Correct, I do.

11 Q Now today, knowing what you know

12 about the errors that we reported we found in  
13 the MAOP validation of Line 147 and Line 101,  
14 is that still your opinion?

15 A Yes, it is.

16 Q Can you tell us briefly why that is  
17 your opinion?

18 A Well, first and foremost, I base  
19 that judgment based on the very fact that  
20 every one of those pipeline segments that  
21 we're referring to both on Line 147, 132A,  
22 and Line 101 -- all of the segments of  
23 pipelines had been pressure tested or  
24 hydrostatically tested for all of those  
25 segments. So right there we have a  
26 significant margin of safety built in, and I  
27 think we all agree that that's the gold  
28 standard for checking the integrity of a

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2428

1 pipeline.

2 In addition we have an operating  
3 history of those pipelines that indicate they  
4 can certainly operate well above the  
5 365 pounds that we requested in that

6 particular proceeding. And in addition, we  
7 did review the MAOP validation records  
8 activities associated with those pipelines to  
9 ensure that they met our expectations. So in  
10 my mind, that pipeline -- the pipelines were  
11 operating safely then and continue to operate  
12 safely today.

13 Q Okay. Now, you mentioned in your  
14 answer the fact that have you pressure tests  
15 on all of these pipelines. I put up on the  
16 screen -- hopefully it's in front of  
17 everybody, and we handed out hard copies to  
18 the parties here.

19 First, what is up here now is a  
20 graph entitled, "Line 147, Segment 109 MAOP  
21 Analysis." And Segment 109 is one of those  
22 on which an error was found; is that right?

23 A That's correct.

24 Q Okay. Could you please describe  
25 what this graph shows and how it gives you  
26 confidence about the safety of this segment  
27 of pipe?

28 A Okay. First, let me articulate a

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SAN FRANCISCO, CALIFORNIA

1 couple of acronyms that we use a lot on the  
2 engineering side of the house for those that  
3 may not be intimately familiar with this  
4 work. I'll use the term MAOP on many  
5 occasions. That stands for Maximum Allowable  
6 Operating Pressure of the pipeline or the  
7 pipeline segment in this case. And also the  
8 term SMYS, or S-M-Y-S, is used extensively.  
9 That stands for Specified Minimum Yield  
10 Strength or the strength a piece of pipe has  
11 before it would start to deform or yield.

12 On this particular graph for  
13 Line -- for Segment 109, the chart -- the bar  
14 on the left is our MAOP per design. That is  
15 if we were to operate this segment of  
16 pipeline at a hundred percent SMYS or a  
17 hundred percent Specified Minimum Yield  
18 Strength, what the pressure would be. And I  
19 need to point out that this number, the  
20 660 pounds, is utilizing our current, very  
21 conservative assumptions that we have in  
22 place as part of our MAOP validation  
23 exercise.

24 Q Okay. Let me interrupt you there.

25 A Okay.

26 Q When you say, "using the current,  
27 very conservative assumptions," are you

28 saying that is after making the correction to

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2430

1 the prior assumption that was found to be  
2 erroneous?  
3 A That's correct. It is -- it is  
4 utilizing the information we have today after  
5 we've fixed that error, and it includes,  
6 again, very conservative assumptions based on  
7 analysis we've done as part of our MAOP. So  
8 the assumptions are very conservative  
9 compared to what we physically know may be  
10 there.

11 In this specific case, the  
12 calculation allows for 600 -- I'm sorry. In  
13 this particular case, the analysis allows for  
14 660 pounds if we're to operate at a hundred  
15 percent SMYS. The test pressure that this  
16 segment of pipe underwent, the lowest test  
17 pressure any segment of this pipe saw was  
18 607 pounds. That does not include the spike  
19 test that was also conducted on this  
20 pipeline. So the pressure test itself  
21 actually went to a much higher level than

22 what is showing here. But this is the lowest  
23 pressure of any segment at the highest level  
24 saw during the test.

25 If we utilized just the factor of  
26 1.5 for Class 3 location, the third bar shows  
27 that just utilizing the test pressure alone  
28 on a standalone basis, the operating pressure

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2431

1 for this pipeline could be 404 pounds. If we  
2 operated it only looking at the maximum  
3 allowable percentage SMYS, it can operate in  
4 a Class 3 location "one class out," that's  
5 60 percent. 60 percent of the 600 --  
6 60 percent of the 607 is -- excuse me -- of  
7 the 660 is 396 pounds.

8 And we are currently operating the  
9 pipeline at 330 pounds, which is 50 percent  
10 SMYS. So well below what we tested the  
11 pipeline at and well below the other criteria  
12 one might look at. At 365 pounds on the  
13 right, what this shows is the operating  
14 margin is at least 40 percent when compared  
15 to the original request of 365 pounds. And

16 again, that does not include the spike test  
17 that went into the pressure test itself.

18 Q When was this pressure test done?

19 A This pressure test was done in 2000  
20 -- this particular one was done in 2011.

21 There was a previous pressure test in its  
22 original installation in 1957.

23 Q The -- the next graph shows bars  
24 for Segment 103 on Line 147. Are these bars  
25 -- do they -- are they made up in the same  
26 way -- derived in the same way as you just  
27 described for Segment 109?

28 A Yes. It's essentially the same

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SAN FRANCISCO, CALIFORNIA

2432

1 information we have for Segment 109. And I  
2 just went through -- and again on the  
3 right-hand side, it shows the same safety  
4 factor -- or 40 percent safety factor  
5 comparing the hydrostatic test that occurred  
6 on this segment compared to the request we  
7 had originally of 365 pounds. And again, the  
8 612 pounds does not include the spike test  
9 that this segment also saw.

10 Q And then the next graph is for  
11 Segments 103.1 and 103.6 on Line 147 that are  
12 also discussed in your verified statement.  
13 What does this show in brief with respect to  
14 those segments?

15 A This is again the same information  
16 I shared on Segment 109, again showing on the  
17 right-hand side that if you compare our  
18 request of 365 pounds to what that segment --  
19 this segment saw during its hydrostatic test  
20 -- most recent hydrostatic test, there's a  
21 40 percent margin of safety if you don't take  
22 into consideration the additional spike test  
23 this segment also saw.

24 Q And last, there is a graph with  
25 respect to Line 101, Segment 167.2 that is  
26 also discussed in your verified statement.  
27 And what does this show?

28 A This -- this is a -- in essence the

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2433

1 same information that we saw on Segment 109.  
2 This is a slightly different issue, but  
3 again, the SMYS -- the request that we had of



4 365 pounds for this particular line and the  
5 level of the pressure test again showing the  
6 44 percent margin of safety between the two  
7 pressures. And this also shows both the MAOP  
8 of 396 if it is to operate "one class out."  
9 And what the MAOP of that line is if it  
10 operates within class if it were a new  
11 pipeline today of 330 pounds.

12 Q Now, from -- in your engineering  
13 judgment, does the data that you just  
14 discussed on these four slides with respect  
15 to the hydro tests on the pipe segments that  
16 the company reported to be erroneously  
17 included or to have erroneous information  
18 included in the October 31, 2011 pressure  
19 restoration filing -- does this information  
20 from an engineering standpoint lead you to a  
21 conclusion as to whether or not those errors  
22 raised a safety issue?

23 A Yeah, in my opinion those errors  
24 did not raise a safety issue. These  
25 pipelines saw the same pressure test  
26 regardless of that information, and the  
27 pressure test is what we ultimately rely on  
28 to show that our pipelines are safe.

1 Q Okay. And would it be fair to say  
2 that that engineering judgment is independent  
3 of whether the pipeline regulations would let  
4 you operate at the 365 level?

5 A Correct. We are -- I am looking at  
6 this from an engineering and safety  
7 perspective, and in my opinion it's safe to  
8 operate these pipelines given that we have  
9 this hydrostatic or pressure testing  
10 information.

11 Q In this morning's session, which  
12 you were not present for, there were  
13 questions raised as to whether the error with  
14 respect to Segments 103, 103.1, and 103.6 on  
15 Line 147 -- where the MAOP validation report  
16 incorrectly listed seamless pipe was the same  
17 type of error and raised the same issues as  
18 on Segment 180 of Line 132 where the accident  
19 took place. Is it the same?

20 A No, I don't believe they have  
21 anything in common. This particular pipeline  
22 has seen a hydrostatic test. It has seen one  
23 with a spike on top of it. So it's a current  
24 test at the highest pressures you're going to  
25 see, and it has been tested well in excess of

26 anything that is currently operating. So in  
27 my opinion, they're not similar in any way,  
28 shape, or form.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2435

1 Q All right. I want to change  
2 subjects now, Mr. Johnson, and ask you since  
3 the receipt of the order showing cause --  
4 order to show cause setting this hearing,  
5 have you done anything to assess the impact  
6 if any of the Commission immediately  
7 suspending all of the pressure restoration  
8 orders?

9 A Yes, I requested our Gas System  
10 Planning Group to go back and share with me  
11 what the implications to our system would be  
12 if we were to rescind all of those pressure  
13 increase orders.

14 Q And does this chart that's now up  
15 on the screen -- does that contain the  
16 results of the analysis done by system  
17 planning?

18 A It does. This is -- this is the  
19 chart that they responded to my request with.

20 Q Okay. And can you just briefly  
21 tell us what this chart shows about the  
22 potential impact on the system of the  
23 Commission immediately suspending the  
24 pressure restoration orders?

25 A So this is -- this is the analysis  
26 of what would happen if we were to reduce the  
27 pressure on Line 101, Line 147, line 132A,  
28 Line 131 and the toll all of the pressure

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2436

1 restoration requests that PG&E has submitted.  
2 If you move from left to right -- well, let  
3 me first start with the system. The system  
4 is -- there's four systems impacted by this  
5 activity. The first one is the San Francisco  
6 Peninsula, that's essentially everything  
7 north of Milpitas as we move towards San  
8 Francisco. The San Jose, Morgan Hill area is  
9 obviously south of Milpitas and to the west.  
10 The East Bay incorporates everything going up  
11 the East Bay section from Milpitas up to the  
12 area of Oakland. And then the central coast  
13 is down through the Santa Cruz area.

14 On a typical winter day, as you can  
15 see by all the green boxes, everything would  
16 continue to operate normally. We would be  
17 able to meet the needs of all of our core and  
18 noncore customers. The same holds true if we  
19 just see a typical winter day -- a cold  
20 winter day as we call it, which happens  
21 approximately every one in two years. So we  
22 would be able to meet all our core and  
23 noncore customer needs also in all those  
24 three areas -- all those four geographical  
25 areas.

26 As we get colder, as we start to  
27 get toward what we call an abnormal peak day,  
28 a one in 90 year event and one in 10 year

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2437

1 event, which is somewhat the mid point  
2 between a cold winter day and abnormal peak  
3 day, we start to see the same type of impacts  
4 to our core and noncore customers that we  
5 discussed when we first started requesting  
6 these -- the ability to raise the pressure on  
7 our pipelines.

8           Specifically to the Peninsula, with  
9 all of these pressure reductions, we have  
10 core curtailments to the city of San  
11 Francisco. This situation hasn't changed in  
12 the last three years. We have 100 percent  
13 curtailment to all of our Peninsula noncore  
14 customers. That includes all the schools  
15 that are noncore, the hospitals, some of our  
16 large steam plants that produce steam for  
17 heat in the area, and about 240 megawatts of  
18 power generation or co-generation facilities  
19 up and down the San Francisco Peninsula also.  
20 It's a significant concern for obviously the  
21 Peninsula area.

22           For the other geographical  
23 territories, it shows that the -- of the  
24 noncore customers in those regions, they  
25 would be required to curtail 50 percent of  
26 their gas usage or reduce 50 percent of their  
27 gas usage during this time period. And below  
28 that it indicates how many megawatts of power

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2438

1 would be impacted by such an order.

2 I just want to caveat that with the  
3 note at the bottom that obviously before we  
4 take these actions, we work with the ISO and  
5 make sure what would happen and how we would  
6 cycle those. But it's a pretty significant  
7 event if we got past a cold winter day should  
8 we rescind or suspend all of these pressure  
9 restoration orders. And quite frankly, all  
10 of these pipelines have been pressure tested  
11 as we stated earlier. And in my opinion,  
12 there is no need for any of these -- any of  
13 these orders to be suspended.

14 Q Last couple of questions for now at  
15 least from me, Mr. Johnson. From your  
16 perspective as Vice President Gas  
17 Transmission, Maintenance, and Construction,  
18 are PG&E's gas transmission records reliable?

19 A Yes. As I sit here today, I have a  
20 system that is available to me that covers  
21 all 6,750 miles of PG&E's gas transmission  
22 system for which I can find records to  
23 validate any segment of the pipeline in the  
24 system, and they have proven to be strong. I  
25 believe they are some of the strongest  
26 records we would find in the business.

27 Q Mr. Singh, please take the  
28 microphone. As disclosed in the July

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2439

1 submission, which in this morning's session  
2 was marked as OSC Exhibit 1 and discussed in  
3 Mr. Johnson's verified statement that we  
4 filed last Friday, PG&E identified errors in  
5 the MAOP validation to four segments of like  
6 147. You were in charge of the MAOP  
7 Validation Project at that time, correct?

8 WITNESS SINGH: A That is correct.

9 Q Is it fair to say this happened on  
10 your watch?

11 A It did.

12 Q Now, before we talk specifically  
13 about these errors, I'd like to make sure  
14 that we all have kind of an overall  
15 understanding of PG&E's MAOP validation  
16 effort. So would you please give us a brief  
17 overview of that effort from the beginning to  
18 today? And I'm going to put up here a  
19 diagram, I'll call it, that may help to help  
20 you discuss that topic and illustrate what  
21 was done.

22 A Well, I'd be happy to do that, Joe.

23 So we're going to start with left



24 to right, and we'll cover the bottom part of  
25 the chart and then we'll move to the top part  
26 of the chart. The MAOP Validation Project  
27 was initiated as a result the NTSB  
28 recommendations that PG&E received beginning

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2440

1 of January of 2011. It shortly became a CPUC  
2 directive. And the NTSB recommendations and  
3 the directive stated for PG&E to aggressively  
4 and diligently search for as-built records,  
5 which includes design drawings, material  
6 specifications, testing records, and other  
7 construction-related records to validate the  
8 MAOP of pipeline in HCAs or High Consequence  
9 Areas, defined as any pipeline in Class 3 and  
10 4 or High Consequence Area in Class 1 and 2  
11 without prior hydrostatic strength tests.

12 Those were the NTSB recommendations  
13 and the CPUC directive at the time of the  
14 beginning of January of 2011. From that  
15 point in time, PG&E embarked on aggressively  
16 and diligently following that order, which  
17 included first identifying and obtaining the

18 actual strength test records for the  
19 pipelines in the High Consequence Areas,  
20 traceable, verifiable, and complete strength  
21 test records as stated in the NTSB  
22 recommendation. That effort lasted from  
23 January through March of 2011. And on  
24 March 15th, 2011, PG&E made a filing to the  
25 CPUC.

26 And the reason why we embarked on  
27 first identifying our strength test records  
28 is because in order to comply with the NTSB

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2441

1 recommendation of doing MAOP validation for  
2 where we did not have a hydrostatic test, we  
3 first needed to know where did we have  
4 hydrostatic test in order answer with the  
5 traceable, verifiable, and complete records.  
6 In March, we also made a supplemental filing  
7 on the 21st of 2011, which included the MAOP  
8 validation methodology that PG&E was going to  
9 follow for meeting the requirements of the  
10 CPUC directive and the NTSB recommendation.  
11 At that point in time, we also established a

12 compliance plan with CPSD then, Safety and  
13 Enforcement Division now as part of this  
14 process.

15 Q What was the compliance plan just  
16 to be clear?

17 A The compliance plan covered the  
18 CPUC directive that was issued the beginning  
19 of January of 2011, which was in accordance  
20 with the NTSB recommendation, which I cited  
21 earlier the description of.

22 At that point in time, PG&E  
23 embarked on reviewing all of the material  
24 specifications associated with construction  
25 records, material specifications using an  
26 interim safety measure of MAOP validation  
27 based on design specifications to identify if  
28 we were commensurate and operating the

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2442

1 pipelines commensurate in accordance with the  
2 existing MAOPs.

3 This effort was not a substitute  
4 for strength test records or doing a strength  
5 test. We completed that commitment in August

6 of 2011. And beyond August of 2011, we  
7 continued to validate the MAOP for the rest  
8 of our system. And between August of 2011  
9 and January of 2012, we completed the MAOP  
10 validation of all HCA pipelines, which  
11 included the pipelines where we had prior  
12 strength test records and which was above and  
13 beyond the scope of the initial NTSB  
14 recommendations.

15 Starting in January of 2011 or  
16 2012, we continued the validation effort for  
17 all of our non-HCA pipelines, which continued  
18 through April of 2013. And what I'd like to  
19 explain there is why you see the graph go  
20 back down to zero is because as we did the  
21 MAOP validation for our HCA segments during  
22 the first year in 2011, the validation was  
23 done on a segment-by-segment basis. And  
24 these segments are noncontinuous segments  
25 across our entire 6,750-mile system.

26 As part of our non-HCA effort, we  
27 not only did the non-HCA segments, we went  
28 back and did the HCA segments because the

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

1 most efficient way to do the MAOP validation  
2 is from a pressure-limiting station to a  
3 pressure-limiting station. An example would  
4 be from Line 101 Milpitas Terminal to the  
5 Lomita Park Station. This also allowed us to  
6 leverage the learnings from the first year of  
7 our MAOP validation process. This was a  
8 continuous improvement and a continuous  
9 enhancements that were being made as part of  
10 this overall process.

11         The process as we've looked and  
12 discussed with other operators was an  
13 unprecedented effort, unique in its nature.  
14 We did not have the luxury to go to another  
15 operator and leverage a process that they  
16 already have in place. However, what we did  
17 not do as part of the February 2012 to  
18 April 2013 timeframe is go back and redo Line  
19 101, 132A, and Line 147 because at the time,  
20 we had completed those validations from  
21 pressure-limiting station to  
22 pressure-limiting station. That's the bottom  
23 part of the graph as well as the lines that  
24 you see on the charts which correlate to the  
25 mileage of HCA and non-HCAs.

26         Next, I'd like to move to the top  
27 part of the chart. And before I get into the

28 acronym of QA, I want to take a step back and

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2444

1 define QC, which stands for quality control,  
2 versus QA, which is quality assurance, and  
3 how PG&E applied both of those elements as  
4 part of this process. What you don't see on  
5 this chart, which we'll get to in subsequent  
6 slides is quality control. Quality control  
7 is embedded within the process, and we'll see  
8 a graphic of that in the next several slides.  
9 And the objective of quality control is to  
10 ensure that it's meeting the overall  
11 objectives that have been outlined by this  
12 respective process. ]

13 And that objective was to meet and  
14 to speak recommendation with the methodology  
15 that we submitted to the Commission  
16 March 21st of 2011 and applied that same  
17 methodology for our entire system.

18 Quality assurance has been used.  
19 And how we've applied it here is to ensure  
20 that the quality control elements that are  
21 embedded within the process are effective and

22 are rendering the desired results of the  
23 process. Quality assurance is performed by  
24 an independent audit firm throughout the  
25 duration of this project.

26 However, the quality assurance  
27 evolved over time both in breadth as well as  
28 depth as the process evolved. It was quality

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2445

1 assurance as part of the initial strength  
2 test record research work that was done. It  
3 was quality assurance implemented as part of  
4 the subsequent MAOP validation work that was  
5 done in various aspects of our process.

6 And we did have and continued  
7 spirit of process improvements continuous  
8 enhancements to introduce additional quality  
9 assurance over the course of this project.  
10 We'll touch on those again in the next  
11 several slides.

12 Q Just to make one thing crystal  
13 clear, from this graphic, the dashed line  
14 roughly in the middle of the timeline -- what  
15 does that represent?

16 A That represents the date that we  
17 submitted the pressure restoration filing for  
18 Line 101. And it should state 132A -- not  
19 132 -- and Line 147.

20 Q Would it be correct to say, then,  
21 that the MAOP validation for those three  
22 pipelines was done by your team prior to the  
23 time of the filing?

24 A That is correct.

25 Q How, if at all, does the MAOP  
26 validation process deal with additional  
27 information that may, for example, come from  
28 hydrotesting or other pipeline excavations?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2446

1 A So MAOP validation is not a  
2 one-time method. It's not a "one and done."  
3 This is the baseline. And it's a system and  
4 a process that we implement.

5 What does that mean in the case of  
6 the question that you posed is as new  
7 information comes in through field  
8 excavations because every time we open up a  
9 pipe either to do strength test or for some



10 other operational purposes, we have an  
11 opportunity to obtain knowledge about our  
12 assets. That's exactly what happened on  
13 Line 147.

14 We identified a discrepancy. The  
15 discrepancy was communicated to the  
16 appropriate subject matter experts. It  
17 wasn't a blind eye that was taken to it that  
18 this is maybe an anomaly. Went back and  
19 rereviewed the entire line, Line 147.  
20 Further expanded that to Line 101, 132A, 131,  
21 Line 300A section side. So all pressure  
22 restoration lines. And it's a continuous  
23 system that we have implemented of find it  
24 and fix it because when it comes to safety,  
25 our work is never done.

26 Q The order to show cause suggests  
27 that finding the error in the MAOP validation  
28 record for Segment 109 on Line 147 was

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2447

1 fortuitous.

2 Do you agree with that

3 characterization?

4 A I do not agree with that

5 characterization.

6 Q Why is that?

7 A If you actually go to the next

8 slide -- before you go to the next slide --

9 Q Are you trying to get ahead of me?

10 A The reason why it's not

11 fortuitous --

12 Q Fortuitous.

13 A -- thank you -- is because of the

14 concept that I was just explaining. It's

15 part of a safety management system. Finding

16 it and fixing it.

17 We had a delineation or an

18 assessment that was made by an engineer as

19 part of the MAOP validation process, which

20 was included in our records as part of our

21 leak survey process, which is our normal

22 ongoing process for operations and

23 maintenance. We identified a leak. Took

24 action to repair that leak.

25 As part of that leak repair

26 process, engineer identified that there was a

27 discrepancy between what was in the record

28 versus what's in the field. Flagged it.

1 Communicated it to the appropriate subject  
2 matter experts.

3 And that information was then used  
4 to identify is that an insular issue? Or do  
5 we have additional issues on that same  
6 segment or same section of the pipeline,  
7 entire pipeline, Line 147?

8 And as a result of that rereview  
9 and that additional diligence, we identified  
10 additional segments that did not -- based on  
11 what was in the field versus what was in the  
12 records, did not match. And those are  
13 segments that Mr. Johnson earlier alluded --  
14 Segment 103, 103.1, 103.6.

15 Q Would you say that this is an  
16 indication of a process working or a  
17 breakdown?

18 A I would say that this is how the  
19 process works. And that's how we know we  
20 have made changes within the company. It's a  
21 model of find it and fix it. And we're going  
22 to continue to find it and fix it.

23 Q You mentioned earlier the March  
24 submission that the company made. I believe  
25 it was on March 21st of the MAOP validation

26 process it planned to follow. In Decision  
27 11-06-017, decision determining Maximum  
28 Allowable Operating Pressure methodology and

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2449

1 requiring filing of natural gas transmission  
2 pipeline replacement for testing  
3 implementation plans, the Commission ordered  
4 PG&E to proceed with that.

5 And in Finding of Fact 4, the  
6 Commission said -- and I quote -- "MAOP  
7 determined by component calculation is useful  
8 for prioritizing segments for interim  
9 pressure reductions and replacement or  
10 pressure testing. But MAOP determined in  
11 this manner is not reliable enough for  
12 permanent pipeline operations."

13 Do you agree with that statement?

14 A I do agree with that statement.

15 Q And is that how PG&E has used the  
16 MAOP validation?

17 A That is exactly how PG&E has used  
18 the MAOP validation process. And as a result  
19 of the MAOP validation process, we identified

20 over 200 different instances that resulted in  
21 a pressure reduction and were subject to a  
22 pressure reduction. That correlates to  
23 approximately 500 miles of our system, which  
24 is made up of 6,750 miles. It's about seven  
25 percent of the system.

26 Q Okay. Now, I want to transition to  
27 talk about the errors not so much to dig down  
28 into the weeds on those errors, but so that

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2450

1 the Commission will understand them in  
2 context and in the context of what degree of  
3 confidence they should have in the overall  
4 MAOP validation effort and the company's  
5 records.

6 First of all, let me ask you we  
7 have errors in four segments on Line 147.  
8 Was all of that MAOP validation work done by  
9 a single engineer? Or were these multiple  
10 engineers?

11 A It was all done by single engineer  
12 at that same point in time following same  
13 process.

14 Q So now let's turn to the  
15 Segment 109 error. And we put up here a  
16 diagram entitled "MAOP Validation Process,  
17 Line 147, Segment 109 Engineering Analysis."  
18 The first question I'd like to ask you before  
19 you walk through this is in the top left  
20 upper left portion, it says October 2011  
21 process.

22 What does that signify?

23 A What this signifies this is the  
24 process for engineering analysis that was  
25 followed during the time of the pressure  
26 restoration filing. And that's evolved over  
27 time as we'll see when we get to  
28 December 2011.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2451

1 Q Okay. With that explanation, would  
2 you please describe for us what this I'll  
3 call it flow diagram shows both about the  
4 MAOP validation process and the errors that  
5 were made with respect to Segment 109.

6 A So before I walk into this detail,  
7 let me just take a quick step back and

8 discuss at a high level four phases or four  
9 major steps in the MAOP validation process.  
10 First step starts with records collection.  
11 Second step is what we call a pipeline  
12 features list abbreviated as PFL. And what  
13 that is is reviewing all of the records in  
14 detail that are available as part of the  
15 as-built records for that respective  
16 pipeline, transposing each of those features  
17 into a spreadsheet.

18 An example of a feature is a pipe,  
19 a valve, a bend, all of the respective  
20 components of a pipeline including the  
21 associated materials specifications as well  
22 as the strength test information that ties  
23 back to an actual strength test record.  
24 There are no assumptions made as part of that  
25 pipeline features list built process.

26 The next step to the third step of  
27 the process includes engineering analysis.  
28 And that's what I want to walk through here.

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SAN FRANCISCO, CALIFORNIA

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2452

1 And the fourth and final step which is

2 actually shown up there is after we go  
3 through the engineering analysis, it goes  
4 through MAOP validation.

5         With that framework and that  
6 context, let's do a deep dive into the  
7 engineering analysis process. So starting  
8 from the left, if there are any  
9 specifications that are unknown as part of  
10 the records process is the first question  
11 that the engineer in this step asks. If the  
12 specifications are known based on the  
13 records, go through and do the MAOP  
14 validation.

15         If the specifications are unknown,  
16 next question engineer asks is was this  
17 pipeline acquired from another operator? Or  
18 was it a pipeline that PG&E engineered and  
19 procured and provided the oversight for  
20 construction?

21         If the answer is pipeline was  
22 acquired, the assumptions that are used are  
23 in accordance with the federal code or those  
24 that are minimum values based on the  
25 manufacturing information for this specific  
26 industry.

27         However, if the pipeline was  
28 engineered by PG&E, then move on to the next



PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2453

1 step in the process. And it's at this point  
2 an engineer asks do they have any information  
3 about that pipeline? If they don't have any  
4 information, they go back to the federal code  
5 assumptions.

6       However, if the engineer does have  
7 information regarding the installation here,  
8 the outer diameter, examples of some  
9 specifications that we typically found on  
10 most of our records. The engineer proceeded  
11 to use our conservative engineering standards  
12 which are based on a historic material  
13 specifications as outlined in our March 21st,  
14 2011, filings.

15       The engineer also looks at related  
16 job documents. So the documents associated  
17 with the pipeline features list. They also  
18 look at and use their engineering and  
19 construction knowledge and rely on field  
20 excavation results, if they're available or  
21 called for a field excavation as part of the  
22 process.

23       So the engineer makes the

24 assessment, goes through a peer engineer  
25 review. The engineering QC then moves on to  
26 the MAOP validation process.

27 In the case of Segment 109, a  
28 couple of things happened. First, the

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SAN FRANCISCO, CALIFORNIA

2454

1 engineer assumed a value of joint efficiency  
2 of 1.0. And reason why this happened is they  
3 incorrectly applied the conservative  
4 engineering assumption standard which states  
5 0.8. Had that been appropriately applied,  
6 the value the engineer would have used here  
7 was 0.8 instead of 1.0.

8 In addition to that, the engineer  
9 failed to identify that this was an  
10 assumption. So as part of the subsequent  
11 review process had that taken place, that  
12 would have been a flag for the reviewer.

13 Third thing that happened here is  
14 the peer engineer review and the engineering  
15 QC review -- we were not able to identify any  
16 documentation that those two steps occurred  
17 as part of this process.

18 Q Okay. You used a couple of terms  
19 in there that I want to make sure everybody  
20 is clear about. The first one you used was  
21 joint efficiency factor. And some of us know  
22 from prior proceedings what that means, but  
23 not everybody.

24 Could you briefly explain what that  
25 is?

26 A The joint efficiency factor is  
27 based on the seam type of the pipeline. And  
28 it correlates to the strength of the long

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SAN FRANCISCO, CALIFORNIA

2455

1 seam weld of the pipe.

2 Q And what does a joint efficiency  
3 factor of 1.0 signify?

4 A It signifies that the long seam  
5 weld is as strong, if not stronger, than the  
6 base parent metal.

7 Q Does that mean then that a 0.8  
8 would indicate that the seam is assumed to be  
9 less strong than the base metal of the pipe?

10 A That is correct.

11 Q And how is that joint efficiency

12 factor used in determining the MAOP of a  
13 particular portion of pipe?

14 A It's used as an input in the MAOP  
15 of design or what's also known as the bar  
16 load equation, which shows up in Section  
17 192.105 of the federal code.

18 Q So applying that mathematically, if  
19 I use a 0.8, I would come up with a lower  
20 MAOP than if I used a 1.0; is that right?

21 A That is correct.

22 Q Now, you also refer to in this  
23 diagram has a blue box entitled MAOP  
24 validation. What does that stand for in your  
25 process steps? What does that do?

26 A That step of the process looks at  
27 three values of the MAOP: the MAOP of  
28 record, which is what is the MAOP that the

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SAN FRANCISCO, CALIFORNIA

2456

1 pipeline is currently operating at; the MAOP  
2 of the design, which I referenced to earlier;  
3 and MAOP established based on a strength  
4 test. I believe Mr. Johnson already covered  
5 that issue.

6 Q When you refer to the MAOP of  
7 design, is that calculated as a result of the  
8 MAOP validation process engineering analysis?

9 A That is correct. The data for that  
10 equation comes from as an input from the  
11 engineering analysis process.

12 Q Now, you said that the MAOP  
13 validation looks at these three values.

14 What does it do with them?

15 A As part of this process, it  
16 compares the MAOP of design to the MAOP of  
17 record. And if the MAOP of design is lower,  
18 then we take corrective action including  
19 pressure reductions or going out and doing  
20 field excavations to validate the actual  
21 specifications of the pipe.

22 Also, in this step of the process,  
23 we compare the MAOP established by the test  
24 to the MAOP of the record to ensure the MAOP  
25 of the test is also greater than the MAOP of  
26 the record.

27 Q Would it be accurate to say that  
28 the MAOP that you use at the end is the

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SAN FRANCISCO, CALIFORNIA

1 lowest of these three values?

2 A That is correct.

3 Q Have you now explained the error

4 that was made on Segment 109?

5 A Yes, I have.

6 Q Let's turn then to talk about the

7 error that was made with respect to Segments

8 101, 1 -- excuse me -- 103, 103.1, and 103.6.

9 Would you please explain that with

10 reference to the diagram that is now up on

11 the screen?

12 A So this is the same process that we

13 talked about before. So I'll focus your

14 attention on the items that are highlighted

15 in red on the right-hand side of that flow

16 diagram.

17 In this instance, the engineer had

18 a purchase record or purchase order for these

19 specific segments which identified the pipe

20 that was purchased as part of this

21 installation job was seamless. And seamless

22 gets a joint efficiency factor of 1.0 in the

23 code as well.

24 There was another document which we

25 call a transmission plat. And it's

26 referenced as a secondary source of a

27 document. And why we reference it as a

28 secondary source is because it's not the

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SAN FRANCISCO, CALIFORNIA

2458

1 original as-builts. And we did not have the  
2 original as-builts for these segments of the  
3 pipe. The transmission plat is a secondary  
4 source where over time a mapping organization  
5 has referenced the as-builts and transposed  
6 them into what we call transmission plats.

7       And what the transmission plats  
8 showed was a designation of seamless and, on  
9 certain sections, a designation of VW, stands  
10 for butler. The engineer identifies this at  
11 that point in time, used the information as  
12 an input, and proceeded to use the purchase  
13 order that's more of primary source of the  
14 document in this case and used a joint  
15 efficiency factor of 1.0 and designated that  
16 specific section of pipe to be seamless.

17       Q Now, what should the engineer have  
18 done in the face of having two records that  
19 had inconsistent definition?

20       A The engineer should have used the  
21 lower of the value and used a value of 0.8.

22 Engineer recognizes this and made a comment  
23 as part of the analysis that the strength  
24 test to be done in October of 2011 will  
25 validate the integrity of the seam.  
26 Q And was that comment and judgment  
27 consistent with the procedures that the  
28 engineer should have followed under the MAOP

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2459

1 validation process?  
2 A Any time in the process there were  
3 conflicts, records, or unknowns, the process  
4 required the engineer to identify the basis  
5 of the information. That's exactly what the  
6 engineer annotated as part of this. And the  
7 engineer also annotated that they used the  
8 purchase order for the respective joint  
9 efficiency.  
10 Q I thought you said earlier that the  
11 process required in the face of conflicting  
12 information in the records to use the lower  
13 value. Did I misunderstand that?  
14 A No. That is correct. You should  
15 have used 0.08. However, the engineer



16 provided justification for what they believed  
17 to be the appropriate information in their  
18 judgment, the incorrect judgment.

19 Q You said incorrect?

20 A Incorrect judgment.

21 Q So it was an error --

22 A That is correct.

23 Q -- made by the same engineer who  
24 made the error on Segment 109?

25 A That is correct.

26 Q Now, you also indicated that the  
27 peer engineer review in engineering QC steps  
28 have errors here.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2460

1 What was the nature of those?

2 A This is same exact issue as the  
3 prior segments because these weren't  
4 processed as separate segments. So think  
5 about Line 1473.8 miles as a spreadsheet --  
6 Excel spreadsheet which has -- each of its  
7 rows has a pipe feature and it included all  
8 of the segments on Line 147. And that's what  
9 the engineer was assigned to do. And it

10 followed the same exact process.

11 Q Now, we already talked before the  
12 fact that the MAOP validation work for  
13 Line 147 where these errors occurred was done  
14 prior to the end of October 2011.

15 At any time after October of 2011,  
16 did you make any changes in the MAOP  
17 validation process?

18 A Yes, we did.

19 Q I'm putting up another graphic that  
20 shows the same workflow and has some  
21 additional boxes rectangle and oval, I think  
22 that's called, which to my eye appears to be  
23 a light blue.

24 Using this diagram, can you  
25 explain -- well, actually, before I ask that,  
26 the heading at the top here where it ]  
27 previously said October 2011 Process, here it  
28 says Enhanced Process-December 2011. What

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2461

1 does that mean?

2 WITNESS SINGH: A So what that means  
3 is, drawing back on my prior to statement, as

4 part of this process, did not just set up  
5 the process and walk away from it. We  
6 implemented the process, we implemented  
7 quality control, quality assurance so that we  
8 can continuously understand where we can  
9 continue to enhance our processes, where do  
10 we have the potential for human error  
11 entering into the process because the reality  
12 of the situation is we had humans who did  
13 this work. And human error cannot be  
14 eliminated but it can be managed and  
15 controlled. And that's the ledge that we  
16 approached the MAOP validation process from.  
17 We brought in process experts. Some of you  
18 know the Lean Six Sigma methodology.  
19 Bringing in folks that look at processes,  
20 identify where do we have controls,  
21 the desired output, how effective are  
22 the controls, and how can we continue to  
23 enhance the process.  
24       And that's what this shows here is  
25 in December 2011, we identified  
26 the engineering analysis step in the process  
27 as an opportunity for us to further implement  
28 greater controls and rigor and

1 standardization in this step of the process.

2 Q And before we get to that step,  
3 Mr. Singh, let me ask you a question that  
4 somebody's going to ask you which is, this  
5 enhanced process you implemented in December  
6 of 2011, that's only two months after  
7 the completion of the Line 147 MAOP  
8 validation. Is there any causal connection  
9 between the 147 analysis and the errors that  
10 we know today exist and your implementation  
11 of that enhanced process in 2000 -- in  
12 December?

13 A No. It was agnostic of that  
14 because the errors weren't identified until  
15 October, November time frame of 2012.

16 Q So now that we're clear on that,  
17 could you please go ahead and explain what  
18 enhancements you made in December 2011 to  
19 the engineering analysis portion of the MAOP  
20 validation process.

21 A We made several enhancements. We  
22 implemented a automated assumptions tool so  
23 when this allowed engineers to do is instead  
24 of going to our book of conservative  
25 engineering standards, use the automated tool

26 to identify what is the conservative  
27 assumption for that respective unknown  
28 specification. And this tool, instead of

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2463

1 becoming just a toolkit for the engineer to  
2 solve the unknown, it was required to be  
3 mandatory as part of this step of  
4 the process.

5 In addition to that, we implemented  
6 a second tool which we call our engineering  
7 data validation tool. What this tool does is  
8 it looks at business validation rules and  
9 identifies do we have any anomalies in our  
10 data set, an example being do we have  
11 pipelines greater than a certain diameter  
12 that are seamless, in addition to other  
13 validation checks which we know from an  
14 industry manufacturing standpoint never  
15 existed. These are the types of tools that  
16 were -- the two tools that were mandatory as  
17 part of this step of the process.

18 In addition to that, we implemented  
19 and expanded the role of our independent

20 audit team to also begin and initiate a QA  
21 process within the engineering analysis phase  
22 not only to ensure that the tools were  
23 implemented but also to ensure that each of  
24 these steps from a QC standpoint were  
25 implemented in terms of peer engineer review  
26 and engineering QC.

27 Q Let me ask you a few follow-up  
28 questions on that.

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SAN FRANCISCO, CALIFORNIA

2464

1 First of all, am I correct that it  
2 was as of December 2011, the use of these two  
3 tools that are -- that you described and that  
4 are identified in the blue rectangle on this  
5 flow diagram went into effect, that became  
6 mandatory December of 2011?

7 A Correct.

8 Q Now, I want to make sure that we  
9 all understand what the automated assumption  
10 tool does.

11 So Mr. Johnson's verified statement  
12 describes that on Segment 109, the part of  
13 the pipeline features list that was pulled

14 off of the existing documents identified it  
15 as unknown greater than four inch. Do you  
16 remember that?

17 A I do.

18 Q And so if this automated -- if this  
19 process that went in in December 2011 had  
20 been run against the pipeline features list  
21 for Line 147, what would it have shown with  
22 respect to the joint efficiency factor for  
23 that Segment 109?

24 A It would have showed a value of .8  
25 and also flagged the engineer that the  
26 assumption that the engineer made was  
27 inappropriate and not in accordance with our  
28 conservative engineering standard.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

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2465

1 Q So when you say this is an  
2 automated tool, it's not altogether clear to  
3 a layperson what that means. Can you  
4 elaborate a little bit more on what you mean  
5 by automated. And you've just given us an  
6 example of what it would do, how it does  
7 that.

8 A Sure. I'll give you a before  
9 automation and a after automation example  
10 just so that keep it in reference.  
11 Before the automation tool,  
12 the engineer is required to review our  
13 conservative engineering standard which we  
14 call pipeline resolution of unknown features.  
15 It's a 40 to 50 page document which includes  
16 the compilation of our historical procurement  
17 practices and material specifications. In  
18 this scenario, the engineer would have  
19 identified the outside diameter from that  
20 pipe when was it installed, go to  
21 the standard and identify based on  
22 the appropriate table that's referenced in  
23 the standard of what value should be used.  
24 That showed .8.  
25 What the automated tool does is it  
26 takes that logic that I just walked through  
27 and automates that so that all the engineer  
28 has to do is click a button in Excel and it

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2466

1 automatically uses that logic and populates



2 that value in accordance with our standards.

3 Q Would it be accurate to say then  
4 the automated tool eliminates the possibility  
5 of an engineer going to the paper document  
6 that had all those conservative assumptions  
7 and landing on the wrong value?

8 A That is correct.

9 Q All right. Now, the last piece of  
10 the enhanced process that you described for  
11 December 2011 was adding the quality  
12 assurance at the engineering analysis stage.  
13 Did that QA process at that stage provide you  
14 with any indication of the accuracy of  
15 the engineering analyses that were being  
16 done?

17 A Yes, it did. And the engineering  
18 analysis QA wasn't done after the project was  
19 completed. It was done on a weekly basis  
20 based on the population of the features list  
21 completed during that week using  
22 a statistically valid sample to identify  
23 the accuracy results. And what that shows is  
24 a overall error rate of less than 1 percent,  
25 which was .9 percent, for all of the pipeline  
26 features list that were reviewed as part of  
27 this process. And what was reviewed as part  
28 of this process applying what you see here,

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2467

1 which I've covered in my first slide, is when  
2 we went back and did the non-HCA sections, we  
3 also redid the HCA sections following this  
4 process with these controls in place. So  
5 the number that I just mentioned to you  
6 includes and encompasses the HCA and  
7 the non-HCA.

8 Q Now you told us earlier that when  
9 you did that revalidation, if I may call it  
10 that, of the HCA pipelines as part of  
11 completing the non-HCA starting in January  
12 of 2012, you didn't do it for the pressure  
13 restoration pipelines. Have you since done  
14 anything to revalidate the MAOP validation of  
15 Lines 101, 132A and 147?

16 A Yes, we have. We have not only  
17 gone back and applied these tools as a result  
18 of the issue identified back in  
19 October-November of 2012, we have also gone  
20 back and rereviewed all of the records  
21 associated with those three pipelines. And  
22 that rereview effort is what identified  
23 the additional issues on 103, 103.1 and 103.6

24 segments from Line 147. In addition to that,  
25 we've also done a similar process for  
26 Line 131, Line 300A suction side, and we're  
27 going back and rereviewing our entire data  
28 set again, which initially has already gone

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2468

1 through this process but going back and  
2 reapplying the automated assumptions tools  
3 for the entire 6750 miles, also going back  
4 and reapplying the engineering data  
5 validation tool.

6 Q Focusing just on the pressure  
7 restoration pipelines -- so Line 101, Line  
8 132A, Line 147, Line 131, the Topock  
9 compressor station -- did that rereview  
10 identify any specification changes other than  
11 the ones that have been reported as errors  
12 here that caused the MAOP of any single  
13 feature or segment of any of those pipelines  
14 to decrease?

15 A No, it did not.

16 Q Now at the beginning of your  
17 testimony, Mr. Singh, I kind of put you on

18 the spot by saying these errors occurred on  
19 your watch. And that kind of seems harsh,  
20 but I wanted to underscore you're the man  
21 who's responsible for this process. And so  
22 I want to ask you now that we've gone through  
23 all this, based on everything you know about  
24 the MAOP validation including the errors that  
25 we've identified and the current state of  
26 PG&E's records, do you have an opinion as to  
27 whether or not the company's gas transmission  
28 records are reliable?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2469

1 A Yes they are, in my opinion.  
2 Q And why is that your opinion?  
3 A First, in excruciating detail we  
4 have reviewed more than 3.8 million documents  
5 associated with 6,750 miles. That correlates  
6 to half a million, more than half a million  
7 pipeline components, several million MAOP  
8 specifications to identify traceable and  
9 verifiable records using a process that has  
10 layers of review, including an independent  
11 audit firm that's done the quality assurance.

12 And not only that, we have  
13 implemented a change in the culture, in my  
14 opinion, which consists of find it and fix  
15 it. And that's exactly how this came about.  
16 It identified the issue in 147, identified  
17 what are the associated implications to those  
18 specific lines to the rest of the system.  
19 And we're going to continue to do that. And  
20 we're also going to continue to be open and  
21 transparent.

22 MR. MALKIN: Thank you.

23 That's all the questions I have,  
24 your Honor.

25 ALJ BUSHEY: Thank you, Mr. Malkin.

26 I assume we have cross-examination.  
27 Estimates of cross-examination?

28 MR. GRUEN: Well, your Honor, this is

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2470

1 Darryl Gruen for Safety and Enforcement

2 Division.

3 COMMISSIONER FERRON: Microphone.

4 MR. GRUEN: Yes, sir. Thank you,

5 Commissioner Ferron.

6 Thank you.  
7 Your Honor, Darryl Gruen for  
8 the Safety and Enforcement Division.  
9 Certainly in light of this  
10 presentation, it's a robust amount of direct  
11 testimony that we're being -- that parties  
12 other than PG&E are being exposed to for  
13 the first time. Safety and Enforcement  
14 Division, we could proceed with  
15 the cross-examination we had prepared to  
16 explore and probe the statement that had been  
17 provided prior to -- last week and we could  
18 do some cursory questions now, but we would  
19 ask to go back and have the opportunity to  
20 do -- to look at the transcripts, review  
21 the presentation in more depth, and do more  
22 in-depth discovery on what has been presented  
23 on direct at this time.

24 ALJ BUSHEY: Do the other parties agree  
25 with Safety and Enforcement Division?

26 MS. PAULL: DRA does, your Honor.

27 ALJ BUSHEY: We'll be off the record.

28 (Off the record)

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

1 ALJ BUSHEY: We'll be back on  
2 the record.

3 While we were off the record --  
4 I'm sorry. We'll be back off the  
5 record.

6 (Off the record)

7 ALJ BUSHEY: We'll be back on  
8 the record.

9 While we were off the record, we  
10 set the schedule for the cross-examination  
11 from the other parties. That will take place  
12 on a date to be set some time after  
13 October 15.

14 In the meantime, the other parties  
15 will propound discovery to PG&E. PG&E will  
16 endeavor to respond in ten days.

17 For today, we'll have questions  
18 from the commissioners who have attended  
19 today's hearing.

20 Who would like to begin?

21 Commissioner Ferron.

22 EXAMINATION

23 BY COMMISSIONER FERRON:

24 Q Thank you very much.

25 Thank you gentlemen for attending.

26 Mr. Singh brought up in his closing  
27 statement the issue of culture change as

28 being one of the key considerations in why

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2472

1 the people of California should be able to  
2 rest safely or securely that the pipeline  
3 system is safe. I'd like to address that to  
4 Mr. Johnson.

5 I understand you've been with PG&E  
6 for a number of years.

7 WITNESS JOHNSON: A I have.

8 Q And I would imagine that PG&E's  
9 approach to the issue of safety and  
10 importantly the public's perception of safety  
11 has changed recently. I just wonder if you  
12 could characterize the nature of PG&E's  
13 approach to safety and the transparency as  
14 with regards the public.

15 A Certainly.

16 Yes, I have been with PG&E for  
17 quite some time. 33 years and counting.

18 I would say the approach to safety  
19 we have today is -- Sumeet mentioned find it  
20 and fix it. I would say from my perspective  
21 in terms of maintenance and construction is



22 find it before it finds you.  
23           So we spent an enormous amount of  
24 time and energy looking for any possible  
25 issues that could cause us any safety  
26 concerns or, frankly, operational concerns on  
27 our gas transmission pipeline and  
28 our distribution system. And I think we have

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2473

1 turned a corner in terms of our employees  
2 doing exactly that.            ]  
3           We see it each and everyday. We  
4 see pictures sent in from employees with  
5 their concerns. We see people raising issues  
6 up that may not have been raised up in the  
7 past. And frankly, I think while we are  
8 certainly unhappy with the issues we're  
9 talking about today, both Sumeet and myself,  
10 I think what we saw happen on Line 147 is a  
11 very good example of what our team is doing  
12 and what we expect them to do, which is they  
13 go out in the system and ask the very  
14 questions we want them to ask. Is this safe?  
15 If not, what do I need to do? And if I see

16 something different than I'm expecting, how  
17 do I get it fixed?

18       So I believe it's changed  
19 significantly. We have a ways to go we still  
20 have a lot of testing to do, but we've made  
21 progress.

22       Q I guess I would like a little more  
23 organizational context. Who do you report to  
24 in the organization?

25       A I currently report to Jesus Soto,  
26 Senior Vice President of Gas Transmission.

27       Q And Mr. Soto reports to?

28       A Nick Stavropoulos.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2474

1       Q And Mr. Stavropoulos reports to?

2       A Chris Johns.

3       Q Your verified statement laid out in  
4 some detail the timeline of events  
5 surrounding Line 147. When were you informed  
6 of the discrepancy relating to that line?

7       A I don't remember the exact date,  
8 but it was either late October, early  
9 November, shortly after the leak was found

10 and dug up. So it was very near the time  
11 period where the crews have dug up the leak  
12 to inspect it at first.

13 Q So I think Item 27 in your  
14 testimony talks about October 18th the crew  
15 exposing the pipe and realizing that there's  
16 a long seam weld. And then it looks like a  
17 week later, it was confirmed that it's AO  
18 Smith pipe. So you would think it would be  
19 around that time?

20 A It was certainly very close to that  
21 timeframe. A leak on the transmission system  
22 is not a common event. I would certainly  
23 expect to hear about any of them. And since  
24 this was a unique situation of how we  
25 repaired it, certainly I was aware of that.

26 Q And there was an e-mail from the  
27 pipeline engineer on November 14th. Do you  
28 recall if you would have received that

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2475

1 e-mail?

2 A I saw that e-mail. It wasn't sent  
3 directly to myself, but I did see that

4 e-mail.

5 Q Okay. So if I could, when you were  
6 first informed of that information, who did  
7 you inform up the chain of command?

8 A I honestly don't recall exactly who  
9 I would have told at that time. That was  
10 sometime ago.

11 Q But presumably it would have been  
12 Mr. Soto in the first instance?

13 A It would have presumably been  
14 Mr. Soto.

15 Q And Mr. Stavropoulos?

16 A I -- I don't know.

17 Q Do you think this particular piece  
18 of information which came to light in  
19 November was a significant -- you describe it  
20 as unique. Would you describe it as a  
21 significant safety concern?

22 A At that present time, it was not a  
23 safety concern at all. The pipeline was  
24 operating at 300 pounds. It was well below  
25 even the MAOP at that point. Our engineer --  
26 the first thing that they are trained to do  
27 and know to do is when we're going into a  
28 situation where there's a leak or some other

1 activity is to make sure the pipeline is  
2 safe. They run a calculation that indicates  
3 what pressure the pipeline can operate it.  
4 It was operating well below the associated  
5 pressure given the information the engineer  
6 had, so there was no safety concerns at all  
7 when we ultimately dug that pipe up.

8 Q But in turn going back to the issue  
9 about public perception of safety, do you  
10 think that the public had a reason to be  
11 informed concerning that situation?

12 A Frankly, I wasn't thinking that way  
13 and wasn't concerned about that. We have  
14 reduced pressure on well over a thousand  
15 miles of pipe over the last year-and-a-half.  
16 We do it as a routine course of business,  
17 whether it's findings from our MAOP activity,  
18 findings of leaks, parties hitting our  
19 pipelines, parties working over top of our  
20 pipelines. It's just a routine event for us,  
21 and frankly we don't normally communicate  
22 with the communities that we're lowering  
23 pressures in the pipeline. It is a very  
24 routine event.

25 Q How frequently have you found the

26 discrepancies between what you understand to  
27 be in the ground and what you find upon just  
28 kind of investigation?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2477

1 A This -- this particular one is the  
2 only one I'm aware of that happened as the  
3 event of routine maintenance, if you will, or  
4 routine work. And we have laid out every  
5 other finding of significance we have had in  
6 my -- in my statement.

7 Q So there -- to your knowledge,  
8 there are no other such circumstances similar  
9 to this?

10 A I'm not aware of anything else.  
11 We've reviewed the MAOP documents for all of  
12 the pipelines that we've requested pressure  
13 increases, and I believe we've laid out every  
14 instance where we found anything of  
15 significance in this document.

16 Q I have to say I'm -- I'm somewhat  
17 disturbed that this event is -- is so unique,  
18 and yet to some extent in the public's mind,  
19 I could see how at the core of their concern

20 is the -- the very terrifying reality that  
21 PG&E did not know what kind of pipeline it  
22 had in the ground.

23         And this is an instance of that --  
24 of exactly what one would be concerned about,  
25 which is the presumption of seamless pipe  
26 turning out to have longitudinal seem. And  
27 I'm also surprised that this wouldn't have  
28 gone to the top of the organization and you

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2478

1 would have remembered that. It's certainly  
2 the sort of thing that I would think would  
3 stick in one's memory.

4         A Well, I -- and in all due respect,  
5 -- and I certainly understand the concerns  
6 the public might have. There is an enormous  
7 amount of work going on in our system. We  
8 are currently replacing 64 miles of pipe,  
9 automating valves, hundreds of miles of hydro  
10 testing, 300 excavations a year, routine  
11 maintenance. There is a lot of activities  
12 going on to. This isn't in itself the only  
13 thing that we were focusing on.

14 And as Sumeet pointed out earlier  
15 in our conversations, we've had numerous  
16 pressure reductions associated with findings  
17 that are coming about from the MAOP  
18 validation exercise. So we have had a lot of  
19 ongoing activities happening, and we  
20 continuously lower the pressure on our  
21 pipelines if we believe there's any safety  
22 activities associated them at all.

23 Q So in general you talk about a  
24 number of these instances, pipeline reduction  
25 -- I'm sorry pipeline pressure reduction and  
26 the like. How often have you informed  
27 Mr. Stavropoulos or Mr. Johns of these  
28 reductions?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2479

1 A I think there's a -- there are some  
2 periodic reporting that we do, and we have a  
3 -- a notification that goes out when we  
4 reduce pressure. But I -- and I don't  
5 remember the exact number. I believe we have  
6 it -- have it with us here today, but there's  
7 probably in the range of 60, 70 of these



8 events where we've lowered pressure.

9 WITNESS SINGH: A Specifically as a

10 result of MAOP validation efforts, correct.

11 There's the additional reasons that

12 Mr. Johnson identified that we lowered

13 pressure.

14 Q So it would have been 60 or so of

15 these events?

16 WITNESS JOHNSON: A 60 or so of these

17 events associated with MAOP activity. There

18 has been numerous events where we lowered

19 pressure just in the course of business

20 somebody, working on top of the pipeline,

21 somebody striking the pipeline, or having to

22 do routine maintenance on the pipeline.

23 Understood. So out of these roughly 60

24 events or so, how frequently would you inform

25 Mr. Stavropoulos and Mr. Johns?

26 A I can't specifically state how

27 often that is done. There's a recurring --

28 we have a recurring notice that goes out to

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2480

1 the parties of all the pressure reductions in

2 our system so everybody knows the status of  
3 those. It's probably on average once a  
4 month.

5 Q Okay. These events happen once a  
6 month?

7 A No, we update the system so all  
8 parties know about them once a month. It's a  
9 running total of all the activities in our  
10 system.

11 Q And how often do you meet with  
12 Mr. Stavropoulos and Mr. Johns to talk about  
13 the -- this overall validation process?

14 A In terms of the MAOP validation  
15 process?

16 Q Well, in general to give them a  
17 status update, you know, as -- in -- in your  
18 normal role as -- I'm sorry. I don't have  
19 your title here. As Vice President Gas  
20 Transmission, Maintenance, and Construction,  
21 how often would you meet with  
22 Mr. Stavropoulos and Mr. Johns to give them  
23 an update?

24 A I would normally meet with the --  
25 we have a Pipeline Safety Enhancement Plan  
26 executive meeting every month that includes  
27 all the senior officers or their delegates  
28 for PG&E. Mr Stavropoulos and Mr. Soto

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2481

1 attend those. So at least once a month.

2 We also have Mr. Stavropoulos also

3 holds a meeting with all of his direct

4 reports once a month and directors and below,

5 and information of this nature is also shared

6 there. So I would say on average it's at

7 least twice a month that those two parties

8 are involved in discussions.

9 Q Okay. So it's reasonable to expect

10 that given the weakness of this particular

11 occurrence, he would have been informed in

12 one of those two meetings in the next couple

13 months following the event?

14 A I would say it's highly likely that

15 it was discussed in one of those two

16 meetings.

17 COMMISSIONER FERRON: Okay. That's all

18 I have. Thank you.

19 ALJ BUSHEY: Thank you, Commissioner.

20 EXAMINATION

21 BY COMMISSIONER SANDOVAL:

22 Q Thank you so much, and thank you

23 for being here today.

24 I have a -- I have a question about  
25 the representations made to the Commission in  
26 the document that was characterized as an  
27 errata regarding the finding of these issues  
28 on Lines 101 and 147.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2482

1 So I don't believe you were here  
2 this morning, but Mr. Malkin characterized  
3 the statements on page 1 in that errata as an  
4 engineering conclusion. The statements are  
5 -- I'm reading from the errata. It says,  
6 "The errors," referring to the errors on  
7 Lines 101 and 147 -- "The errors do not raise  
8 a safety issue as each affected segment has  
9 been successfully hydro tested to a pressure  
10 that supports the prior MAOP."  
11 Is it your understanding that that  
12 is purely an engineering conclusion and that  
13 it invokes no legal issues in terms of the  
14 interpretation of your duties under federal  
15 or state law with regard to -- to the  
16 pressure at which something may be operated  
17 or to any other duties in light of -- my

18 understanding is that based upon federal law  
19 that you take into account not only  
20 validations such as MAOP, but characteristics  
21 of the pipeline.

22       So in light of the discrepancy that  
23 you have found, do you agree that this --  
24 this statement that these errors do not raise  
25 a safety issue is purely an engineering  
26 conclusion, that it invokes no legal  
27 interpretation?                    ]

28       WITNESS JOHNSON: A Well, I'm certain

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2483

1 not an attorney. I am an engineer. And so  
2 all of my conclusions are based on my  
3 engineering background. And what I would  
4 articulate is the errors that we found  
5 specific to, say, Line Segment 109, when we  
6 look at those issues from an engineering  
7 perspective, they do not raise any safety  
8 concerns.

9       Q Okay. So I think part of what  
10 you're trying to say is you're not in a  
11 position to say that this doesn't raise any

12 legal issues. You looked at it as an  
13 engineer does it raise safety concerns?

14 Is that what you're saying?

15 A I'm saying that I am not an  
16 attorney. So, no, I can't speak to the legal  
17 issues. What I would convey from my position  
18 is that those issues -- those errors we found  
19 did not raise any safety concerns from an  
20 engineering point of view. The pipelines had  
21 been pressure tested at pressures well in  
22 excess that they were operating at.

23 If those pipelines -- pipelines  
24 historically operate as percentages of SMYS  
25 very similar to this one in very safe  
26 conditions. And so from that perspective,  
27 there is no engineering concerns or safety  
28 concerns from that perspective.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2484

1 Q Okay. So let me just ask you a  
2 couple questions about that engineer  
3 assessment. So is it your understanding  
4 first of all that both the federal and state  
5 rules require you to take into account

6 pipeline characteristics as evident by any  
7 physical evidence, the pipeline  
8 characteristics as well as documentation, in  
9 determining what the pressure should be?

10 Is that correct?

11 A Yes. In terms of calculating the  
12 Maximum Allowable Operating Pressure, I  
13 believe, for example, you need to know things  
14 like the wall thickness, the strength of the  
15 pipe, the diameter of the pipe, that sort of  
16 thing.

17 Q Okay. So is it your understanding  
18 then in terms of your engineering assessment  
19 that if you have an MAOP that shows that at  
20 least for an MAOP validation task such as a  
21 pressure test and/or spike test, that  
22 survival of that test would therefore obviate  
23 the need to consider the actual pipeline  
24 characteristics?

25 Is that your understanding of your  
26 engineering duty?

27 A I'm not sure I understand the  
28 question. But the engineering

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

1 characteristics always play into the  
2 engineering analysis of a piece of pipe. And  
3 that is one of the things you look at when  
4 you hydrostatically or pressure test it. So  
5 we want to know those features in general so  
6 that we don't test the pipe at, say, too high  
7 of a pressure.

8       So that information is important.  
9 It's considered when we look at our  
10 engineering analysis. But at the end of the  
11 day, what you really want is not a  
12 calculation, but you want a test that shows  
13 the pipe is good for pressures well in excess  
14 of what you would normally operate it at. We  
15 refer to that as pressure test, or lot of  
16 people talk about hydrotest.

17     Q Okay. So let me attempt to capture  
18 what you said in a way that hopefully better  
19 phrases my question so that what you're  
20 saying is that while you may rely on a  
21 hydrotest pressure test pipe test to do the  
22 maximum operating pressure validation, that  
23 does not eliminate the need and indeed the  
24 duty to consider what in fact are the actual  
25 pipeline characteristics?

26     A Yes. So what I would state is the  
27 actual pipeline characteristics are important



28 ingredient of looking at the operating

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2486

1 pressure of that pipeline. And things you  
2 would look at in addition to that would be  
3 things like pressure testing and other issues  
4 associated with that.

5 Q But pressure testing alone doesn't  
6 substitute for knowledge about the actual  
7 pipeline characteristics. It may be one  
8 indicia of the ability of a pipeline to  
9 withstand certain pressure, but it doesn't  
10 substitute for knowledge about the pipeline  
11 characteristics?

12 A Well, it does not substitute for  
13 knowledge. But I think it's important to  
14 understand that a pressure test is I think  
15 the standard by which we put in front for  
16 purposes of operating our pipelines. And so  
17 when we talk about things like MAOP  
18 validation and records, I think it's well  
19 known in the industry that many operators do  
20 not have perfect records.

21 And, in fact, if you look at

22 records from 1957, the things we would ask  
23 about today didn't even ever kept. Seam  
24 pipe, for example. If you look at a record  
25 back in 1957, seam pipe isn't even oftentimes  
26 listed on a strength test pressure report, if  
27 you will, whereas today you would see all  
28 sorts of excruciating detail.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2487

1 But, ultimately, the information  
2 you have about your pipeline when you  
3 calculate the MAOP, that is an engineering  
4 calculation. The test is what verifies the  
5 pipe can operate safely at that level. So  
6 it's what we've termed I think previously as  
7 it's an interim safety measure until you can  
8 actually conduct a test on the pipeline.  
9 Q Okay. I think part of where we're  
10 getting the rub here is that I think that the  
11 tests have been important but that the tests  
12 don't necessarily substitute, as you  
13 indicated, for what are the actual facts of  
14 the pipeline. So the tests are one indicia  
15 of strength and ability to withstand

16 pressure, but the rules say that you're  
17 supposed to have facts -- accurate facts  
18 about the pipeline characteristics.

19       And that's I would imagine the  
20 pipeline characteristics -- I don't know  
21 enough about all the intricate operations,  
22 but they may be relevant not simply to  
23 pressure, but possibly to other issues. I'm  
24 thinking we're here, whatever.

25       But what I'm saying is that the  
26 validation through pressure testing one part  
27 of the process, but it's not the only part of  
28 the process?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2488

1       A No. I would say it's the most  
2 important part of the process. So as Sumeet  
3 pointed out earlier, you would run a  
4 calculation on what the pipe could do knowing  
5 its specifications. You would pressure test  
6 that. And through the code, there are safety  
7 margins that are put into place. And you  
8 would pick the lower of those two to normally  
9 operate at.

10 But at the end of the day, a  
11 pressure test is the standard by which you  
12 want to operate your pipelines to. You don't  
13 want to fall back onto a calculation and say  
14 the pipe is safe.

15 Q Okay. Let me move on to a couple  
16 other categories of questions and a few other  
17 questions. So I appreciate your extensive  
18 efforts to do validation. And you said that  
19 you have investigated a number of pipes.

20 Does PG&E dig up every pipe with a  
21 Class 1 leak to verify the pipeline type?

22 A Well, first off, we normally have  
23 to dig up all pipelines with Class 1 leaks or  
24 Class 2 leaks to make the repair. So when  
25 we're doing a repair, any time we excavate a  
26 pipeline, we will go in and take a look at  
27 that pipeline and validate the information  
28 that we have. So whether we do it for a leak

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2489

1 repair or for opening up for construction  
2 reasons, say, to tie a pipeline in to do a  
3 pressure test or to do a dig just to do our

4 integrity management system, all of those  
5 digs, if you will, all those excavations  
6 result in information about the pipeline that  
7 is fed back into our information management  
8 system so that we constantly keep it up to  
9 date and it gives us additional pieces of  
10 information.

11       To the extent we pull pieces of  
12 pipe out of our system, we oftentimes test  
13 those pieces of pipe to again give additional  
14 information about that pipe. And I think we  
15 talk about Line Segment 109 in this  
16 particular case where we're actually able to  
17 pull a piece of that pipe out as part of the  
18 long-term repair and actually tear it apart  
19 and physically prove to ourself that, one, it  
20 has strength well in excess of what we  
21 assumed in our calculations, our conservative  
22 assumptions, and that its seam factor is well  
23 in excess of what we did in our conservative  
24 assumptions.

25       So we're constantly taking all the  
26 information we have and comparing it to what  
27 our beliefs are and what our systems show for  
28 underground.

1 Q Okay. So that's helpful to know.  
2 And then related to that, you said that the  
3 information I believe it was about 147 that  
4 it didn't raise a safety concern because the  
5 pipeline was operating at 300 psi.

6 So my question though is did this  
7 or do you -- okay. Let's phrase from did  
8 this in the past however raise a safety  
9 concern for you about the discrepancy between  
10 the records that showed it was double  
11 submerged arc-welded versus what it actually  
12 turned out to be? There's a distinction here  
13 between a safety concern about psi versus a  
14 safety concern about the records.

15 Did it raise a records concern for  
16 you?

17 A It did raise a records concern. It  
18 did not raise a safety concern. I see those  
19 as very separate issues. As we've already  
20 discussed, we had tests on this pipe. We  
21 knew what it was capable of doing. Those  
22 tests are very very new tests including  
23 spikes.

24 So from a safety perspective, there  
25 were no issues. And the pipe was already

26 operating at 300 pounds, well below even the  
27 MAOP, given the new conservative assumptions  
28 we put into place.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2491

1 It did raise a records concern.  
2 And that's exactly why we went through the  
3 process that we identified in my statement  
4 about let's rereview this whole thing, what  
5 happened and what went wrong here. And I  
6 think Sumeet went into excruciating detail on  
7 what went wrong and what we found. But, yes,  
8 it raised a records concern. ]

9 Q Okay. So maybe you've identified  
10 part of the rub here, which is do you believe  
11 a records concern is a safety concern?

12 A No. I believe they are separate or  
13 can be separate.

14 In this particular case because of  
15 the situation, there was no safety concerns.

16 Q Okay, once again I think we've  
17 identified part of the rub here.

18 So can you imagine a circumstance  
19 in which a faulty record would lead to

20 a safety problem?

21 A Yes.

22 Q Right. So now with the benefit of  
23 the hindsight, can you see that a record  
24 discrepancy of this magnitude could raise  
25 a larger issue about the safety concern about  
26 records and thus your operation to the extent  
27 that your operations are relying on that  
28 record?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2492

1 A I think I understand the concern  
2 that the public has about hearing that  
3 there's a records discrepancy again. No  
4 doubt about that. I don't want to minimize  
5 in any way, shape or form.  
6 What I was trying to articulate is  
7 from a safety perspective, this did not raise  
8 a concern. Had we been operating a pipeline  
9 or if there was a scenario where the pipeline  
10 was operating at a very high pressure and we  
11 dug up a pipe and find it not to be what we  
12 thought, maybe a thinner wall than what was  
13 in our records, that would be a safety



14 concern. That would merge us into  
15 immediately reducing the pressure in that  
16 pipeline.

17 In the case of Line 147, we didn't  
18 have that problem because the pressure was  
19 already reduced significantly from where it  
20 previously operated at.

21 Q Okay. So I think that this is part  
22 of the fundamental rub is that we might have  
23 a difference of opinion about whether  
24 a record discrepancy raises a larger safety  
25 concern. Because even though the operational  
26 pressure on that particular segment might be  
27 lower, does it raise a bigger concern about  
28 the accuracy of the records and thus

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2493

1 the operations for other parts of the system.

2 And so to the extent that there are  
3 such record discrepancies, I would suggest  
4 that a bigger flag needs to go up about  
5 the safety issues and to connect those two,  
6 to not treat those two as separate issues but  
7 as integral issues.

8 Is it your approach to treat  
9 records concerns as safety concerns?

10 I mean, is that your intent going  
11 forward, to treat record discrepancies as  
12 safety concerns, that we're going to make you  
13 do a systematic assessment of the system?

14 A Well, I think from our perspective,  
15 if you find records issues going forward --  
16 and as we dig up pipe, we may indeed find  
17 where our records say one thing and it's  
18 something else -- we will be looking for  
19 mechanisms in our effort to continuously get  
20 better to, okay, we found the circumstance;  
21 how do we make sure it doesn't exist anywhere  
22 else on our system.

23 That's just part of any process of  
24 continuous learning.

25 So from that perspective, that's  
26 exactly what we tried to adopt and I think  
27 that's what Sumeet tried to lay out today is  
28 we found a problem. There's no -- this is

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

□

2494

1 what we found, how do we make sure it doesn't

2 exist anywhere else?

3           If this same situation or something  
4 similar showed up somewhere else for whatever  
5 reason, we're going to have to go through  
6 that exact same analysis: What can we do to  
7 make sure that it's nowhere else?

8           It's about getting better and  
9 better every day.

10        Q So my very last two points, one  
11 just on that.

12           I wanted to laud the people who  
13 were involved with, you know, doing the leak  
14 detection and recognizing the significance of  
15 this and escalating this. And I'm very happy  
16 to hear that employees are sending in  
17 pictures and are feeling free to report, and  
18 that there is action and response to all of  
19 that. That is an important cultural change  
20 and an important safety change.

21           So I just wanted to recognize that  
22 and laud that.

23           But then also, we need to make sure  
24 that it goes up the food chain, that it  
25 doesn't just get put in the category of, oh,  
26 this is a records issues. That it's also  
27 recognized as a safety issue.

28           And to the extent particularly

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2495

1 the records issue affects Commission  
2 decisions either about records or about what  
3 a psi should be, that there's a separate duty  
4 to raise those facts.

5 So and then the last thing would be  
6 a request to the assigned commissioner -- or  
7 suggestion perhaps a better way to say it, to  
8 the assigned commissioner as well as  
9 the administrative law judge about  
10 the phraseology in terms of the ruling on the  
11 Order to Show Cause about whether or not  
12 pressure should be stayed pending  
13 the demonstration that records are reliable.

14 PG&E, in your statement,  
15 Mr. Johnson, in the filed statement, cites  
16 pages 3 and 4 of the Order to Show Cause  
17 ruling to say in footnote 1 that -- trying to  
18 be find it, but to say --

19 COMMISSIONER FLORIO: Two.

20 COMMISSIONER SANDOVAL: Okay, thank  
21 you. Page 2. Thank you very much.

22 Q So in paragraph 6, your affidavit,  
23 your verified statement says: SED has agreed

24 that our operational actions with regard to  
25 Lines 147 and 101 have addressed all public  
26 safety issues. And then cites in a footnote  
27 the particular Assigned Commissioner Ruling  
28 and Assigned Administrative Law Judge Ruling

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2496

1 at pages 3 and 4.

2 And when you look at pages 3 and 4,  
3 it says: The Safety and Enforcement Division  
4 emphasizes the importance of pressure testing  
5 to guard against any recordkeeping  
6 shortcomings and agreed that all public  
7 safety issues have been addressed by PG&E's  
8 operational action.

9 I compare that to the Order to Show  
10 Cause relating to the Rule 1.1. And on page  
11 2 there it says: The Safety and Enforcement  
12 Division confirmed PG&E's representations and  
13 agrees so long as properly conducted pressure  
14 tests were performed as represented, Lines  
15 147 and 101 can be operated consistent with  
16 General Order 112-E at the reduced MAOP.  
17 The assigned Commissioner and Administrative

18 Law Judge are holding separate hearings to  
19 address the substantive issues raised by  
20 the July document.

21 My suggestion would be to  
22 conform -- I don't know what the procedural  
23 process is to put out a new ruling or amended  
24 or corrected or something, but would be to  
25 conform the language on pages 3 and 4 to  
26 the language that was used in the Rule 1.1  
27 document because I think that the -- I don't  
28 think that you necessarily meant to put forth

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2497

1 a legal conclusion that all public safety  
2 issues have been addressed by PG&E's  
3 operational action. And it is evident that  
4 PG&E seems to be relying on that sentence to  
5 say all public safety issues have been  
6 addressed. ]

7 So to preclude -- and if that is  
8 your legal conclusion, please feel free to  
9 correct my indication, and I think that is  
10 something else that we could discuss. But it  
11 would be my suggestion to perhaps revise it

12 to conform to this other language or to do  
13 something to -- to suggest that this should  
14 not be relied on to substantively state that  
15 all public safety issues have been addressed  
16 because I think as we have discussed here  
17 that to the extent that there is a  
18 recordkeeping discrepancy, that that might  
19 raise a certain set of issues which need  
20 investigation.

21       So I think this is really a  
22 suggestion for the assigned Commissioner and  
23 Administrative Law Judge. So I'm not trying  
24 to put you on the spot to try to respond  
25 right now but that's my suggestion.

26       ALJ BUSHEY: And we'll have an  
27 opportunity to address that issue in the  
28 Decision on the order to show cause, so we

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2498

1 can address that there. We'll have a vehicle  
2 for making those -- those clarifications.

3       Commissioner Florio?

4       COMMISSIONER FLORIO: Yes, I have a few  
5 questions. And this -- at the outset, I

6 would request that PG&E circulate to the  
7 Commissioners and the parties the slides that  
8 have gone up today. Those are very helpful,  
9 but if we don't have them after today, we  
10 won't -- it won't be as helpful.

11 EXAMINATION

12 BY COMMISSIONER FLORIO:

13 Q Good afternoon, gentlemen. Thank  
14 you for coming today.

15 WITNESS JOHNSON: Good afternoon.

16 Q I wanted to try to move us back to  
17 where we were in early 2011 or actually --  
18 yes, early 2011. The Commission launched the  
19 MAOP validation -- or directed PG&E to -- to  
20 do the MAOP validation with the knowledge  
21 that that was going to require some use of  
22 assumptions; is that correct?

23 A That's correct.

24 Q And then followed up with the  
25 directive for pressure testing and other  
26 measures now embodied in the PSEP to go  
27 beyond that and not have to rely on those  
28 assumptions as to the same degree.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA



1           Okay. So would it be correct to  
2 interpret your testimony that if a line has  
3 been pressure tested to a level well in  
4 excess of where it's being operated and is  
5 planned to be operated, that from a safety  
6 perspective you're comfortable with doing  
7 that?

8           A Yes, I would say that having a  
9 pressure test on a line with a significant  
10 safety margin gives you great comfort in  
11 terms of understanding how that pipeline will  
12 operate and will operate safely.

13          Q And in this instance, it seems like  
14 going back and correcting the records led you  
15 to lower the MAOP. But it was still at a  
16 level well below where the line had been  
17 tested?

18          A That's correct. The MAOP is about  
19 35 pounds less than it was when we made the  
20 request to upgrade the pipe. But it is still  
21 significantly below, obviously, the pressure  
22 test.

23          Q Okay. If you had known then what  
24 you know now about the characteristics of the  
25 pipe, might that have affected the level  
26 which you would have pressure tested and  
27 might it have been somewhat less than what

28 you actually did?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2500

1 A I don't -- I would have to go back  
2 and look at that. I doubt it, but I would  
3 have to go back and look at all the  
4 assumptions. When we do a pressure test, we  
5 have to look at every segment involved with  
6 that pressure test to determine what is our  
7 -- what is our limiting factor. And we try  
8 to get to factors of 1.5 or greater than the  
9 operating pressure, plus a spike test. And  
10 so this pipeline saw a very high pressure  
11 test level and I don't know that we would  
12 have done it lower had we known this  
13 information.

14 Q Yeah. I'm trying to remember back  
15 to the Topock situation. I think there were  
16 some limiting factors that you couldn't go  
17 all the way to 1.5 because you would have  
18 been over SMYS or something?

19 A That was -- the Topock situation  
20 was obviously a little different than some of  
21 the our pipelines. It was station piping,

22 and it has a lot of fittings and flanges and  
23 other pieces of equipment by which when you  
24 pressure test the pipe, those fittings are  
25 staying the same pressure and you may  
26 over-pressurize those fittings. And that  
27 becomes a limiting factor on how you pressure  
28 test stations.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2501

1 Q Is there a -- for a pipeline  
2 segment that we're talking about here, is  
3 there sort of a limit, sort of 90 percent of  
4 SMYS or 95 percent that you don't go beyond  
5 pressure testing?

6 A We try very hard -- we don't go  
7 beyond a hundred percent SMYS based on the  
8 pipe as we know it.

9 Q Sure.

10 A And we try not to go above the  
11 pressure by which the pipe has previously  
12 been tested in the mill. So for some 1950s  
13 pipe, for example, a lot of those pressure  
14 tests were held at 85 or 90 percent SMYS.  
15 And we don't see the value in going above is

16 that and testing it. There are obviously  
17 public safety concerns that a hydro testing  
18 is safe. So you want to weigh those  
19 circumstances.

20 Q Okay. Going to your report,  
21 paragraph 6 on page 2, Commissioner Sandoval  
22 was asking you about this. You say, "SED has  
23 agreed that our operational actions with  
24 regard to 147 and 101 have addressed public  
25 safety issues."

26 Are those operational actions the  
27 pressure reductions that we've been talking  
28 about?

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2502

1 A I think it's a combination of all  
2 the actions we've taken since this finding,  
3 including repairing the leak, digging it up,  
4 doing the revalidation, and lowering the  
5 pressure.

6 Q Okay. In your opinion, was the  
7 pressure lowering necessary to maintain  
8 safety, or simply necessary to comply with  
9 regulations?

10 A Well, the -- the pressure reduction  
11 that occurred when we found the leak had  
12 already taken place for operational reasons,  
13 so we had reduced the pressure down to  
14 roughly 300 pounds or below so that we could  
15 operate our system during the summertime with  
16 low flows.

17 We had around enormous amount of  
18 construction work, so it made our ability to  
19 take pieces of pipe out of service much more  
20 efficient. That's why that pressure  
21 reduction was taking place. So when we found  
22 the leak and walked into the situation and  
23 dug it up, that pipe was well below its MAOP,  
24 even knowing the information we know today,  
25 which is 330 PSI.

26 Q Okay. Paragraph 14 on page 4, you  
27 say there "The decrease from 365 to 330 is  
28 not due to safety or engineering concerns,

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2503

1 but rather the effort to ensure strict code  
2 compliance." I guess that means that you  
3 think that the code is actually stricter than

4 safety and engineering standards would  
5 suggest is necessary?  
6 A Well, this particular instance on  
7 Line 101, it's a -- it's a segment of pipe  
8 that has a unique situation, what we call  
9 "one class out." And so we have looked at  
10 this "one class out" scenario, and come to a  
11 very, very conservative conclusion that if a  
12 pipe saw a class change prior to the  
13 installation of the federal code, you  
14 couldn't do a pressure test after 1974 and  
15 operate "one class out." So that's what that  
16 reference is.

17 There is -- there's no change of  
18 the pipe at all. There's no change in the  
19 engineering practice. Had this pressure test  
20 in this particular case, which happened in  
21 1989 as I recall, occurred in 1974, there  
22 would be no code compliance issues. But as  
23 we tried to continue becoming the most --  
24 more and more conservative in our views and  
25 adopting the most conservative assumptions,  
26 we chose to take this pipeline down -- this  
27 segment of the pipeline down to 330 pounds  
28 due to this very strict code compliance issue

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

1 that we currently interpret.

2 Q And that goes to this issue of a  
3 more recent test would logically seem to be  
4 more reliable than one happening 20 years  
5 ago. But because of the way the code is  
6 structured, it allows you to count the older  
7 one and not count the newer one?

8 A It's -- certainly from an  
9 engineering point of view, a more recent  
10 pressure test is more valuable than an older  
11 pressure test, particularly one back in 1970.  
12 But there are some quirks in the code that  
13 put us in this unique circumstance. But it  
14 is not a safety issue. Pipes in this  
15 circumstance will operate at -- in this  
16 situation 60 percent SMYS at 365 pounds,  
17 that's a very, very common situation through  
18 out the industry.

19 Q Okay. Over on page 6, paragraph  
20 23, you indicate that the highest actual  
21 pressure on Line 147 was 355.4 on May 19th of  
22 last year. I take it that was below the old  
23 MAOP but actually above the revised MAOP; is  
24 that correct?

25 A Yeah, that's correct. The -- the

26 regulator and the monitor set are established  
27 in Milpitas, so we have the ability to  
28 obviously track the pressures along the

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2505

1 pipeline system. And this is simply the  
2 highest pressure that pipeline has ever seen  
3 since the Commission gave us the authority to  
4 raise the MAOP to 365.

5 Q Okay. And then a little further  
6 down you say, "In December of 2012, we  
7 increased the operating pressure of Line 101  
8 to meet winter load." Do you happen to know  
9 what the highest pressure reached was on that  
10 line?

11 A I don't off the top of my head. We  
12 can certainly look at it and see if we can  
13 figure out what the highest pressure that  
14 segment of pipe saw. The segment of pipe  
15 that is reducing the -- the MAOP to  
16 330 pounds is just south of Lomita Park  
17 regulator station. It's about 30 miles north  
18 of Milpitas Station. And so we were actually  
19 doing some work in that area to try to put



20 regulations so we can operate the pipe at  
21 365. And then this segment would operate at  
22 330 pounds. But we can take a look at that.

23 Q Turning to the question of service  
24 reliability on the Peninsula and in the City  
25 of San Francisco, are these current pressures  
26 and the revised MAOP sufficient in your view  
27 to maintain full service to customers? You  
28 had the chart earlier showing, you know, some

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2506

1 problematic situations. Do we avoid that by  
2 -- at the 330, or is that still a problem? ]

3 A No. There are -- even at 365  
4 pounds, there are still significant  
5 limitations to noncore customers in the San  
6 Francisco peninsula. And I believe we  
7 discussed that at the last pressure. When we  
8 requested the pressure increase, it does  
9 eliminate the need to ever curtail poor  
10 customers, which is obviously one of our  
11 primary concerns. But it does still require  
12 curtailments even at 365 pounds and the use  
13 of LNG for noncore customers including the

14 hospitals, schools, and the power plants up  
15 and down the peninsula.

16 Q Now, I'm trying to recall when the  
17 Potrero Power Plant shut down. But that was  
18 I believe in 2011 that was maintaining  
19 service to that plant was still a major  
20 consideration.

21 A At the time we made the request to  
22 go to 365 pounds, we had already factored in  
23 that Potrero would not operate. And we  
24 already had an agreement with that plant that  
25 the conditions by which they could operate,  
26 given our circumstances. We had significant  
27 reduced flow and obviously a segment of pipe  
28 out of service.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2507

1 Q Okay. Just trying to get -- trying  
2 to figure out what power plants we're talking  
3 about here. I guess there's some  
4 cogeneration facilities on the peninsula?

5 A We can certainly share the names of  
6 the power plants with you. We just in this  
7 forum it wasn't appropriate to share the

8 customers' names.

9 Q Sure. And I was thinking about  
10 there are now is at least one power plant  
11 down in San Jose that I think was recently  
12 upgraded from a simple cycle to a combined  
13 cycle.

14 Would that be affected by this? Or  
15 is that located off a different line?

16 A I believe if it's in the San Jose  
17 territory, it's going to be impacted. The  
18 noncore customers are all treated somewhat  
19 equally. And so when you curtail -- and when  
20 I say curtail, I mean reduce their flow. It  
21 doesn't mean you have to go to zero now. It  
22 pretty much treats everyone equally. So they  
23 would be impacted.

24 Q Is from October, November 2011 to  
25 today a lot more of the system has been  
26 pressure tested than was the case back then  
27 almost two years ago. If you've completed a  
28 pressure test on a segment, does that pretty

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

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2508

1 much resolve your concerns about safety on

2 that segment assuming you operate lower? Or  
3 are there other -- well, setting aside  
4 dig-ins or something like that, is the level  
5 of concern greatly reduced at that point? Or  
6 are there other factors that you need to  
7 consider?

8 A No. I think getting a pressure  
9 test in with a spike test that we're using  
10 gives you great comfort. It's almost as good  
11 as replacing the entire pipeline. So between  
12 replacing pipelines and pressure testing  
13 which is ongoing effort by PG&E, part of the  
14 Pipeline Safety Enhancement Plan, that gives  
15 us great comfort around the safety of our  
16 pipeline, certainly over and above pipelines  
17 that have not been pressure tested in the  
18 past.

19 Q And to the extent that you're  
20 making lines piggable, how does pigging rank  
21 on that hierarchy of comfort?

22 A Well, I think the standard that we  
23 would love to reach and will aspire to is to  
24 have every one of our pipelines pressure  
25 tested and have the ability to pig them at  
26 the same time so you have not only baseline  
27 by which you can say that pipe is good and  
28 strong and certainly capable of handling that

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2509

1 pressure and it takes -- alleviates all those  
2 issues.

3 And then if you have an ongoing  
4 pigging situation, you can constantly look  
5 for any changes to that pipeline that may  
6 have occurred whether it be a dig-in or  
7 something else that's happened. So the  
8 combination of those two would be the gold  
9 standard. And we were certainly aspiring to  
10 get there.

11 Q May take a while?

12 A It will take a while. We have a  
13 lot of work ahead of us.

14 COMMISSIONER FLORIO: Yeah. That's all  
15 I have at this moment. Maybe when we come  
16 back, I may have some more.

17 ALJ BUSHEY: We'll have another chance.

18 MR. LONG: Your Honor, can I just offer  
19 a couple of brief comments that follow on  
20 Commissioner Sandoval's and Commissioner  
21 Florio's questions. Comments, not questions.

22 ALJ BUSHEY: Should I swear you in?

23 MR. LONG: No, no. Just couple

24 comments. First, there were indications that  
25 PG&E may be providing information in response  
26 to some of Commissioner Florio's questions.  
27 And just hope those will be circulated to the  
28 entire Service List and not just shared with

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2510

1 the Commission privately. I'm sure that will  
2 be the case.

3       And then on this issue of the  
4 Commissioner Sandoval raised about the  
5 language of the OSC, the Order to Show Cause  
6 we're dealing with now, and the conclusion  
7 about all safety issues being resolved,  
8 Commissioner Florio then in Paragraph 6 --  
9 pointed to Paragraph 6 of Mr. Johnson's  
10 statement where there's a statement that he  
11 makes saying SED has agreed that "Our  
12 operational actions with regard to Lines 147  
13 and 101 have addressed all public safety  
14 issues," citing to the Order to Show Cause.

15       And as Commissioner Sandoval's  
16 questions indicated, that that's at least if  
17 I'm understanding her remarks, it's not

18 resolved in her mind. It's certainly not  
19 revolved in our minds. And it seems like a  
20 prejudgment of an important issue. And it  
21 raises a concern about the transparency of  
22 the process.

23 I mean, here PG&E is reporting that  
24 they've had a private conversation with some  
25 unknown persons at SED. And SED has given  
26 them a clean bill of health on safety issues.  
27 And where is the public in all of that? The  
28 public is not present. A conclusion is being

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2511

1 made about safety. And we're left out of it.

2 That doesn't seem right. And so I  
3 just want to support Commissioner Sandoval  
4 and her remarks and hope that that kind of  
5 statement will be something that parties will  
6 have an opportunity to weigh in on.

7 Intervenors have been told they  
8 should be more concerned about safety. We  
9 are. We've always been. And we continue to  
10 be. But if we're left out of the room, then  
11 what's our role in the process? That's the

12 question here. And so we hope that the  
13 Commission will take heed of these comments.

14 ALJ BUSHEY: Thank you, Mr. Long.

15 Do any of the other intervenors have  
16 comments? Mr. Gruen.

17 MR. GRUEN: Your Honor, if I may, just  
18 to clarify, since SED is also represented in  
19 this room, I as the advocate for SED am also  
20 not privy to the indication in Item 6. And I  
21 think my colleague who's been working on this  
22 as well is not privy to that. So I just  
23 wanted to draw that distinction between the  
24 advocacy arm of SED and the advisory one who  
25 PG&E has been communicating with. And then  
26 there's a wall between us in terms of  
27 communications. So that's all.

28 ALJ BUSHEY: Thank you.

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2512

1 Mr. Meyers.

2 MR. MEYERS: One final comment, if I  
3 might. Procedural matter. I don't think  
4 that this has been marked as OSC-4. I think  
5 that was the intention of Mr. Malkin.



6           You wanted to introduce this as  
7 evidence in this proceeding, Mr. Malkin, your  
8 exhibits?

9           MR. MALKIN: Yes. Actually, I was --  
10 when I got a chance, I was going to say  
11 consistent with Commissioner Florio's  
12 request. We have handed out the slides to  
13 all the parties. I think it does make sense  
14 to mark it as an exhibit and provide copies  
15 to certainly three commissioners who are here  
16 and to provide extra copies that you can give  
17 to the remaining two commissioners.

18          MR. MEYERS: My second point, if I  
19 might, Judge, is you made an admonition to  
20 the parties at the end of this morning's OSC  
21 that this was adjudicatory proceeding and  
22 therefore no ex parte contacts were  
23 permitted. I'm presuming that still applies  
24 to this portion of the OSC.

25          ALJ BUSHEY: Yes.

26          MR. MEYERS: Thank you.

27          ALJ BUSHEY: Ms. Paull?

28          MS. PAULL: I would just like to say

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

1 that the points that Mr. Long just made about  
2 prejudgment and participation and --

3 ALJ BUSHEY: Can you speak into the  
4 microphone?

5 MS. PAULL: Commissioners, ALJ Bushey,  
6 I would just like to say that the points that  
7 Mr. Long just made about prejudging the  
8 conclusions about safety risks and  
9 participation of the parties in the safety  
10 assessment and the public -- making those  
11 decisions in a public way are very important.  
12 And I couldn't agree more. I just wanted to  
13 get that on the record. ]

14 ALJ BUSHEY: Thank you.

15 Any other final comments?

16 (No response)

17 ALJ BUSHEY: All right then. Just to  
18 review our schedule so we will receive as,  
19 I guess we'll continue our numbering, so it  
20 will be OSC-4, the exhibit provided by  
21 Mr. Malkin today.

22 (Exhibit No. OSC-4 was marked for  
23 identification.)

24 (Exhibit No. OSC-4 was received into  
25 evidence.)

26 ALJ BUSHEY: And I'll remind  
27 the parties that they are responsible for

28 discovery as soon as possible; PG&E to turn

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
SAN FRANCISCO, CALIFORNIA

2514

1 it around as quickly as possible, ideally  
2 within ten days.

3 And I will be announcing a date for  
4 cross-examination after October 15.

5 So, anything further to come before  
6 the Commission?

7 (No response)

8 ALJ BUSHEY: Hearing none then, this  
9 evidentiary hearing is concluded and the  
10 Commission is adjourned. Thank you.

11 (Whereupon, at the hour of  
12 4:00 p.m., this matter having been  
13 continued to a date and time to be  
14 determined at San Francisco,  
15 California, the Commission then  
16 adjourned.)

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CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Wendy M. Pun, Certified Shorthand Reporter  
No. 12891, in and for the State of California do  
hereby certify that the pages of this transcript  
prepared by me comprise a full, true and correct  
transcript of the testimony and proceedings held in  
the above-captioned matter on September 6, 2013.

I further certify that I have no interest in the  
events of the matter or the outcome of the proceeding.

EXECUTED this 6th day of September, 2013.

\_\_\_\_\_  
Wendy M. Pun  
CSR No. 12891

PUBLIC UTILITIES COMMISSION, STATE OF CALIFORNIA  
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BEFORE THE PUBLIC UTILITIES COMMISSION  
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Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms. ) Rulemaking ) 11-02-019 )  
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CERTIFICATION OF TRANSCRIPT OF PROCEEDING

I, Michael J. Shintaku, Certified Shorthand Reporter No. 8251, in and for the State of California do hereby certify that the pages of this transcript prepared by me comprise a full, true and correct transcript of the testimony and proceedings held in the above-captioned matter on September 6, 2013.

I further certify that I have no interest in the events of the matter or the outcome of the proceeding.

EXECUTED this 6th day of September, 2013.

\_\_\_\_\_  
Michael J. Shintaku  
CSR No. 8251