While you are setting up, Mr. Bauer, let me say that we want to take a recess about 11:00. So, letting you know, so you time at the most convenient break, but some time around there. Okay?

MR. BAUER: All right, thank you. I'm going to have to move your lectern so...

THE COURT: Okay.

(A pause in the proceedings)

MR. BAUER: Okay, how do I sound? Can everyone hear me? Great. Thank you.

OPENING STATEMENT

BY MR. BAUER:

Well, we have heard some harsh words in the opening statement by the Government. Said there was a pattern of criminal conduct; a deliberate choice to make pipelines unsafe. A coverup. Deliberately misleading an investigation of the explosion. And that the company was cutting costs in order to maximize profits.

Now, if only the world were that simple. Right? If only a pipeline ruptures, there must be a crime. It's so simple that if you prosecute somebody, maybe it makes our pipelines safer, or if you rail against a corporation and prosecute them, then somehow we've all done our jobs.

But life isn't that simple. The evidence is going to show that PG&E, the company, is just -- it's a logo, right

(Indicating)? It's a sticker you put on your trucks and on your emails, right?

But behind that logo there are people. That are people that go to work every day, trying to do their jobs. They are people in construction, they're engineers, they're accountants, they're customer service.

In fact, in PG&E, there are 20,000 employees. They come to work every day, generally doing the best they can under the circumstances. And the end result is we have lights, we have heat, we have energy, at an affordable cost throughout the state.

Now, it's easy to snarl at a logo. It's easy to say PG&E, you know, it -- right, we heard it did this, it did that. But it's much harder to look a person in the eye and say "You are a criminal. You are a criminal who made these pipelines unsafe." And you notice the Government didn't do that.

My name is Steve Bauer, as you know, and with me is Kate Dyer, Margaret Tough, and Bob Sims (Indicating). And, together, during this trial, we are going to represent PG&E. This is our California utility. It provides energy to all of us. It's lighting this courtroom, and sometimes keeping it warm.

Our job is to get all the evidence in this case, and get it out on the table for you. Get it out so you can see it and so you can evaluate it. And that's -- and your job is to try

the case truly and fairly, based on the evidence that you see in the courtroom.

Now, we have spent, what, three days making sure we had a jury that could try this case truly and fairly. And so we are counting on you. This case has to be tried on what you hear and see in this courtroom. Not what you see in the hallways, not what you have read in the papers about this case before, not what you might see, not what your friends might say to you. Right? You have to try this case on what takes place in this courtroom.

And I mean, there's basically two reasons for that, right? One is: You promised. So that's why you are on the jury is because you promised. But two is: You're the only people that are going to hear the evidence in the case. No one is going to know more about this case than you. You are the experts.

So if somebody has an opinion about it that they tell you, or people in the hallway, I want you to remember that you're the only people that are going to know what this case is about.

Now, as we said in, you know, in some of the earlier proceedings, San Bruno was a terrible explosion. I mean, it was terrible. People lost their lives, people got hurt. Homes were destroyed. People suffered distress. There's -- there's no denying that. It was a terrible accident.

But as the prosecution said, this is a criminal case.

This is not a case about compensating victims. It's not a case about how should we regulate our pipes going forward. It's not, you know, an insurance case about how to pay for different houses and who has to pay for them, anything like that. No. This is a criminal case, in which the Government is accusing the people behind that logo (Indicating) of committing crimes.

And, and what we did is we pleaded not guilty. These people were doing their best, they were doing their level best. And they aren't criminals; they did not commit crimes.

So that, that gets me to my biggest concern about anything that I do in this courtroom. And I just, I want to be completely clear. By pleading not guilty, no one is minimizing the explosion. Nobody is minimizing that awful thing. No one is disrespecting the victims. No one is disrespecting the first responders. I'm certainly not disrespecting those gentlemen in uniform over there (Indicating). But this is a criminal case, and I'm defending the people of PG&E.

The question for you is not whether someone was negligent, or if you are looking back at it, maybe you could have done something different. Or it's not about second-guessing people. This is about looking in and seeing whether they, at the time, knowingly, intentionally, purposefully, decided: I understand this law, it's clear, this regulation, and I'm just going to violate it.

And I submit to you the evidence is not going to show

that. The evidence is going to show good qualified people coming to work every day, doing the best they can under the circumstances they were in.

Now, this case for you all is going to be hard work. It's not going to be decided on slogans and allegations and, you know, pictures of a neighborhood. You are going to have to understand the engineering behind it. You're being asked to second-guess the engineers who have made decisions. And you can't second-guess people unless you know what they are doing. You can't judge people unless you understand their circumstances. So, there is really nothing simple about your job here at all. And that's why it's so important.

The other thing I want to point out to you, which may not be obvious from what you just heard, but there is no evidence in this case that any of those items that the prosecution talked about caused the explosion. There's no allegation in this case that an intentional violation of the regulations caused the explosion.

So I guess that is my second concern, is I hope that you can evaluate the work of PG&E's engineers without being overwhelmed by the idea of the explosion. Because that's not what's on trial here today. It takes a little bit to get your head wrapped around it when you see all the people in the audience, and you just had three days of questioning about it. But mark my words, that's not what this case is about.

So now, we have to get going about the hard work of starting to understand what these people were doing, doing their jobs day to day at PG&E. And I have got to tell you, it's going to be some heavy slogging.

I was trying to think of some way to jazz this up and make this a little more interesting for you. And it's difficult, because this is a technical case and these are technical people and engineers dealing with very technical regulations.

So all I can say is we have to just roll up our sleeves now. You agreed to serve on this jury. We have got to just roll up our sleeves and get to work.

So the first thing I want to start with is a little bit of a history lesson. And then I want to talk some about the basics of how pipelines work, just sort of basic concepts behind it. And then we're going go into and look at some of these regulations and the charges. Okay?

So, let's start with first the history. Pacific Gas began as the San Francisco Gas Company back in 19- -- I'm sorry, 1852. Gold Rush times. It was just doing streetlights. It continued to expand and expand.

PG&E as a corporation came into place in 1905. It continued to expand particularly after the Second World War when the population of California went up 40 percent. Everybody moved out to California.

And now it's one of the biggest utilities in the country.

It serves about half the state. It has 6,700 miles of distribution lines. So, distribution lines are the bigger, higher-pressure lines that are sort of like the main arteries that feed the whole state. 6,700 miles. So that's, what, 15 times back and forth between San Francisco and Los Angeles.

It has 42,000 miles of distribution lines, which are the smaller lines that then go off and feed neighbors. And then, an untold number of additional lines that go to each of our houses.

In 1948, PG&E built the biggest transmission line at the time, 500 miles long. Getting gas that started from Texas, we picked it up in the Mojave Desert, and brought it up to the expanding Bay area. 15 million customers. The service area goes from Bakersfield to Eureka, and from the sea to the mountains, right?

If you think about what these engineers accomplished, it's kind of fascinating. You drive through the state, and every night, every town, every house has lights on. And has heat. You walk into any room in the entire state and you flip a switch, and lights come on. When you think about it, when this has been put together as this network that started as the San Francisco Gas Company, you know, back in the Gold Rush, it's kind of amazing. It all got pieced together, and it's more or less reliable for us every day. We weren't worried that we were going to have lights here today. But it's based

on a infrastructure that was put together two centuries ago, and certainly in the last century. And, it generally works, thanks to the people who come in every day to try to make it work.

But here's the problem. Right? When you put together a big network like that, over time, you heard the prosecution say that pipes are different sizes, and they're treated as different segments. Different people have put in those pipes. Different companies have put in those pipes. Different companies have made those pipes.

You know, there used to be separate gas companies in for just little districts throughout the state. And when they merged with PG&E, all those pipes had to come and merge into the PG&E system. Their records had to come in. There's a lot of piecing together of a lot of pieces.

And that's not unusual to California. I mean, that's the entire country, right? So it's all, you know, put together in various networks that were built over time.

There's no one time when we said: Hey, you know what? Let's put in the world's most perfect gas system now for this state. I mean, the ratepayers could never pay for that, right? So it's a piecing together of a lot of old parts.

Now, that leads to a problem, right? Because those parts, you have reliability issues, you have sort of connectivity issues, you have records issues. Different companies had

different records policies. And there started to become pipeline failures going all the way back into the forties and the fifties.

In 1968, Congress passed the Pipeline Safety Act. Back when Congress could actually do something, they passed the Pipeline Safety Act. '68. Signed by LBJ. And that also created the Office of Pipeline Safety, which was sort of the first regulator of pipelines. Their successor is the outfit that we called PHMSA, Pipeline and Hazardous Materials Safety Administration. I always just say "PHMSA." But they actually started back, the predecessor was back in 1968.

And the reason that Congress passed that rule is because there were problems with the safety of pipelines in the country. There were accidents; there were explosions. There were failures. So the law didn't just solve that problem. It -- gas continued to be delivered through all those years.

And when we get to around 2000, 2001, sort of, you know, back around the World Trade Center incident, we were starting to have some real problems with our pipelines in this country.

You heard people talk about crumbling infrastructure, right? Our bridges were made too long ago, our roads were made too long ago, we're not spending the money to make them perfect. And it's a problem. It's been a problem for a long time.

In 2000 they decided, well, it's a real problem with the

pipelines across the country. And there had been -- you know, not sure how much evidence of this you'll see, but, you know, we'll put in some evidence of various accidents and explosions by other pipelines around the country.

So, there's the problem. And so, then, in comes Congress and passes a law. The problem with passing the law is they didn't come in with just a ton of money and say: Here's all this taxpayer money. No, they say to the ratepayers: You have to pay for this. They go to the utilities: You have to figure out a way to pay to implement these laws and regulations. Unfunded mandates, right, is what they're called.

Now, a company facing those can't just raise the rates however it wants to because, you know, as you know, it's a regulated utility. So it has to get the money in this case from the California Public Utilities Commission. You get approval because they have a say in how much you charge, what you replace, how much you spend. Right?

And that's -- and that's fair. I mean, that's the trade-off for being a monopoly. You know, as you know, we don't have different pipes going to everybody's house. You don't really have a choice in your gas supply, because you can't -- you don't want to have 12 different companies trying to put pipes to your house. So there's only one pipe to your house. It comes through PG&E.

And you know, the tradeoff for that is: Okay, you have

the CPUC, you have a regulator, tells you how much you can charge and what you can do. Right?

So, so this -- the history lesson continues, right. The idea behind this law, the Pipeline Safety Improvement Act -- right, the first one was called the Pipeline Safety Act, the second one was called the Pipeline Safety Improvement Act -- was thought to be sort of a smart way, a different way for all the engineers to work on the safety of the pipes.

Okay. So far, so good. A little bit of Washington speak, you know, they call it the Integrity Management Rules. You'll hear us talk about that because that's what it says. When they say "Integrity Management," they really mean risk management. Right? You're managing what kind of risks and what the dangers are in the pipes.

And how do you prioritize what's a real danger, what is a little bit of a danger, what is something we should keep an eye on, et cetera?

So when they say "integrity management," yeah, yeah, I guess you are managing the integrity, but nobody wants to hear -- you know, I guess that's the word they use because nobody wants to know we passed the new risk management rules for pipelines.

So the evidence will show that when these regulations came into place, the people who were at that time working for PG&E, you know, are working to keep the pipe safe, they've got to

keep the gas running. And now they have a whole new set of regulations that they have to follow.

These regulations were new to everybody. They were new to the regulators. You know, there was no expert in the regulations the day after they came out, because they say what they say. And then everybody had to kind of struggle and grapple with what those regulations say, and how to do them. So the PG&E engineers, they, like everybody else in that line of business in the country, had to do that.

A lot of new rules, a lot of new terms, new guidance. It was all pretty complicated. And the engineers were expected to implement it pretty quickly, while still doing their jobs and keeping the gas running.

Okay. So that's the little history lesson. I take you from the Gold Rush to the Integrity Management Rules coming in.

So I want to change just a little bit and talk about some just basic concepts of gas pipelines. You are going to hear about this.

I just want to give you a context because different witnesses will come in at different times, and they'll know different things. I'm trying to give you a little bit of an overview here. Okay?

So from my perspective as not an engineer, the first and kind of most interesting thing about gas pipelines is that they're all underground. Right? Once they're put in, they're

covered over. Right? They put a coating around them; they're covered over. And you don't see them anymore. So you have pipes of various ages, from various companies.

You know, cities grow up around them. You know, in San Bruno when they put that line in, you know, back in the fifties, there weren't houses around there. And now there are houses right over the top, right?

So, you know, the records that you keep are important with pipes, right? And also, all these various testing methods are very important, because you can't just go up to them. You know, the over-ground electric's a lot more easy to take care of. You can look at it, and you can climb the pole, and do thing. But underneath the ground, you know, it's a little bit more of a challenge. Right?

Other thing that is another basic concept about the gas supply is: It's hard to start and stop. Think about that. If you cut off gas to a neighborhood, not only are they going to be upset, but, you know, they need that. They need the heat. They need the energy. You can't cut off the gas to, you know, a hospital or a school. It could be a real big problem. Right? So as you're managing these pipelines, you can't just cut them.

Off. And then the other problem is if you do have to cut them off -- this is something I learned -- it's hard to restart. Because once you cut it off, everybody's pilot light

goes out. And when you bring it back up, the pilot lights all have to get lit. And some people can light their own pilot lights, and other people can't.

And the last thing in the world you want is to shut everything down, pilot lights stop burning; turn it all back up, somebody's on vacation, doesn't know how to light a pilot light. Slowly that house could fill up with gas. Right? So this was the second thing that I learned about the pipeline business, is that you can't just turn it on and off.

You know, electricity, if you turn it on and off, your microwave clock beeps at you, and you, you know, correct the time. But for gas, it's kind of a big deal. It's difficult.

Other -- the third thing about the gas supply that I find interesting is that it is really just decreasing pressure through the entire system. Right? There are only certain places in that whole network where pressure is applied to the gas. Where they have pumping stations to make it pump.

So it's basically you pump it in one area, and then it goes to other places, and kind of dribbles out. It dribbles out until -- you know, you could be at 600 pounds per square inch in the big transmission lines, or even more, 800 pounds per square inch. But by the time it gets to your house, it's got to be about one pound per square inch. And it's just one big sort of decreasing amount of pressure going through the whole system. It's not like there's some little device outside

your house that gives you the right amount of gas. It doesn't work that way.

So in this, all this -- these decreasing areas of pressure, the fourth thing that I thought was kind of interesting. And that's: They try to measure the pressure. It's going to be a very important concept here. The Government didn't talk about how to measure the pressure. I need to tell you a little bit about what the evidence is going to be on that.

The -- the lines, you measure the pressure in certain points by putting little sensors in them. They call them SCADA sensors. Now, I'm -- I have got in my notes what "SCADA" stands for, and I forgot. But take my word for it. I'll get it later.

These little sensors go in certain places, and they try to measure the pressure of gas, you know, as it's moving through the line. They're not 100 percent accurate. There's a -- there's some plus or minus in them. And then there's plus or minus in going from the pressure reading to the device that transmits what the pressure is to other people.

So, this is technology that's gotten better and better. It is kind of like a bathroom scale. You know, the old time bathroom scale, you stand on it and it goes (Indicating), and you say: Oh, I don't know, 180, that's kind of okay. Now I get on it and it says 181.6, you know. You better slow down,

right? It's getting better, but it's not perfect. And there's a lot of old, you know, bathroom scales out in the lines of all of our infrastructure. Right?

That also means that when you try to turn up the pressure, it's not like, I don't know, plugging in the -- you know, a radio station, you know, on a fancy radio, or saying I'm going to microwave exactly at this amount for this amount of time. Some of it is you push the pressure up until it sort of gets to a spot -- I think of it more like turning on the heat in your car.

I mean, they tried to make it look like you can say: I want my car to be 68 degrees, but what you're really doing, right, is you're turning on the heater that just blows really hard until it kind of gets to where it thinks it's 68, and stops. So it's is a little colder in the back seat, and a little hotter in the front seat.

That's more what it's like trying to increase the pressure of a pipeline, because, you know, you'll hear people testify that sometimes to increase the pressure, people are actually manually turning valves, sort of (Indicating), you know, okay, turn it a little more, okay, here we go (Indicating). It's not -- you know, it is not a really super-duper precise thing.

Now, so, so I don't scare you with that, the fifth point is that there are big margins of safety in the way these pipelines are set up. The basic idea is that you have pipes

that are tested, you know, by the manufacturer for, you know, some huge amount of pressure. And then, you're only allowed to run the pressure for some small amount.

And I think I have a diagram --

(Document displayed)

MR. BAUER: -- just so you can look at something other than me for a little bit, right?

So this is just an example. I'm not saying this is exactly what happened on any particular line here. But this is just an example. And it is going to allow me to talk about two terms also. Right? So this is the margin of safety that is built into the MAOP.

I think you heard the prosecutor say "maximum allowable operating pressure." This is -- all these terms are terms that are in the regulations. And they have specific -- some have specific definitions, some don't. But this one does. And that's the maximum pressure that anyone's allowed to operate the line at.

Think of it as kind of the speed limit. Right? You know, your car may be able to run at 120 miles an hour, right? Or 100 miles an hour. But you're really only allowed to drive it at 65 or 70.

So when we talk about adjusting the pressure in the pipelines and how there's little pluses and minuses and you don't know exactly what that pressure is at different points,

you're talking about, you know, is it 400 or is it 410 or is it 390, as opposed to are you up by 1,050 here, where it's like uh-oh, there's a problem with the pipe.

They build in these huge margins of safety. And, you know, for good reason. Because these pipes are old, and they're buried, and you need to have that margin of safety. Right?

Okay. I think you can take that down, please. Thank you.

(Document taken off display)

MR. BAUER: So the next concept that I want to talk about then is -- I think this is, what, the sixth one, maybe? -- is how do you inspect these underground facilities? And the prosecutor talked a little bit about them.

I'm going to -- I think I'm going to show you a few pictures, just to kind of get you a little more familiar with it because I think when witnesses testify, they may say things like: Oh, yes, we did an ECDA on that.

And they live with this, right, so they're just expecting us all to immediately go: Oh, yeah, ECDA. But, you know, they have been doing this their whole lives, and we are new to this. So I want to give you some background.

So, if we can put up the --

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MR. BAUER: Okay, good. So this is a picture of a pipe that is underground. Remember, you can't see the pipe

when it's underground, right? It's only because it's a picture.

When they have these transmission pipes, they put a coating on them to try to preserve them. Another thing that's interesting about pipes is the biggest threat to all these pipes, the biggest integrity threat, the biggest risk to all these pipes is rust. I mean, it kind of makes sense. You know, rust, you know, also called "corrosion."

So, External Corrosion Direct Assessment. So this is -- ECDA, you looking from the outside, you're focusing mainly on corrosion, and you're doing it directly. Direct assessment.

So what they do on these pipes is they put a coating on it, first of all, to try to minimize the rust.

Okay. Next slide, please.

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MR. BAUER: Then they do something else that is pretty cool. The engineers among you will know more about this than I do. But they run a small electric charge along the pipe. And through the -- it helps block the chemical reaction that cause rust.

I think in high-school chemistry I probably could explain that to you. Now, I really can't explain it to you now. I just think it's kind of cool.

So they run that (Indicating) on the pipe to try to keep it from having any corrosion. But then it also, it provides

them information and data, because it's electricity moving in the pipe. And it's something that is useful in this External Corrosion Direct Assessment business.

Next one, please, sir?

(Document displayed)

MR. BAUER: So when somebody decides that they're going to do an assessment of a pipe, to check out its risk, and they're going to check -- their biggest focus is the biggest threat, which is the risk of rust. This is kind of what they go through.

I don't have to get too detailed here, but there's four phases. First thing they do is they get together all the information that they can on the pipe to try to learn about, you know, any previous events, anything that's happened, learn what they can about the pipe. Any other assessments. They put all that together. And then they start making a plan, using their engineering judgment on how to assess that pipe.

And there's all these different tools, which, I think we may have someone testify about them at some point. But I'm not qualified to testify about -- tell you about them.

But they have various different tools that they use. I think the next slide will show --

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MR. BAUER: I've actually seen this happen in real life where they have sensors, and they're tethered to the

electricity, and they walk to where the pipe is, and it gives them data on what is underneath the ground underneath them. All the time, gathering and saving this information.

And then, third phase. Next slide, please.

(Document displayed)

MR. BAUER: Third phase is if they ever see anything that is an anomaly where there is a difference in the current, or they have other, other issues with it, they dig in. They dig in and check out that part of the pipe, and see if it's a problem.

And then the last phase of it --

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MR. BAUER: -- is everybody, you know, sits down and tries to figure out what that information means, and they analyze it. So this is -- it's a surprisingly sort of big deal. Takes a long time to do it, you know, for all these pipes. And there's just a ton of data that is generated.

We put across the back there (Indicating), the files for one of these direct assessments for a pipeline. It's thousands of pages that people work on putting together. So that's -- so, you know, one, I want you to kind of know about that.

But the other thing is when the Government just says: Oh, the cheapest assessment, or only ECDA, you know, this is pretty heavy-duty engineering work that takes a lot of effort, that gives a lot of information, that a lot of the engineers at PG&E

thinks this is the most important and best way to analyze these pipes, given -- given all the different soil conditions and all the -- and what the risk to the pipe is.

Okay. The second kind of major assessment or inspection tool they have is this whole pigging business. And what that basically is, you take the pipe, and you shut it off on two different ends, and you run this tool through it that goes through and picks up data all around the pipe.

And it mainly checks the inside, but sometimes it's able, as they get better and better, you know, using x-ray technology, they can also learn more about the outside too.

And I think I have a slide on that. Do I, sir?

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MR. BAUER: So here is what this beautiful pig looks like. So, an excellent tool, a good thing to use.

It has some limitations. You have to shut down the gas in order to run it through. You -- it's not so good at working on the outside of a pipe. And the biggest problem is, is it has a heck of a time with changes in elevations and curves and different sizes of pipe.

You will hear people talk about: Is a line piggable? Meaning: Can we use a pig on it? Because if we can't use a pig on it, if it's not piggable, you know, the ILI doesn't work.

And the problem with these things is that they are

expensive.

(Document displayed)

MR. BAUER: And if you try to run it down a line and it doesn't work, you work wreck them. They can get stuck, and et cetera, et cetera. So a great tool, but it's not very good on old lines. It's not good at elevation changes, or the bends and curves like we have in California. But, it's a good tool and people try to use it.

And then the third kind of inspection -- let's see, if we can keep moving, guys?

(Document displayed)

MR. BAUER: AH, okay. These are these pressure tests. Remember you heard there's allegations here about pressure tests and pressure test records. So it's also known as a hydrotest, because you test the pipe with water. You know, it sounds easy. You fill the pipe up with water at high pressure. You pump it up to way more than the MAOP. You know, one and a quarter times, or one and a half times. And you pump it way up, and if the pipe doesn't break, you say: Okay, good, the pipe is good. And you assume then it's safe at lower pressures.

But there's some real problems with hydrotesting. None of these things are perfect, which is why engineers make judgments on which ones to use. The first thing you have to do with hydrotesting is you have to completely shut down the line.

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MR. BAUER: There's a procedure where you cap both sides of the line, and you then let all of the gas out of it so it's completely empty.

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MR. BAUER: So that means that anybody that is being serviced by that line, you have to find some other way to get them gas. And if you don't have different ways to route the gas, you have to truck it in, in trucks. You have to truck in -- you know, truck in big trucks of gas, sometimes dozens of them, and find a place to feed it in to keep the town going, to keep those lights on. Right?

So, first problem, nobody likes it when their gas gets shut off. And it's a safety risk for, you know, relighting all those pilot lights and those kinds of things.

So the second thing you do is you have to go through and clean that line out and get it good and clean. So you run some kind of a pig through it. It's like a cleaning pig. At the end, you truck in or hopefully you can pump in water. And you -- and you pump that water in, and you pressure it, pressurize it and pressurize it.

Next slide, please.

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MR. BAUER: To get it to what -- to, you know, whatever your goal is. And you hold it for -- there's

regulations on it this. I think it's eight hours. There's some period of time that you're supposed to hold it for.

And basically, it's a pass/fail test. If the pipe breaks, then it couldn't handle that pressure. That's the one thing you learned.

If you took it up to one and a half times MAOP, and it breaks there, the thing you learned is: Well, it couldn't do one and a half times MAOP. And you've got to replace the line.

If it doesn't, then you know, okay, it doesn't break at 1.5 times. And then the assumption is: Okay, well, it must be good, still, at MAOP.

So the next thing you do is you remove the water.

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MR. BAUER: And you run a pig through, trying to clean out all the water out of it. So there's two problems with water. Problem One with the water is it gets polluted, because it goes in the gas line; it picks up mercury and all this. So I think for -- I think for, like, each quarter mile of some of these lines, you have to use 10,000 gallons of water. And it becomes polluted.

And then you have to figure out how to truck that water out and dispose of it so you don't cause mercury pollution.

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MR. BAUER: And then the other problem is you'd better get all the water out of there if you're going to

hydrotest. Because if you leave a little bit of water in there -- and, remember, I said the biggest threat to these pipes is corrosion. So if you think you're making a pipe safer by leaving some water in it, you're not doing your job. So they have to be really careful about getting all the water out. Turns out to be a big deal. They run this pig through to try to do it, and then they try to use huge blasts of air. They have all these air compressors.

So that -- that's not a super-informative slide there, but I just wanted to show you that, you know, this is like some of the setup that they put up to do a hydrotest. Hydrotest isn't just, you know, I'm walking over here and I, you know, put a hose to the pipe or something. Right? It's a big operation.

You also have to get approval from the cities, and permits, and et cetera, et cetera. So it's a -- you know, it's a big engineering job. I didn't bring a set of hydrotest records, but it would be something like that (Indicating) for a segment of line, too.

So you want to inspect these lines to assess, you know, what the risks are, and how they compare to other lines. You can't -- you know, it might be nice if you could just replace them, if you could say, you know: After a line gets to be 40 years old, we're just going to replace it.

Well, the regulators would have to approve that, and it would cost a lot of money the ratepayers would have to pay. It

doesn't just happen by itself. It's going to be taxpayers or ratepayers, right? You know, the engineers might like it. It might be fun to have just this beautiful stainless-steel natural gas pipeline that you manage. But that's not going happen.

I think there are places in Europe where they replace pipe a lot more frequently than they do in the United States. And natural gas, you know, costs to consumers is three, four times, five times what we have here.

So that might be for the engineers -- you know, it's like having a really nice new car that you don't have to worry that it's ever going to break, but somebody's got to pay for it. And in our country, no one wants to pay that much money for its gas.

So what do you have? You have these engineers who are trying to keep all these pipelines safe, running these tests on them, you know, cycling them through, looking at all the different ones out of those 6,700 miles of transmission, making decisions about where's our risks, where are not our risks, what should we do, what should we use our resources on. You know, applying their professional judgment. I call it "engineering judgment." Right?

Now, the company policy at PG&E, right, is, you know, safety comes first, compliance comes first. You know, those urgent safety issues and compliance issues, those are funded.

You are going to see that as a policy, and I think you are going to hear that in testimony from people. Which makes sense, because it's the engineers' job to keep it safe. And nobody wants to be out of compliance. And they have to have the money to get that done.

Okay. So history, things that I think are sort of good background to talk about, pipeline basic concepts. And now I want to talk about these newing regulations. Okay?

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MR. BAUER: As I said -- so, this is called the Pipeline Safety Improvement Act. And as I said, it's really a risk management as opposed to integrity management. They're very extensive; they're very ambitious. It was a complete change in the way of doing things.

And as I said, they are new to everybody. They were new to PHMSA. So people that have been working on these pipes, when these regulations came out in early 2000s, you know, there was nobody at the regulator who was a bigger expert than the people at the company who were working on it. Everybody had to deal with new regulations.

And so this (Indicating) is just a table of contents, just to give you an idea, and to give you something to look at.

And let's go to the next one.

(Document displayed)

MR. BAUER: This was what they call Subpart O. This

is just one of those blocks that the engineers had to deal with. And this is the -- the part that dealt with what they call high consequence areas. Prosecutor talked about that. They have a very specific definition of where these Subpart O regulations apply. And it's only in high consequence areas. And there's elaborate regulations on how you identify what is a high consequence area.

So before you even get to these regulations, you have to follow another regulation. And it's basically how many people or how many houses or within how much space of pipe. And you're supposed to -- you have to go through the entire pipe, sort of counting and figuring out who is there. But let's just keep it at that level right now.

The reason that they made these regulations focus at high consequence areas is economics. Right, the regulators couldn't make this be the rule for all pipes all around the country, because it would be too expensive. So they said: We're going to have extra rules. For areas that they think are of higher consequence. So, you know, fair enough.

My point is it is a recognition that this is not an unlimited budget for everybody in the country. But fair enough; they apply only in certain areas.

So the idea is -- do we have the next one?

(Document displayed)

MR. BAUER: Oh, okay. All right.

So I don't want to make too big of a deal of it, but I just wanted to show you the regulations that identify what is a high consequence area.

Okay, I think there's another slide too.

(Document displayed)

MR. BAUER: That may or may not become an issue here. But it is sort of the -- you have to be this tall to ride the ride (Indicating). You know, this is sort of the entry point in getting into these regulations.

So, let's see. Okay. I think we can take that down, if you would, please.

(Document taken off display)

MR. BAUER: Great.

So now I'm going to talk about -- I told you it's going to be a slog. Stay with me now. You still with me?

Okay. All right. So now I want to talk about the basic idea behind these regulations. Here's the thing. I'm not going to put on -- we don't get a chance to put on PG&E's case until the Government's case is over. Right? So this is my chance to give you an overview of, you know, the whole case. Otherwise you're not going to hear from me for a long time. I can't jump up and say: Oh, wait, there's kind of five ideas behind these regulations. Judge Henderson won't let me do that. So here's my chance. I'm putting a lot of stuff on you now.

And between you all, I know juries, you all remember it somehow by putting everything together. So just hang with me. Maybe you'll be the person that will remember, you know, kind of the five basic ideas behind the integrity management regulations.

So, here they are. So the idea is you look at the most important areas, right? You collect the information that you have. You know, this is gather and integrate. You take existing information, you gather what you can.

You then are supposed to make what they call a baseline assessment. You are supposed to look at all your pipes, and make an assessment. Sort of ranking them, you know, in different categories, but have a plan for going in and doing a brand-new assessment for every one of your pipes. It's called the Baseline Assessment Plan. And everything's an acronym. BAP. Baseline Assessment Plan.

And so the idea was that you had to have a Baseline Assessment Plan by some time in 2004. That -- that you had a plan for dealing with all your pipes. And that plan, you're supposed to be able to do that in ten years. So you had ten years to go to all your transmission pipes, and after gathering data on them, having a plan on how you're going to assess them, using one of those different methods. Right?

You had to get half of them done by five years, fair enough. And they said you should try to do the ones that are

higher risk in the first five years. But that was kind of a guidance, you know: Try to do that, for a very practical reason. And that's just the economics of it.

Let's say you had -- let's say you had, you know, a big area here. And you think that this area is a little bit more risky, and this area is a little bit risky. But these in the middle here, these seem pretty fine. But this is, as I say, maybe a nice straightaway that you can run a pig on (Indicating). Right?

So what do you do? You don't run the pig just through this area (Indicating), because the regulators said you had to do your high-risk in the first five years, and then just run it through that little area.

You -- gets loud. Sorry about that.

You don't just focus on these, too. If you could run a pig through the whole thing, you just go ahead and do it.

So you may take more time assessing some of these other areas that aren't as high risk, but it makes sense, good economics, good engineering, to just do it. Os that's why they say you should do your higher risk ones in the first five years, but there's, you know, kind of some give and take there because, you know, you want to plan this out in a thoughtful way.

Okay. So then after you do those assessments, then you have to have a plan for reassessing it. That doesn't go in

your Assessment Plan. This is just the plan for what you're going to do next.

It's like you go to the doctor. The doctor gives you your physical, and then says: Okay, you should come back in X time. We're going to look at whatever we're going to look at. We're going to look at maybe some things that concern me more. Maybe, you know, this next time you don't really need this blood test, but maybe we're going to do this other one.

Same kind of concept with pipes. So you lay it all out in ten years. And every one of those assessments you make -- I guess I'm gesturing backwards, right -- lay it all out so when you do this assessment, then you make a plan for when we are going to reassess it. All right.

So, identify the most important areas, collect the information you have, do this Baseline Assessment Plan, have a plan for reassessing. And the plan for reassessing is you're supposed do that within every seven years. Big -- this is the level of stuff we're going to do in this case.

There is a debate among the regulators and the pipeline operators about whether any reassessments should happen before every one has been baseline assessed.

I see a couple people, you know, shaking their heads for me. So let's say you have got to do everything in ten years. And the idea is: Let's do your whole system right, and then start doing your reassessments.

Well, what if you do it -- what if, you know, you send your pipe to the doctor on year two, and now you're supposed to do a reassessment in seven years, so that would be by year nine. So there's some people saying: Hey, wait a second, that doesn't make any sense. Because why would I reassess that pipe in year nine when I still have some that haven't been reassessed at all?

So that's the kind of stuff you are going to hear in this case, where the regulations have kind of kinks and glitches in it, and people trying to figure out what they are.

And then part of the assessments, there's some special rules for different kinds of pipe. So for the engineers, those four things -- five, four things -- were a big change. And they had to do those while they are still serving the public.

So, you know, what do the engineers do when they are facing this, you know, big new stack of regulations?

You know, some of you all work in big companies. If somebody changed all the rules on you, you know what happens, right? You know. Everybody -- you know, if you get in a conference room with paper cups of coffee, and you start talking, and think about them. You hire consultants. You make policies. You go to industry meetings.

Here, PG&E volunteered to have a special sort of a it-doesn't-count pilot audit of them (Indicating quotation marks), sort of at the very early stage. They said: Yeah,

come in. Let's do an audit of what we are doing, and then that'll help everybody else in the industry.

So PG&E volunteered for that, I think in 2005. Regulations came in '04. And PG&E said: Yeah, bring people in in 2005 to check out how -- check out our policies, check out what we're doing.

And then I think I said you -- you hire consultants, so that this started a whole new consulting business, right, where people were: How do we interpret these regulations, what do we do to comply, what makes sense? Right? So, that's what PG&E did, you know, like most other operators, right? Made a whole bunch of policies. You are going to see a lot of them in this case. Dense stuff, but this is a dense case. I'm going to have to show them to you.

You will hear about RMPs and RMIs, risk management policy, risk management instructions. So, they've got binders of these. They sat down and said: This is how we are going to try to comply what these regulations. Here's what our plan is. Here's what we're using our judgment on.

And they make those and make those all available to regulators, so the regulators can audit them, look at them, and go: We don't know about this; we think this is cool.

And then people can discuss, you know, what those policies should be.

So, Your Honor, I think I'm at a good stopping point, and

I think some folks might want to stretch their legs. So this would be fine for me.

THE COURT: Okay. Thank you, Counsel. We will take our recess at this time. Court is in recess until -- for 20 minutes. So please be ready to go in 20 minutes, to the jurors.

Court's adjourned.

(Jury excused)

(Recess taken from 10:48 a.m. to 11:10 a.m.)

(The following proceedings were held outside of the presence of the Jury)

THE CLERK: Please remain seated. Please come to order.

THE COURT: Okay. Are you ready to continue?

MR. BAUER: Yes, I am. Thank you.

THE COURT: Okay. Let's call out the jury. And now you can rise.

(The following proceedings were held in the presence of the Jury)

THE CLERK: All rise for the jury.

THE COURT: You can be seated. We've lost a juror, it looks like.

(A pause in the proceedings)

THE COURT: Okay. You may continue, counsel.

MR. BAUER: Thank you, Your Honor.

I hope you all had a decent break. My break involved Kate Dyer coming up to me saying, "Shutting off the line for pigging? Are you kidding me?" So, I think I said we have to shut off the line for pigging.

But the complication of that is not that you have to shut off the line. It's that you have to not shut off the line. And you have to just get the pig to roll through, along with the pressure there.

And the complication with -- that complication with pigging is that in times where there's a lot of demand, you know, say in the wintertime when everyone's using their heat, the pressure on the lines gets less because everybody's drawing more gas out of it, so there's not as much pressure. So if you want to try to pig during certain times of year it's much more difficult, because you have to try to pump up the pressure on the line. And as I said, you can't just dial a dial and say make the pressure higher right here. You have to coordinate it with big parts of the system.

So that's the complication with that. You don't have to shut off the line. And, you know, footnote to Kate on that one for me.

So what I want to turn next to now that you are all refreshed is to talk specifically about the regulations. And I told you this is going to be tough sledding. So here we go again.

There are three kinds of charges in case. There's charges relating to records, there's charges related to the baseline assessment, and there's charges related to reassessment.

And as I said, there is one kind of charge that is not in this case. And it's charges related to the San Bruno explosion. I want you all to have that in mind.

So I'm going to start with the recordkeeping. Even though it's sort of in different places in the indictment, it's kind of the easiest one to understand, sort of the more direct one. So let's kind of warm up with that one. Okay?

You've heard the Government say that there were records that were missing, right, and that PG&E didn't have some sort of unspecified records that you're supposed to have.

But they never said that -- when they said "missing," they never said "destroyed." They never said "discarded," you know, "burned" or anything like that, right? They just said "missing."

So one thing I want you to pay attention here, when you see the regulation...

(Document displayed)

MR. BAUER: Here it says (As read):

"Each operator shall make, and retain for the... life of the pipeline..."

This is the pressure test records.

"Each operator shall make, and retain for the... life of the

pipeline..."

Okay? So you have to make it, and you have to retain it.

Now, you know from this discussion about the grandfather clause, right, that if you're missing records from before 1970, that's sort of accepted, right; there's a special clause that says: Look, we can't expect everybody to have records going that far back.

And so, I just always wondered why they call it the grandfather clause. It's like if a grandfather has been doing it long enough, you let him keep doing it, I guess. So if you miss these records from that far back, it's okay to keep missing them. Right?

So it says you have to make them, and then retain them. And the charge here, right, as everyone has said, is: Knowingly and willfully. Intentionally. Right?

So if you don't have the record --

THE COURT: Don't make argument, Counsel. Explain the statute.

MR. BAUER: Oh, okay. I was -- that's what I was trying to do. I'm sorry, Your Honor. Okay.

So the question is, you know, do you have -- how do you knowingly and willfully retain something? Or not retain something?

And I want you to, when you're listening to the evidence in this case, pay close attention between somebody just not

being able to find a record, or somebody knowingly and willfully throwing it out or getting rid of it.

The difference between --

MS. HOFFMAN: (Inaudible)

THE COURT: Sustained.

MR. BAUER: Okay. If there are differences between copies and originals, if you hear someone say there's -- We couldn't find this record, or: I saw a record that was -- that was discarded, we need to ask ourselves: Is it a copy or is it original? Is there another file somewhere? Are these records that are required to be maintained, or are they ONES that people, looking back, now say they're good to have?

And also, are there databases that back them up? Or is it just paper?

So as you's are listening to the evidence, I want you to be -- we want to -- I'm going to try to help everyone do this. Be very precise about: A missing record is not necessarily a knowing and willful discarding of a record.

If an engineer says: I'm missing a you record, I couldn't find that, that's the beginning of an inquiry. It's not the end.

THE COURT: I'm not going to tell you again. You're arguing to the jury about the -- tell them what the evidence is going to be.

MR. BAUER: Okay, okay, I'm sorry, Your Honor. I

apologize. It's a fine line and --

THE COURT: It's a fine line, and you have crossed it.

MR. BAUER: I understand. Okay. I will watch out for that. Thank you.

Let me go back and give you a little bit of history about records and how records work. So, you know, as I said we have thousands of employees. And they're out there every day doing their jobs. And most of their jobs, many of their jobs involve keeping a record of what they do.

So if you think about it, you have folks every day going out, making records, collecting records. And then they have to come back, merged into some kind of central area of records. And there are people out there in PG&E right now making a bunch of records, right? If you're in a big company, you know that paper is getting generated every day. So these -- the records that a company keeps are design drawings, engineering calculations, soil analysis, job estimates, purchase orders, maps, city permits. Field notes, surveys, test results, inspection reports, just a lot of different information. And that the -- our ability to retain and organize that information has sort of gotten better through the years. Right?

Back in the old days, it's just people on paper. And then maybe it's paper, and you could mimeograph it. It really wasn't too long ago that anybody who was in a PG&E truck doing

work would have a clipboard, and would write in the clipboard, and the clipboard would sit next to him or her on the -- on the side of the pickup, and your lunch box is there, and your coat and your hat. And then you have to come back to headquarters and give that paper to a file clerk.

So you will hear evidence about the evolution of how you can manage paper at any business, but certainly at PG&E. You know, you go from paper to mimeograph, to microfiche, to computers, to be able to put it on disks. You know, we all sort of take for granted right now that -- we all have iPhones that, you know, you can pull up any information at any time, and shoot it around. That's a really new thing. That didn't even exist right at the time these regulations started.

So now I would like to take a moment and describe some of the actual, you know, records that are going to be at issue in this case. Okay. So when you hear the words, you will kind of know what we are talking about.

One is called "job files." So that's any time there is a construction project or a repair project, they have a file for the records of the job. If it's a major repair, et cetera, et cetera. Big thick paper files. You have design drawings; you have all the plannings. And then after you do the work, you keep a record of how you actually put it in, because sometimes the plans aren't exactly how it works. You may be putting in a line and there's an obstruction; you have to put

it in a slightly different way. They call those "as-builts."

You have estimates, purchase orders, inspections, tests. You know, the inspection that goes before the line goes in; the inspection that comes after.

Once that job was complete, they would take all those records, and they put them in one place. And throughout the history of the company, the job files would be generally out in different district offices that are closest to where the job took place.

And, you know, the thinking there is if anybody has to work on that line, they have the complete history of the line out, you know, near where the work is going to be done.

Later on, they took -- on some of the major areas, they took the job files, you know, some of the big lines, and brought them to San Francisco and Walnut Creek. But still, to this day, a lot of the job files are out in the districts.

And that's sort of the documents of record for the pipeline. Right? That's where they have all the information about the different segments.

So, you know, it seems kind of quaint that they just have big file rooms filled with things. But when you're building a system that started that long ago, and you're doing the work, you just keep those files, and have them in the right place, so if you need to know something about that line, that's where you go.

The other thing is, I said it before, SCADA. I couldn't remember what it stands for. Supervisory Control and Data Acquisition. That's why I can't remember, because it doesn't really resonate in my brain. That's that system for trying to measure the pressure at different points in the pipeline system. It started back in 1985, and it's continued to get better.

You think about before 1985, they didn't have any system where you could take the pressures and measure at different points, and have it all quickly go to a central place. PG&E was one of the leaders in getting SCADA. One of the innovators there. So, that is a relatively new thing, you know, if 1985 is a new thing to you folks.

But it hasn't been there, it wasn't there when a lot of the pipelines were first put in. And now it allows you to have things like control rooms, you know, like Mission Control, you can have a gas control, gas operations control where a lot of data comes in, and you can have people looking and trying to understand what the pressures are through the whole system, see if there are any issues or problems.

That whole system has gotten better and better with technology, as you would think. But it still is only as good as whatever is the plus or minus or how accurate all those little sensors are.

So you may be good at getting the information there, but

there's a plus or minus ten pounds on whatever that number, you know, that's the foundation for some of the data that you have in the pipeline.

So another big innovation that PG&E was very much at the forefront of was this thing called GIS, right, Geographical Information System. This is about I want to say 1994, they start working on that.

And here, the idea there was -- also you may hear testimony from people. They're very proud of working on this and putting this together. This was sort of in the early times where you started to have some handheld-computer options and database options. They started taking a lot of the information that they had about their pipelines in those paper records, the pipeline survey sheets and the other things that would -- and they transferred those into a computer database. You know, so in other words, it's kind of quaint, but we are now starting to move into the age of data that we're in now.

And so the idea there is if you are getting ready to go to do a job, you can go to one place and get a bunch of information about the job. The engineers will tell you that that is a starting point, that's the place that you start when you want to do anything, because it pulls a lot of information together. But you always have to go back to the job files and the other files to get the real details.

And as you will hear people say, everyone knows that when

you do this big data move, and you take all this information and try to put a bunch of it on a computer, there's going to be quality control issues. I mean, there are people that spend years, you know, trying to put in the data (Indicating). And the engineers know that. The engineers know that GIS is a starting point, and it's not the end all-be all. It's -- as they say, it's not the system of record. It's just a good place to start.

A GIS system is not required by these regulations. PG&E has one. PG&E has -- has -- I want to say "manuals," but that one's short. So, like, policies about how to do it and what's important about it. But it's not required. It's something that's extra that they do to try to manage these pipelines. Right? You know, it's -- kind of the irony of it is something that they were at the forefront of, and now they're being criticized for it.

I think I've already talked about the grandfather clause. This is where it was in my outline, but I don't think we need to talk about it more.

So, I'm still on pressure records. And, let's see. I'm trying to be mindful of what the Court told me.

The evidence that you will see about pipeline pressure test records, you will see that there were policies put in place to keep them. You will see that there were procedures put in place for how to keep them. And you will find, the

evidence will show, that PG&E has located virtually all of its pipeline pressure test records for all of its lines that -- you know, certainly the ones from 1970, on.

Now, there was a change at some point in what was required of the records, and they've had the new requirements of records that aren't necessarily -- that aren't at issue here. And so PG&E is -- is following those new requirements, and has even more information than they were -- they were supposed to have to begin with. So they're holding themselves now up to a higher standard than what was required back then.

But I think when you see the evidence here, you will see that virtually all those records going way back are here, and intact. And we can bring them into the courtroom. And so, I don't believe that there will be evidence that any one knowingly and willfully destroyed any of those records, because we're going to show them to you. They're here.

Okay. Let's go on to repair records.

(Document displayed)

MR. BAUER: This is one of the charges in the case. It tells you what you are supposed to keep for any kind of repairs that took place on transmission lines.

On some, you have to keep them for five years. On other ones you're supposed to keep them for the life of the pipeline. And it -- for as long as that pipeline remains in service, right, that's what it says.

So, so, let me tell you a little bit about repairs. And what they do with repairs. So, let's say that somebody, you know, smells some gas. Or somebody, you know, out in the Central Valley hits a pipe with a backhoe, digging someplace where they weren't supposed to dig. Or, or I think I said, you know, somebody smells some gas. That gets reported. And it gets investigated right away.

And when the guys go out there to investigate it, they, you know, they do their work and then they create a form if they make a repair. And if they make a repair, they have a certain kind of form that they make. If they have to replace something, they have a different form that they make, right? And there's a policy for folks to do that. And by and large, the people follow that policy. It kind of makes sense. You go out and do the work, and you're supposed to make a record. And you make a record.

I don't think you are going to see any evidence in this case of anybody intentionally refusing to make a record. And, and, the Government didn't name anyone for refusing -- you know, for refusing to make a record of a repair.

The only thing I could be thinking about which may be the difference of opinion here is this idea of tiny leaks. So, some leaks in gas are -- in the gas pipelines are so tiny that they're difficult to detect.

You know, the gas, they put a special odor in the gas. We

all know what gas smells like. Gas doesn't really smell like that. We are smelling just a sort of a stinky perfume that is put in gas so if there is a leak, people can smell it.

That's a regulation that I think is nationwide. Everybody puts that smell into the gas. So if somebody reports a leak from the smell, you know, folks have to go out and try to find the leak and repair it.

The company also does these big surveys of leaks where they have very sensitive detection equipment and in some places they walk the line trying to sense any leaks. Because, you know, gas is lighter than air, so if there is a little leak, it would go up and somehow, you know, migrate through the ground or something and come up. So you may be able to detect a little bit.

In the olden days the only leak detectors anyone had was there noses. Now we have this very sophisticated equipment. Sophisticated enough that some of these, apparently, you can fly over it very slowly and see if you pick up any gas. So if that happens, then they have to go in and try to investigate the leak. And they -- you know, they just start trying to zero in, zero in to find it. And then, when they think they are close, they dig it up and they dig up the pipe.

But some of these leaks -- they call them pin hole leaks -- are from maybe some tiny imperfection in a weld that the gas has found some way to wind through and come out just a

little bit. You can't see it. So they do a very sophisticated thing called the soap test. They put soap, you know, on it, just like you would do if you're trying to figure out if your car tire is leaking. You know, you put water on it and see if there's any bubbles. That's -- that turns out to be the best way to try to find a leak. If you think you can find the area, you paint on the soap and you see the tiny bubbles. And then if you see the bubbles, you do a repair. You do a form that tells you you did a repair.

There are a lot of tiny little leaks like that that you can't find. You can dig up and look around and -- and you just can't find them. And those get put in the system as just unknown leaks. They don't know what it is.

Now, the regulations talk about different kinds of leaks, and some are hazardous and some are not. And these pin hole leaks are not hazardous.

When I first heard about leaks and said: Oh, there is -- you know, there is a leak on this line. I thought: Oh, my gosh. That's like, you know, a leak in a boat and the boat is going to sink. It turns out some of these leaks are so small that they -- they aren't a risk. They aren't a threat to the integrity or the safety of the pipeline. And some of them are so hard you can't even find them.

So if -- if the Government is talking about missing leak records, if they are talking about pin hole leaks and unknown

leaks, well, there's not going to be a record of those because they weren't found and they weren't repaired and, you know, that's just the way pipelines work. The engineers will explain that to you. That is not a safety hazard.

Okay. We're getting closer. Let's get to the next set of regulations, which has to do with gathering and integrating data.

So remember what I said here about this whole Baseline Assessment Plan and those new regulations that came out in 2002, right? This is the data gathering integration part. And I told you, the basic concept is that you're supposed to identify if you have any threats and then you're supposed to gather the data and the information you have, if it's relevant, and then you roll that into this 10-year Baseline Assessment Plan. Okay? Fair enough.

So the engineers, you know, get this and they see that to -- let's read it:

> "To identify and evaluate the potential threats to a covered pipeline segment, an operator must gather and integrate existing data."

Okay. So there are some things that are kind of clear about that, right? One is, it's existing data. It's not -- they are not telling you to create any new data. You have to gather what's there.

And it says it could be relevant. Meaning -- you know,

the engineers will testify that it meant: In my engineering judgment, I thought that information would be relevant to the assessment that I'm making.

And then we're supposed to -- to put it together, like in -- you know, in those files back there and analyze it as part of making the Baseline Assessment Plan. So that's how they view it.

These policies that we have that, the RNPs, the RMIs, they are very detailed descriptions of how the company tries to make this happen. Right? But the point is you gather existing data that you believe is relevant to the assessments.

So the question here in this case is going to be: Is there some data that existed that some person intentionally didn't consider even though knowing, in their engineer judgment, that it was something they should consider. Right? I mean, this is -- we're going to be second guessing what the engineers thought about what information they looked at. I don't believe you're going to hear evidence of that.

Let's go on to the next.

(Document displayed)

We talked a little bit about this Baseline Assessment Plan, and there are several pages of regulations there. But the thing that I wanted to emphasize for you about the Baseline Assessment Plan is that you're supposed to do one Baseline Assessment Plan that covers all of the high consequence areas,

right, in your system. And that is your plan for when you go and do your assessments, and then you do reassessments seven years -- within seven years hence. All right?

So there is no requirement that you do a Baseline Assessment Plan every year. You're just supposed to do a Baseline Assessment Plan. You might do them additional years if you identify a new area that's covered by the regulations. You know, a new area that would be an HCA, a high consequence area.

I'll give you an example. What if -- what if somebody builds a school at a place that used to be an empty lot. That might make that area now a high consequence area and make it come into the Baseline Assessment Plan.

So I think the engineers will say that if you read the -- if you read these regulations, they believe that if you found a new area, you know, then you had to put that in a Baseline Assessment Plan. And this is why they do them from, you know, time to time; you know, periodically to update them.

They may have kept other information in those Baseline Assessment Plans because it's a convenient place to do it. Such as, they may have kept in information about reassessments and what the plans were for those, just -- just from their minds to have it in one place. But those aren't required in a Baseline Assessment Plan.

And when the evidence comes in here, we're going to have

to be very careful to look at any allegation that somebody intentionally didn't put something in a Baseline Assessment Plan or put something that was wrong in a Baseline Assessment Plan if it wasn't required to be in the plan in the first place. We'll have to be careful about that.

All right. Let us move on now to the reassessments. Okay. A little bit of water.

(Brief pause.)

So the idea behind these reassessments -- this is after you've done the assessment once and the baseline and then you're going to do the follow-up, it's like the follow-up doctor's appointment -- is that you have to do them on certain lines. You're supposed to use the information that you learned in the original assessment, right? And you're supposed to do them in order. You have to do them within seven years and the idea is, the regulations say, you know, try to do them in an order that makes sense, address the ones that seem riskier than others. Right?

Now, this is the -- the last couple regulations that the Government talked about where you say your pressure went up a little bit and you should have then reassessed it as high risk. So that's what I want to try to explain to you, what those regulations are and what the evidence is really going to show about them.

But there is really three things. And I'm trying to talk

about sort of broad things that you can keep in mind as you assess the evidence that comes in.

One is the -- the reason that the engineers raised the pressure on some of those lines when they did -- they raised them sort of right before the regulations came in -- was because the regulations encouraged that. It was the regulator's idea that you were not going to be able to run your line at a certain pressure if that line hadn't been at that pressure in the previous five years.

So I'll give you -- I'll give you an example. Let's put that up so I can show the -- I can show the five year MOP.

(Brief pause.)

I exchange my mind on things and it gets confusing for folks.

(Document displayed.)

Here we go. Here we go.

So what we're talking about here is this number three, and it says:

> "If an operator identifies a threat of manufacturing and construction defects in its segment..."

So that's the first thing you're going to hear testimony about is, does this even apply? Did somebody identify a threat, an actual threat, or did the company take things that didn't have threats and considered them covered by this just to

put more pipe in the system and to -- you know, sort of in an abundance of caution? That's going to be one issue we're going to have.

Second question you're going to have is -- well, it just says:

"An operator must analyze the covered segment to determine the risk of failure from these defects."

Fair enough. That's their job.

"The analysis must consider the results of prior assessments on the covered segment."

Fair enough. Right? That's what all these files are (indicating).

And here is the one that's interesting:

"An operator may consider manufacturing and construction-related defects to be stable" -- so being nothing to worry about -- "if the operating pressure on the covered segment has not increased over the maximum operating pressure experienced during the five years preceding identification of the high consequence area."

So I have to introduce you to this because a bunch of the debate in this case is going to be about sort of that sentence, right?

So even if you have defects in your pipe -- this is what the regulation says. Even if you have what are called defects

in the pipe, you can consider them stable if the operating pressure on that segment, that little -- that area, all right, has not increased over the maximum operating pressure experienced during the five years before it was identified as an HCA, before it was put in the program.

So, you know, I have been living with these things for years. I don't know how long it took me for this to dawn on me, but I think I can see in a couple of you it's dawning on you right away.

What does this -- what does this regulation actually do? How does an operator relate to this? An operator looks at this and says: Boy, if I have pipes that haven't gone -- haven't had to go at a very high pressure for the last 10 years, you know, I better run the pressure up to the level that I want before it's identified as an HCA. Right? Does that make sense?

The idea is you cannot run your pipe at a pressure that's higher than what the pipe was shown in the last five years. And if you know through your rules that you can always run your -- the pressure up to the maximum operating pressure, but let's say you weren't using that pressure for years. Maybe you were just using this (indicating), but you know you're safe all the way up to your maximum operating pressure. These regulations come in and they say to you: Hey, watch out. If you haven't run your pipe any higher than this (indicating), this is going

to be your new maximum pressure.

So operators looked at that and said: I better -- just to be safe so I don't lose capacity in my system, I better increase my pressure up to that MAOP, up to the speed limit.

So I don't know if I can -- you know, I'm not allowed to ask you questions, if you're all following me or not on that, but that's as good as I can do with my hands describing that.

So let me tell you why it's important to operators to be able to run their pipes at the maximum operating pressure. A lot of these pipes are built with the idea that they are going to service a bigger area. They are going to be in the ground a long time.

You know, if homes are being built in Tracy, you put a pipe to Tracy that is capable of servicing Tracy when Tracy has twice as many homes as it has at the time you put in the pipe. All right? So you build a pipe -- you have a pipe go in there that's tested out to a maximum operating pressure up here (indicating), but until everybody moves to Tracy, the -- you only use -- you only have to have this much gas there. So your pressure only goes this high (indicating). All right?

This regulation says if you built this to go to Tracy and you haven't had to use this, you know that you're safe up to here, you better have your pressure go up to there or your pipe is going to be limited to the speed limit and then when more people move in there, you're not going to be allowed to do

anything about it other than build more pipes or redo some -- retest or redo this pipe.

So all the operators before this regulation came in thought: I may have to increase in my pressure up to that point.

There are -- sometimes you'll see, I think you'll hear evidence of some of the regulators not liking that, calling it, well, that's a planned pressure increase. You're increasing -- you're increasing the pressure on the pipe on purpose. It's planned. You shouldn't do that, you know.

But if you look at the regulation, that's kind of what it suggests. And you're going to see evidence in this case from hearings and things where the operators told the regulators that that's what's going to happen. They said: You know, if you have that regulation, you're encouraging everybody. They are all going to run out and move their pressure up to the five-year high.

Let's see. Let's go to the next part of the regulation. Isn't there more on (e)(3)? I think there's a little more on (e)(3).

(Brief pause.)

There is a second part. Do we not have that? Okay.

Well, there is a second part of (e)(3) that you're going to see plenty of and it says on -- it says for some kind of pipes you have to raise it every five years; not just the five

years before it becomes an HCA, but every five years.

So if the operating pressure goes over what you had in the last five years, then you have to do some, you know, special assessments. All right?

So the operators looked at that and many of them said: Well, now, not only did I have to do this planned pressure increase before the regulations came in, but now I have to do it every five years or I'm going to lose capacity on my line. I'm not going to be able to service the people in Tracy or wherever. All right? So some of the operators then said: I think that's what they say we're supposed to do. And so they -- every five years they started moving their pressure up to that amount.

The best -- I was trying to think of a good example for it. No example is perfect, but the best example is what if there was a rule that said you can only drive your car the same -- you know, you can't drive your car any faster than you did the last week. That's like this. You can't put your pipeline -- you can't put more gas in your pipe than it has seen in the last five years.

Let's pretend it's a car. Your car is -- its maximum operating pressure, right, its maximum speed is 120 miles an hour, let's say. Right? The speed limits are 70. So you know you can always go up to 70 with your car no matter what. What if they made a rule that said: Well, that's fine, but your car

can -- we know that 70 is the maximum operating pressure, the speed limit.

Well, they said: Okay. Well, that's fine, but you -- your new speed limit is only what you've driven in the last week. So maybe the first week you -- you know, you drove to Los Angeles and you drove 70. So then you're fine. You know that I can still always drive 70. Say, the next week you are commuting and the fastest you were able to get was 60. Now, if that becomes your new speed limit, then the -- like these regulations, it would be like you could never drive your car faster than 60, because you haven't used it that much in the last week. Let's say the next week you just run errands and you don't go any faster than 35. So then you're unable to drive your car any faster than 35 forever.

So what would people do every Sunday night? They would -- they would take their car out for a quick spin and get it up to 70. And that's the best explanation I have for what the pipeline operators were doing with this five year thing. It's like Sunday night everybody took their cars out and drove them to 70 to make sure they can still drive at 70.

Okay. So that's the raise in pressure part.

The next part of this is -- is the safety part. When the operators raise their pressure up to that number, trust me, they believe that they are completely safe. They know that they can come up to MAOP. That's what the rules permit. All

right?

Using their engineering judgment, they say: Okay -- this is kind of like the car, saying: Okay, I know that my car still works at 70. I'm going to take it to 70.

So from a standpoint of a safety concern, people weren't worried about that. I think you will also see, though, there may be some occasions where that difference was quite a bit and you will see times where the engineers would say: Okay. Well, we should run it up to 70, but you know what? That car really has been sitting in the garage a long time and I'm not sure it's, you know, necessarily safe just to run it up to 70 on Sunday night. And so they did extra analysis and sometimes they said: You know, we're not going to take it to 70. We're only going to take it to 65 or something.

So you'll see evidence of people using their judgment trying to figure out how much they should raise it to and whether that's safe; you know, what folks should be doing.

Then the third point on that, the third point has to do with that whole plus or minus from the -- from the SCADA sensors that I was talking about. It's kind of the combination of that and the -- the margin of safety. And that is if you tell an engineer to run the -- the pressure up on a line to -- you know, from, say, 350 to 400 and say don't go any higher than 400, there is a little bit of give-and-take in that just because of you can't set the pressure exactly up the whole

line. You can't -- your sensors have a little bit of play in them.

So from the engineers' standpoint, you know, they will say: I told them to go up to the speed limit, but don't go any higher. Just do that, because the regulations require me to do this. And they didn't feel like there was any issue with that. If it went over a little bit, it's not a safety issue because there is this -- this huge margin of safety.

So those are kind of the three basic ideas behind PG&E and other operators' response to this here.

Now, in this regulation and in other regulations -- I mean, I call this -- this section sort of regulators are people too. That is, when people at PG&E are looking at these regulations trying to decide what they mean and can we run it up to five years, there's going to be other issues that you're going to hear testimony about, you know, such as maximum operating pressure. Does maximum operating pressure mean the pressure that you operate it at for a long time, or does it mean just the pressure that it's seeing for a moment?

And people were kind of struggling. Is it under abnormal conditions? Normal conditions? You know, is it just when it goes up for a little bit of time or does this mean when we're going to operate it for awhile? There are issues like that, you know, on these regulations that you'll see evidence and you'll hear testimony about PG&E engineers having trouble with.

Debating, should we do this? Should we do that? I don't know what it means, et cetera, et cetera.

You know, regulators are people, too. You know, they have a lot of the same education and training as the folks that are working at the -- in the industry and so they get these same regulations and they have some of the same questions, too. And I think in this case you're going to see evidence of the regulators debating some of the very same issues that the PG&E engineers were debating, but, yet, they are being charged with -- for a crime here. And I would say that's not surprising because the words, they say what they say and that folks are trying to understand them.

All right. Let's -- can we put up (e) for just for a second?

(Document displayed.)

This is kind of interesting. This is the last of the charges that has to do with this ERW pipe in which the regulations are a little stricter because the ERW pipe has a -- has -- there has been more trouble with ERW pipe than a lot of other pipes.

But I'm not going to go into the details of this one, but when you see it, you'll see that it is very similar to the previous section, but it's kind of different in a lot of ways and people are really struggling with some of those differences, as were the regulators.

In this case PG&E is charged with clearly understanding the regulation and intentionally violating it. I think you're going to see evidence here that people are having a hard time understanding what the regulation is and they were trying to follow it.

Okay. So that's the regulations. So we talked about history. We talked about pipeline basics. And we had sort of a quick primer on these regulations.

You're going to -- as Judge Henderson said, you're going to see a lot of those regulations and it's going to start becoming familiar and you're going to be asked to make some judgments about whether people were complying with those regulations or not.

So, now I'm going to do the best I can to tell you a story about pipeline management and it's -- you know, it's engineers dealing with regulations, so this is not a page turner. Right? But this is sort of a -- what happened. This is the best that I have for a story about pipeline management. Okay?

I think -- the story goes something like this. In 2003 engineers at PG&E and around the country knew that these regulations were coming into effect because they -- they put out proposed regulations. You'll hear about that. So there is a whole process for people. Right? They put out what the regulations might be and then the industry and consumer groups and safety groups, environmental groups all comment and

eventually they -- they then come out with their final regulations.

So people knew about the regulations a little before they happened, which led to that folks, you know, taking their car out for the spin to get it up to 70 on a Sunday night.

So while people were preparing for these regulations to come in, they went and raised their pressures to still within the speed limit, but just to make sure they got that five-year high that they were supposed to. And they did that and there was no problems, nothing happened. They went about managing the rest of the pipeline and dealing with the new regulations.

So then we get to be five years later. And remember how I said one of those regulations suggest that you have to do it every five years and not just the first five years? So the engineers looked at that and said: Okay. Well, I guess we have to raise them again. It seems kind of silly, but that's what the regulations say, so let's do it.

So they give instructions. They do their studying and they raise the rates up to that -- that five-year high again.

So when they are doing that, and when they are doing their diligence about what they did, they put all that data in a spreadsheet and somebody looked at that and said: Uh-oh. Well, this is interesting. On some of these pipes we -- the actual pressure went a little above that five-year high. You know, the speedometer rather than registering 70, when we look

at it, it looks like it made it to 71. Somebody said: Well, look. While they are doing their diligence, they said: Look, if operating pressure on that regulation means not operating for a long time, but just coming at it for -- you know, it just means pressure, as opposed to operating pressure, so if that's the case and if it's -- and if a tiny exceedence matters on these regulations, well, then, we're supposed to prioritize all these as high risk.

So two questions with that is: One is, well, they all know it's just a tiny little bit. The pipeline didn't become high risk just because it went over this tiny bit. It didn't become an actual risk for the risk management. You know, all of the engineers will testify that that's not the case. They didn't feel like there was any safety issue there.

And the other question that they had is, well, even if you do have to prioritize it as high risk, what exactly does that mean? We know we have seven years to do a reassessment. What are we -- what are we supposed to do? How soon do we have to do it? When do we have to do it?

So they looked at that and some of them said: Well, we may have a regulatory problem here. Nobody thought they had a safety problem.

So they thought: Well, this doesn't make any sense. I bet you there are other people in the industry that have this issue. So they tried to ask around and find out if other folks

had the problem. They discussed it among themselves, just like I said. You know, the coffee cups on the conference table. And then they -- they started doing something that is encouraged by the regulators, which is if you have a problem with one of our regulations, you shouldn't develop a white paper. You should explain yourself. Because everybody is still working on trying to understand these regulations. So these engineers started putting together a white paper and, also, putting together a draft policy that tracked that white paper.

They hired consultants. They had consultants looking at it. And what they came on, trying to find some way to not have to rechange how all their work was being done because of this tiny little exceedence that they knew didn't matter. You know, the thing they landed on was something that some other companies landed on, too, which is, well, there is a different place in the regulations that says any time you go more than 10 percent over the speed limit -- not your five-year high, but the actual speed limit, any time you go over the actual speed limit by more than 10 percent, then you have to report it to the regulators.

So they looked at that and they said: Well, I'm not sure 10 percent is actually a safety problem either. But here is an area where they say: Look, you can go 10 percent over. Maybe that makes sense as a way to interpret this policy.

I don't think anybody thought that 10 percent over was a big safety problem either, but that's what they -- that's what their thought was. Because they didn't think it made any sense to redo all of their risk rankings for an event that doesn't affect the safety of the pipe at all.

So they drafted up a policy. Debated it. Showed it to -- you know, showed it to their consultants. And they were waiting to see if the regulators were just going to change the policy, because they knew other people had that problem, too.

They didn't want -- they didn't want to be the first to raise it. I think they will be candid about that. They didn't think it was an emergency. They didn't think it was a safety problem. They had so many other projects to do. So in their view, it was just a regulatory glitch that was going to have to be dealt with. They kept all the records of all the pipelines. They had their policies. They had the draft policy. Okay?

So that's kind of -- that's the story. That's the end of the story about the activated seam threats. The end of the -- that is the actual end of the story. That's the last thing that happened.

So then it's a fair question, right? Well, why are we here? And the answer is -- you know, the real answer is a few months later the San Bruno explosion happened. And then what began was, you know, huge investigations. Right?

First one in is always the NTSB. They are the National

Transportation and Safety Board. They investigate big airline crashes and pipeline failures. They may have a couple other things, but those are the two that they do. And they come in in a rush investigation. The idea of their investigation is not to assign fault to anybody. The idea of their investigation is to find out what happened, what is the root cause, and then the idea is that we're all supposed to learn from it.

So if there is a plane crash, all the airlines are supposed to learn about it. If there is a pipeline failure, all the pipelines are supposed to learn about it because the idea is to keep all of us safe.

Other investigations started, too. The CPUC, the regulator, they investigated. There were lawsuits, as you can imagine. There's a lot of other things. So everybody is investigating this explosion. For good reason, right? For good reason.

So many requests and everything are coming in that PG&E had to set up a separate unit just to handle all the requests. Because, also, they respond to requests from the NTSB and the CPUC and any other Government entities, other cities, citizens, politicians, industry groups, you know. They try to respond to all of these.

And so there is a lot going on very quickly. Tight schedule. The NTSB itself sent over 550 requests for

information to the utility.

So one of the questions that they asked, you know, buried in amongst many, is: Give us all your policies related to the -- all these pressure increases. Tell us what that is.

So what happened is one guy takes them all and gives them all electronically. And what he did is he had -- he tried to combine them in order to send them electronically and he put the cover sheet of the old policy on top of the draft policy. So he accidentally sent them the draft policy rather than the policy that was in place.

The draft policy, remember, is this 10 percent one that everybody was discussing; that the NTSB and the regulators were talking to PG&E about at the time. And the other one didn't have this 10 percent because they made it early on before they realized they had this issue, right?

So that happened. Life goes on. Nobody asks any questions about it. And then at some point the -- the PHMSA people and the CPUC are going to do an audit of the whole Integrity Management. So when they are getting ready for the audit, getting the documents ready, somebody looks at it and says: Hey, wait a second. I think we gave them the wrong policy. We gave them a draft policy and not the real one.

So they quickly sent to the NTSB the regular policy, the draft policy, the cover sheet, and saying: Oh, we've got the -- we've got the wrong cover sheet on this one. Here is

what the facts are. Sent it to them.

NTSB never asked any follow-up questions. Nobody asked anything. NTSB then finished up its investigation.

Many months later they put that letter and those policies up on their website to say this is -- you know, this is -- kind of finishing up the record. There were other things they put up then, too. And there is -- there was no issue. So somebody sent them a draft policy.

The letter, when you look at the letter -- and that's, you know, Count One for obstruction. The Government didn't show it to you, but I assume you'll see it in the trial since it is what Count One is about. If you look at it, it's completely factual and it says exactly what happened. It didn't misrepresent anything to anybody.

So the evidence will show there was nothing false about the letter --

THE COURT: How is that opening statement? You can't argue to them what they should find when they look at that letter. And I'm not going to argue with you.

MR. BAUER: Okay, okay.

THE COURT: You've listened to what I'm saying about an opening statement. I'm going to read it again.

It will state only the facts they intend to prove. An opening statement is simply an objective summary of what counsel expects the evidence to show. No argument or

discussion of the law is permissible.

I gave you permission to go beyond that and explain these statutes so they would understand it, but you're weaving in arguments about your position. Don't do that.

MR. BAUER: Okay, your Honor.

All I meant to suggest was that the people will testify that they believe that the letter was accurate. So that's -- that's what the evidence will be.

I wasn't saying my opinion of it. I was just saying that's some of the evidence we'll present. But I take your point and I will be careful.

THE COURT: Okay.

MR. BAUER: So you'll be able to see that. You'll be able to see that letter yourselves and you'll be able to analyze it and see whether or not what it says is accurate or not.

So you will see that there is no allegation that that letter is at all related to the San Bruno explosion. And as I said, you won't hear any evidence in the courtroom that any of these exceedences or any of these other regulatory allegations led to the San Bruno explosion. Instead, you're going to meet a lot of engineers who are going to come here and talk about how they did their jobs and how they tried to deal with the regulations and how they dealt with new regulations that were telling them a different way to do things.

So I am nearing the end of my time. And I've given you a lot of material. Hopefully, it's an introduction to each of these different parts of the case. And the idea is that maybe, you know, when you hear witnesses talk about them or you see these regulations pop up again, it will ring a bell to you and, you know, help you place it in context.

But I want to finish where I began, and that is a -- you know, a corporation is not going to testify from the witness box. It will be people, the witnesses. People who will raise their right hand and swear to tell the truth, taking an oath just like you all did. And there are people who will testify about how long they worked in the pipeline business. What they're doing working to keeping pipelines safe. What did they do to keep gas flowing to service all. And how they dealt with this new regulatory scheme.

And so when they are being accused of knowingly and willfully violating these regulations, keep that in mind. Keep that in mind. And remember that the evidence is going to show that these folks live in the communities where their pipelines are. They have families. They have kids. They cross these pipelines every day. And so the -- I just want you to keep that in mind when you're assessing whether they would intentionally make any pipelines unsafe.

So at the end of this case, when I next get to speak to you, I fully expect to ask you to return a not guilty verdict

on all the counts.

Okay. Thank you, your Honor.

(Conclusion of excerpted proceedings)