EPSS Testing Video

Speaker 1 (00:00):

Oh, it is the most consequential work I have done in my entire career.

Speaker 2 (00:05):

As an engineer, I take a lot of pride in solving problems. Our goal is reducing ignitions and maintaining reliability. PG&E's distribution network is high voltage. There's a lot of energy present.

Speaker 1 (00:16):

We are talking about thousands of amps thousands and thousands of volts. The moment it becomes a real electrical arc. We trip the circuit. That is the main objective of EPSS, which is enhanced power line safety settings.

Speaker 2 (00:32):

When there's a fault, there's a device that sends a signal to de-energize the line there's some energy released. So the intent of EPSS is to minimize that energy that's released.

Speaker 2 (00:49):

So the testing we've been doing involves ignition testing. One thing we'll do is we'll purchase sod. The sod will be dried to a specific moisture content, and we can run tests on it. Afterwards, the sod we have here, it hasn't been dried yet. We'll also collect vegetation. And the intent there is we're experimenting with different fuel medias in our tests. The way I look at it, a lot of the problems today, you know, we have people solving 'em today, but a lot of the work we do here is actually solving tomorrow's problems before they happen.

Speaker 3 (01:22):

So then we'll start out with this one here. Yeah. We'll find the sweet spot. And then it'll just drop on like that.

Speaker 1 (01:28):

We are up against mother nature and we all, as an industry, realize that wildfire is a greater risk than anything else we are facing. And that's, that is our focus.

Speaker 3 (01:42):

Maybe up a little bit. I just hope it lands. Right? Dude,

Speaker 4 (01:46):

Test drop

Speaker 2 (01:51):

Out in the field. We have electrical faults and the most common faults are phase to phase or line to line. Or second type of fault is phase to ground. That's where either conductor could touch the ground or another object. That's grounded.

Speaker 1 (02:04):

The conditions that are abnormal in real life. We have the ability to create them in our lab.

Speaker 5 (02:09):

Okay. Jose Green, green, red, green,

Speaker 6 (02:11):

Green, green, red, green

Speaker 5 (02:13):

Close 2 72, 2 72

Speaker 6 (02:15):

Is closed. Bank is energized. Okay. I'm

Speaker 5 (02:18):

Ready. All right. Dropping tree limb.

Speaker 7 (02:22):

Yes.

Speaker 8 (02:30):

When the branch comes in contact with high voltage high power lines, what happens is it contacts two points. And from there begins to start carbonizing. And that creates a conductive path between the two points, creating the flashover,

Speaker 1 (02:47):

The protection settings for something to get detected, get a signal to the device. That's gonna act on that sensing and then disconnecting the power to the line. All of it happens within a hundred milliseconds.

Speaker 2 (03:00):

They can't be so quick that a momentary load bump would de-energize the line and they can't be so slow that a fault persists for a period of time. And there's a lot of energy released, which can lead to undesirable outcomes.

Speaker 1 (03:11):

That's the sweet spot that we are trying to find, cause you cannot trip the power for every little thing. Only if it is necessary. Our focus is putting breaks on those events before they become catastrophic.