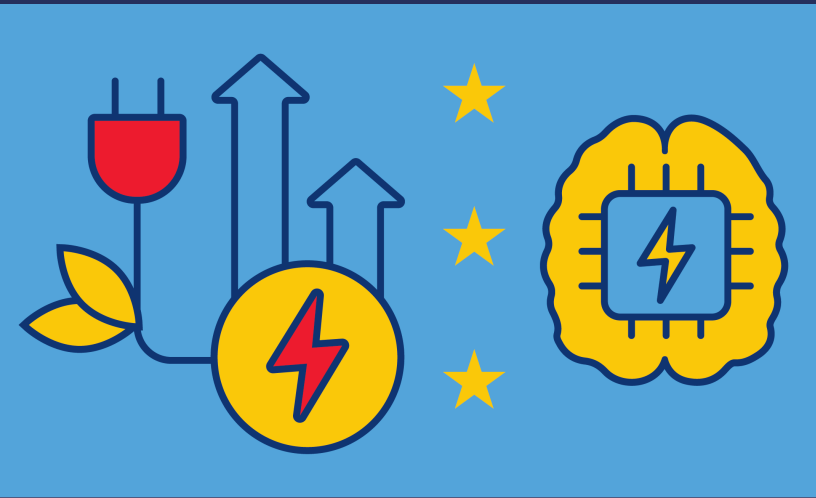




INCUBATENERGY LABS

2022 DEMO DAY

Powered by:



October 26
Minneapolis
Minnesota





Proxxi Voltage to Reduce Electrical Injury

Supported/Hosted by: TVA

EPRI Subject Matter Expert: Jared Green

TVA was looking for ways to radically reduce the number of contact inquiries and fatalities.

With Proxxi they explored application of Voltage in a variety of scenarios with positive outcomes.

Problem



- Many TVA employees are exposed to electrical risk daily
- Electricity: Silent & Deadly

Objective: Have all employees go home safely

Electrical Accidents & Deaths cost businesses \$billions each year



- **Minimum >\$1M/event, catastrophic >\$10M/event**
- Disruptive to both the business and employee morale.
- Electrical events in US:
 - 2K/year injuries
 - 200 fatalities
- Use outdated methods and PPE to keep workers safe
- Prediction based on human observation & anecdotes
- Rates of catastrophic injury have plateaued or worsened
 - Workplace procedural complexity
 - Redundancy needed for energy backup

What TVA said



- Electricity is ever present risk
- Electrical safety is a priority
 - Very hard to eliminate
 - Workers are human, humans make mistakes
- The negative result of a single error can be catastrophic for worker and company



Value Prop: Proxxi Voltage

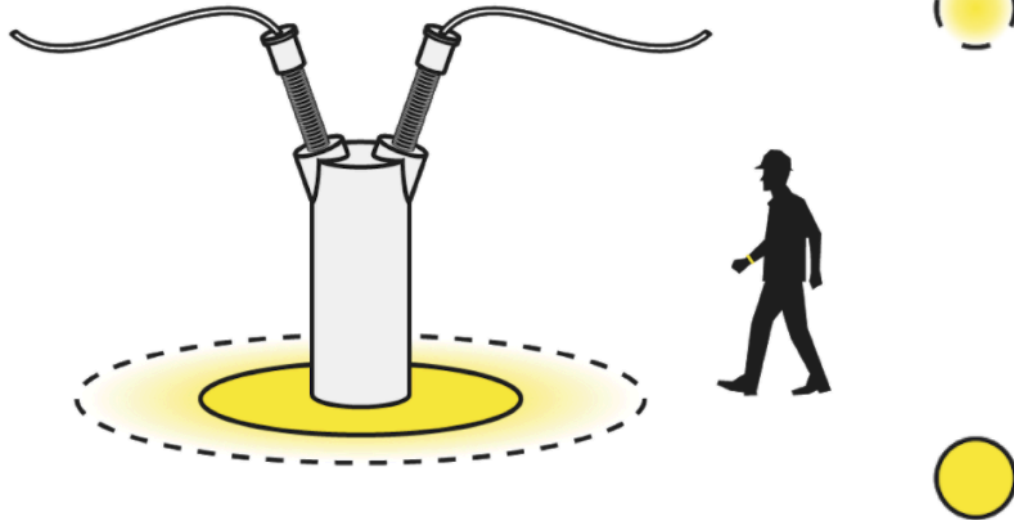
WORKERS

- Warn workers of electrical risk in real-time
- Full control of device settings and status

UTILITIES

- Real-time notifications
- Historical analysis to identify high risk teams and work
- Usage monitoring for deployment and compliance

Key Features: Warning



Initial Alert: Voltage will alert as you enter the initial alert zone.

The alert consists of haptic feedback (vibrations) well as audible and visual alerts.

These alerts increase in frequency as you near the limits of approach

High Alert: Once the limit of approach has been breached, the alert becomes persistent, indicating a potential near miss.

Key Features: Band



Multi-voltage: Enable users to calibrate warnings on the fly from 480V-500kV



Mute: Silence alarms when workers acknowledge they are working energized



iOS & Android compatibility

Key Features: Dashboard

≡ PROXXI

Logout

Organization

Division

Min Date

Max Date

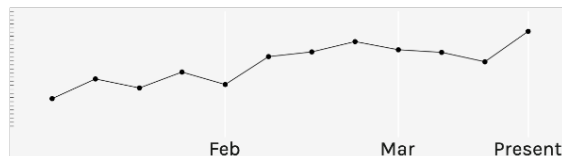
Filter

March 19-23, 2018

Team	Device Usage	Self Checks	Warnings	Near Misses
Field Operations	87%	83%	105	4
Mechanical	97%	91%	85	0
Construction	79%	75%	59	0
Electrical P&C	89%	88%	110	1
Distribution	87%	82%	42	0
Stations	86%	82%	27	3

Division-Wide 12 Week Trends

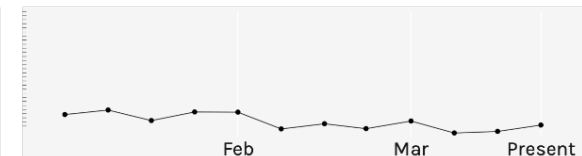
Device Usage



Warnings



Near Misses





Summary Report

DIVISION

Proxxi Technology D... ▼

START DATE

2021-05-01

END DATE

2021-05-31

TIMEZONE

America/Vancouver ▼

APPLY

Employee Data

Individual	Group	Days Active	Initial Notice	Warnings
0749	Proxxi Technology Demo	11	6	3
OBJK	Proxxi Technology Demo	17	4	3
3FYX	Proxxi Technology Demo	11	1	1
FKGJ	Proxxi Technology Demo	14	1	0
VVCH	Proxxi Technology Demo	14	12	5

Personal Voltage Protector - Feature Profile



DEVICE	Proxxi Voltage	Compass	V-Watch
VOLTAGE RANGES			
Low Voltage Sensing (<1kV)	●	●	●
Medium Voltage Sensing (1kV-35kV)	●	●	●
High Voltage Sensing (>35kV)	●	●	●
DATA			
Compliance Reporting Data	●	●	●
Individual Behaviour/Warning data	●	●	●
Team Data, Trends and Insights	●	●	●
WARNING MODES			
Haptic Feedback	●	●	●
Audio Alarm	●	●	●
Visual Alarm	●	●	●
CONTROL & CUSTOMIZATION			
Tap to Mute	●	●	●
User Controlled Voltage Settings	●	●	●
Customizable Voltage settings for teams	●	●	●
FORM FACTOR			
Dominant hand protection	●	●	●
Head-mounted device	●	●	●
Body Worn Device	●	●	●

- Feature Complete
- Available with Adaptation
- Feature Not Available



"Use it when I'm out trouble shooting 480v MCCs, it works well, pretty cool."
- Kevin Basham

"During outages I could see using it all the time. Everything is changing. 2 big outages every year."
- Jarrod Decker

"Any time that I go to a site I wear it"
- Mike Carter

"Sometimes get into hot panel work... I was around transformers- 13.8kV down to 480V. It did pick up the nominal voltage very quickly."
- Kevin Woods



TVA Teams teams have provided positive feedback about their experience with Voltage.

Proxxi Voltage is alerting them in the event of energy being present in the system when not expected which is precisely what they are concerned about.

One of TVAs Safety managers has gone so far as to take his wristband to a 3rd party safety council meeting.

Currently identifying teams for broader deployment generation facilities, powerline technicians and storm response



Thanks to:

EPRI - Jared Green

TVA - James Linder, Robert Lee, Jonathan Carlton

Proxxi - Ryan Hobenshield, Campbell Macdonald



Host Utilities and collaborators



conEdison, inc.



SOUTHERN CALIFORNIA
EDISON®

An EDISON INTERNATIONAL® Company



Thank You

For more information contact:
Campbell Macdonald
415-980-8190
campbell@proxxi.co

