

Jonathan Juarez

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SUMMARY

Electronics engineer with 11 years supporting communications and automated control infrastructure across electric utility and industrial power environments. Experience covers SCADA, EMS, RTUs, telemetering, **operations support systems**, **fiber optics**, **microwave radio**, VHF, UHF, **spread spectrum radio**, MPLS, SONET, TDM, IP, and VOIP networks. Defines technical requirements, engineering approaches, constraints, and standards for transmission communications systems. Investigates equipment failures through diagnostics, event records, maintenance history, and field observations, then guides corrective action. Partners with field technicians, engineers, project teams, and maintenance groups during design, commissioning, troubleshooting, and site verification. Work includes energized substations and communications facilities, with consistent use of PPE and electrical safety controls.

EXPERIENCE

Senior Electronics Engineer

March 2023 - Present

Sonoran Transmission Technologies

Tempe, AZ

Lead engineering support for transmission communications and automated control infrastructure. Own requirements, upgrade designs, failure investigations, maintenance reviews, field guidance, and safety focused verification across distributed facilities.

- Defined **SCADA**, RTU, **telemetering**, voice, and operations support requirements for transmission upgrades.
- Designed fiber optic and microwave paths around equipment limits, network reliability, and remote site conditions.
- Investigated recurring radio and telemetry failures using diagnostics, event records, and field observations.
- Guided technicians on **VHF**, **UHF**, spread spectrum, microwave, MPLS, TDM, IP, and VOIP systems.
- Reviewed regional maintenance execution and revised engineering instructions for consistent reliability practices.
- Verified energized **substation** installations with PPE, safety controls, and approved **engineering requirements**.

Electronics Engineer

January 2020 - February 2023

Copper State Grid Solutions

Phoenix, AZ

Engineered communications improvements for SCADA, EMS, RTUs, telemetering, and remote transmission facilities. Connected design criteria, **failure analysis**, technical procedures, commissioning support, and migration planning.

- Connected SCADA and EMS functions with **RTUs**, telemetering equipment, and remote **transmission facilities**.
- Established fiber, microwave, and **IP** design criteria around legacy equipment and operational constraints.
- Analyzed communications alarms and intermittent telemetry using network data and maintenance history.
- Produced repair and replacement recommendations that gave field teams clear corrective options.
- Authored procedures and configuration guidance for implementation, testing, and troubleshooting activities.
- Supported TDM and **SONET** migrations toward **MPLS** and IP while preserving operational voice and data paths.

Communications Systems Engineer

June 2017 - December 2019

High Desert Utility Engineering

Flagstaff, AZ

Supported power communications serving substations and remote facilities. Combined equipment testing, network analysis, controlled documentation, maintenance review, and field safety practices across industrial operating environments.

- Configured VHF, UHF, spread spectrum, and microwave equipment under approved **engineering standards**.
- Tested IP, **TDM**, and SONET connectivity supporting operational data and voice traffic.
- Traced network interruptions across segments and isolated communication failure points for engineering review.
- Updated drawings, procedures, and maintenance references after field equipment changes.
- Converted recurring maintenance findings into targeted inspection and replacement recommendations.
- Collected engineering data at substations while following **PPE** and **electrical safety** precautions.

Junior Electronics Engineer

June 2015 - May 2017

Mesa Controls Integration

Mesa, AZ

Supported industrial communications and automated control interfaces under **professional engineering** supervision. Prepared calculations, testing records, technical documents, and field evidence for reliable equipment decisions.

- Prepared calculations and equipment comparisons for communications projects under engineering supervision.
- Tested fiber and Ethernet connections used by control equipment and documented signal findings.
- Investigated equipment problems using schematics, test results, and maintenance records.
- Maintained drawings, procedures, and equipment records after approved field changes.
- Supported industrial site work while following location specific safety requirements and documented procedures.

PROJECTS

Transmission Fiber and Microwave Resiliency 📅 2024

Improved communications path planning for remote transmission facilities by balancing fiber optic routes, microwave capacity, equipment constraints, and service reliability.

SCADA and EMS Network Migration 📅 2022

Supported migration from legacy TDM and SONET services toward MPLS and IP connectivity while preserving required operational voice, telemetry, and control data.

LEADERSHIP & AWARDS

- Recognized by engineering leadership for dependable support during transmission communications upgrades and field commissioning.
- Selected by peers as a trusted resource for diagnosing radio, telemetry, and network failures across distributed sites.
- Received team recognition for clear procedures that improved consistency in maintenance and troubleshooting work.

EDUCATION

Bachelor's Degree in Electrical Engineering

Arizona State University GPA: 3.5

Coursework: Power systems, communication systems, control systems, engineering design

2015
Tempe, AZ

CERTIFICATIONS

- Engineer in Training, Arizona 📅 2016
- Fundamentals of Engineering Examination 📅 2016

TECHNICAL SKILLS

- **Power Communications:** SCADA, EMS, RTUs
- **Telemetry Systems:** Telemetry, Remote telemetry units, Data distribution
- **Fiber Optics:** Fiber optic links, Optical testing, Fiber path design
- **Radio Communications:** VHF radio, UHF radio, Spread spectrum radio
- **Microwave Systems:** Microwave radio, Point to point links, Radio path planning
- **Data Networking:** MPLS, IP networking, VOIP
- **Legacy Networking:** SONET, TDM, Circuit migration
- **Engineering Analysis:** Failure analysis, Equipment diagnostics, Corrective action
- **Control Systems:** Automated control, Real time control, Operations support systems
- **Engineering Documentation:** Technical requirements, Engineering procedures, Configuration guidance
- **Field Engineering:** Substation support, Site verification, Commissioning
- **Safety Practices:** PPE, Electrical safety, Energized equipment

SKILLS

- SCADA
 - EMS
 - RTUs
 - Telemetry
- Fiber Optics
 - VHF Radio
 - UHF Radio
 - Microwave Radio
- MPLS Networking
 - SONET
 - TDM
 - IP Networking
- VOIP
 - Failure Analysis
 - Substation Safety

PROFESSIONAL AFFILIATIONS

- Institute of Electrical and Electronics Engineers, power and communications engineering participation.
- Arizona engineering community, continued involvement in utility systems and professional engineering development.

LANGUAGES

- English (Native)
- Spanish (Proficient)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST