

American Radio Relay League, Inc.

Job Description

RFI Lab Engineer

Department: Lab

Reports to: Lab Manager

Classification: Exempt

Salary Range: \$69,980.00 to \$80,000.00 Annually.

Summary:

The RFI Lab Engineer is responsible for managing, evaluating, and resolving Radio Frequency Interference (RFI) cases received by ARRL. This role involves technical testing, documentation, inter-agency coordination, database management, and contributions to national and international standards organizations. The position requires a proactive approach to case resolution, clear communication skills, and a thorough understanding of RF systems and EMC principles. Additionally, the role performs a wide range of technical duties in support of ARRL Technical Information Service (TIS), publications, membership services, and spectrum defense objectives.

Essential Functions & Responsibilities:

General RFI Workflow

- Evaluate RFI cases using industry-standard techniques and tools.
- Perform in-lab and field testing, including direction-finding to locate sources of RFI.
- Recommend corrective actions and assist with mitigation strategies.

Case Handling & Documentation

- Maintain a structured and organized database for email communications and case files.
- Track all correspondence and case details within the RFI database.
- Draft and manage official correspondence with the FCC, equipment manufacturers, local utilities, and ARRL stakeholders.

FCC Cooperative Agreement

- Serve as the primary liaison with the FCC on RFI matters.
- Respond promptly to FCC-referred cases and maintain open lines of communication, ensuring ARRL maintains credibility and effectiveness.
- Draft initial FCC letters, with the FCC issuing secondary letters as needed based on ARRL recommendations.

RFI Database Management

- Maintain and update the RFI case tracking database.
- Use the database to analyze trends, generate statistical reports, and support the work of the ARRL EMC Committee.
- Ensure accuracy and integrity of case records and historical data.

Reference Materials & Education

- Contribute to the development and maintenance of ARRL's RFI educational resources, including:
- ARRL RFI web pages
- ARRL Handbook and RFI Book content
- Other educational and technical materials as required.

Intake Form Oversight (Jotform)

- Manage Jotform-based RFI intake forms.
- Ensure proper categorization and intake of RFI cases (e.g., device-related, or utility-related).

ARRL EMC Committee

- Provide case statistics and database summaries to the EMC Committee Chair.
- Participate in committee meetings as scheduled (typically via Zoom).

ANSI C63 Committee

- Participate in Main Committee and relevant subcommittees.
- Support the development and revision of EMC-related standards.

IEEE Involvement

- Represent ARRL within the IEEE EMC Society and associated groups, (e.g., IEEE Hams, EMC SIPI)

International Representation

- Serve as the Region 2 EMC Coordinator for the International Amateur Radio Union (IARU).
- Promote cooperation on EMC issues within the international amateur radio community.

Pre-Compliance Conducted emission testing.

- Perform testing in accordance with American National Standards Committee (ANSC) C63 standards, as required by FCC rules under 47 CFR Part 15, to identify noisy devices that may interfere with Amateur Radio bands.

Performance Measurements:

- Contribute to creating positive energy and fostering a collaborative team atmosphere, showing excitement and pride in the team's work, and being accountable for results.
- Evaluation of the suitability of suitably and timeliness of electronic design, research, and development.
- Evaluation of the suitability and timeliness of technical comments about material reviewed for ARRL publications.
- Evaluation of the quantity, quality, and timeliness of technical Membership contact.

Knowledge and Skills:

Experience: Three to five years of similar or related experience.

Education: A bachelor's degree in electrical engineering or achievement of master level in recognized skilled technical trade.

An Amateur Radio license with the expectation of acquiring an Amateur Extra license within 6 months of employment.

Interpersonal Skills: Work involves much personal contact with others inside and/or outside the organization for the purpose of first-level conflict resolution, building relationships, and soliciting cooperation. Discussions involve a higher degree of confidentiality and discretion, requiring diplomacy and tact in communication. Must have the ability to interface effectively at all levels.

Other Skills:

- Broad familiarity with Amateur Radio and radio technology.
- Broad familiarity with Amateur Radio operating techniques.
- Advanced Class or higher Amateur Radio license.
- Ability to perform engineering-level testing.

Physical Requirements: Ability to sit or stand at a desk or workstation for extended periods of time and use hand tools and test equipment. Must be able to lift up to 70 pounds.

Work Environment:

- Office environment with electronic workbenches and laboratory facility which includes:
- Electronic circuits and voltages
- Usage of hand tools, soldering equipment, small power equipment, and slightly toxic and caustic chemicals.
- Strict adherence to established and appropriate safety procedures and protocols.