

## 6 GHz Task Force Scope

### Purpose

In 2020, a consortium of electric industry associations published a report on the Impact of Proposed Wi-Fi Operations on Microwave Links at 6 GHz. The 6 GHz band of the radio spectrum is widely used by a broad array of industries responsible for critical infrastructure such as electric, gas and water utilities, railroads, and wireless carriers, as well as by public safety and law enforcement officials. Those industries rely on the 6 GHz band to operate their equipment and is a main source of primary communications for voice and data, and in some cases back-up communications, during emergencies and disasters. The report identifies impacts to electric power operations. Additional follow-on work by EPRI and various affected stakeholders have shown—through testing—impacts to their critical electric infrastructure communications due to increased congestion and interference on the 6GHz wireless communication band. As adoption of the new technology increases, the risk to bulk power system (BPS) operations may increase.

### Activities

The Reliability and Security Technical Committee (RSTC) oversees the 6 GHz Task Force (6GHZTF).

The 6GHZTF will provide recommendations to the NERC RSTC as follows:

1. Determine scope of issue (e.g., limited to 6 GHz, relationship to other telecommunications items, etc.)
2. Gather information related to risk of harmful interference in the 6 GHz spectrum.
  - a. Identify penetration and BPS users relying on 6 GHz.
  - b. Reach to industry for input on potential readiness issues (e.g., trade associations, membership organization, compliance forums, registered entities, etc.).
  - c. Initiate or request industry information related to current harmful interference experience.
  - d. Identify potential mitigation strategies.
3. Evaluate options for industry outreach.
4. Develop suggested recommendations related to the issue.

### Deliverables

The 6GHZTF will develop the following:

1. Impact Assessment to effectively assess communication disruption risks in operations of the BPS.
  - a. Representative group of utilities perform critical circuit identification voluntarily for pilot activities and feasibility development. Recommended focus on Hub locations or non-Hub locations that are critical to grid operations.

2. Recommendations for the development of tools/guides to enhance operational awareness about harmful interference to communications information. Some of the information needed for situational awareness is captured below.
  - a. Work with radio manufacturer(s) to assess what performance reports and alarms are available from the radio. In addition, assessment should include how the radios interface with respective Network Management Systems (NMS). Information sharing for industry if possible.
  - b. Work with their equipment manufacturers to determine next steps needed to detect interference for information sharing, if practicable.
  - c. Develop method for standardized reporting of identified harmful interference.
3. Information that can be used for a range of audiences that describe potential emerging risks and possible solutions to address these risks. This information may include educational materials, workshops, webinars, or other beneficial platforms.
  - a. Several resources are available publicly to further demonstrate the problem and anticipated outcomes. Design effective way to share information (FAQ, resource library, one-stop shop, etc.).
  - b. Guidance for entities to provide options for methods to test for harmful interference.
  - c. Host webinar to raise industry awareness and increase recognition that Wi-Fi6E interference will have detrimental effects on the Licensed 6GHz fleet for all companies.
4. Recommendations related to the GridEx V Executive Tabletop Recommendation on 6 GHz to facilitate work with the telecommunications sector to consider interdependencies.
  - a. Utilities should document critical communications facilities as part of their grid restoration plans.
  - b. Work with telecommunication providers to understand broader communication industry restoration priorities.
  - c. Incorporate any other identified and related communication network recommendations as deemed necessary or logical for the scope of the task force.
5. Other tasks as deemed appropriate.

Materials developed could include technical reference documents, guidelines, alerts, and other educational materials to support industry efforts for preparedness.

## **Members, Structure, and Roles and Responsibilities**

The 6GHZTF includes members who have technical or policy level expertise in the following areas:

- Telecommunications networking
- Reliability Coordination
- Transmission Operations

- Generation Operations
- Electric and infrastructure operations
- Communications Policy

The 6GHZTF will consist of a chair and vice chair appointed by the RSTC leadership. NERC staff will be assigned as coordinator(s). Decisions will be consensus-based of the membership, led by the chairs and staff coordinator(s). Any minority views may be included in an addendum.

## **Reporting and Duration**

The 6GHZTF will report to the NERC RSTC. All work products will be approved by the NERC RSTC. The group will submit a work plan to the RSTC following its inception and will develop the deliverables outlined.

## **Meetings**

The group is expected to meet as necessary via conference calls to execute the deliverables outlined in the near-term timeframe. Further work and continued necessity for meeting will be evaluated once deliverables have been delivered and approved.

## Appendix A: Roles and Responsibilities

**Table A.1: 6GHZTF RACI (Responsible, Accountable, Consulted, Informed)**

Description	RSTC Sponsor	6 GHz TF Chair	6 GHz TF Vice Chair	Sub-Team Lead	Sub-Team Member	NERC Staff (Secretary)	NERC Staff (Support)	6 GHz TF Member	6 GHz TF Observer
Organize monthly/quarterly 6GHZTF Meetings	I	A, R	A, R	I	I	C	I	C	I
Organize Sub-team meetings	I	A	A	A, R	C	C	I	I	I
Coordinate Sub-team activities, ensure completion of Sub-team tasks	I	I	I	A	R	I	I	I	I
Administrative review of products completed	C	A	A	R	C	C	I	I	I
Drive RSTC review/acceptance process	C	A, R	A, R	C	C	C	I	I	I
Perform sub-team tasks	N/A	I	I	A	R	I	I	I	I
Coordinate with other working groups	I	A, R	A, R	C	C	I	I	I	I
Meet with 6GHZTF chair/vice chair for status, problem-solving	C	C	C	A, R	C	I	I	N/A	N/A
POC for 6GHZTF for industry groups	C	A, R	A, R	C	I	I	I	I	I
Problem-solve for delivery dates	I	C	C	A, R	R	C	I	I	I
Maintain extranet site	I	A, R	A, R	A, R	R	I	I	I	I
Send out and collect calls for volunteers	I	A, R	A, R	C	C	C	C	I	I
Drive continuous improvement for 6 GHz TF processes	C	A, R	A, R	R	C	C	C	C	I
Endorse 6GHZTF products	C	A, R	A, R	C	I	C	I	I	I
Provide 6GHZTF Scope Guidance	A	R	R	C	C	I	I	I	I
Provide daily guidance to sub-teams	N/A	A	A	R	C	I	I	I	I
Extranet design changes, tools	I	A, R	A, R	C	C	I	I	I	I
Manage project input process	C	A, R	A,R	C	C	I	I	I	I
Maintain and monitor work processes	I	A	A	R	C	C	I	I	I
Approve 6GHZTF Work Plan	C	A	A	R	C	C	I	I	I
Manage mailing lists and overall SharePoint environment (extranet)	N/A	A	A	C	C	C	R	I	I

## Appendix B: Version History

**Table B.1: 6GHZTF Scope Version History**

Date	Page	Description	Version
12/14/2021	All	Draft 6GHZTF Scope Approved by the RSTC	1