All wireless carriers licensed with the FCC are required by federal regulations to prevent the general public from being exposed to RF fields in excess of the FCC mandated Maximum Permissible Exposure (MPE) Limits. OSHA enforces the same FCC MPE Limits. Therefore, all organizations/companies that host wireless facilities on their properties/rooftops are also responsible for providing their employees and contractors a safe place to work with regards to the same human exposure MPE Limits. The nationwide wireless carriers are constantly modifying their existing installations and increasing their transmission powers to provide enhanced 4G LTE services. In addition, these wireless carriers are also adding new technology to their existing transmission sites and also to city-owned utility/lighting poles in order to provide the newest and fastest next generation (i.e. 5G) wireless services. While many FCC licensees perform "in-house" compliance checks of their transmission sites for budgetary savings, compliance with OSHA and FCC regulations cannot be short-changed or overlooked.

Trott Communications Group, Inc. (Trott) is a 40-year old independent radio frequency (RF) engineering consulting firm based in Irving, Texas. Trott is certified and registered by the Texas Board of Professional Engineers, certified as a woman-owned business enterprise (WBE), certified as a Small Business Enterprise (SBE), and certified as a State of Texas Historically Underutilized Business (HUB).

Trott has performed thousands of RF exposure compliance studies all over the United States and in Puerto Rico for various FCC licensees including wireless carriers, utility companies, airports, building owners and government entities. Trott also manages communication towers and rooftops in the State of Texas and understands the RF compliance issues that these facilities face.

As a wireless facility manager, many tower/rooftop lease agreements have provisions requiring their wireless tenants to "comply with all FCC rules and regulations and bear any reasonable costs associated with ensuring such compliance". Ensuring that all FCC licensees operating at your property perform a valid human exposure compliance study taking into account the "composite" RF field levels and also accurately interpreting the results is a daunting task. This is where Trott's expertise in RF exposure studies, site management, and RF safety training can pay off. Trott can ensure that the property is in full compliance with mandated MPE Limits, and that all employees and contractors have a safe work environment with regards to human exposure to RF fields.

Trott's RF Exposure and Compliance Services

RFE Studies are also commonly referred to as EME, MPE or NIER Studies. Trott started performing RFE Studies in the early 1990s when Raymond C. Trott, PE (Trott's founder) evaluated the levels of RF fields at multiple residences near a mountaintop communication facility located in Santa Barbara, CA. Since that time, Trott has performed thousands of RFE Studies in 46 of the 50 States and Puerto Rico for an array of clients. These Studies consisted of RF field measurements, RF predictions/calculations and/or an analysis using the federal regulatory rules found in the FCC's Office of Engineering & Technology (OET) Bulletin 65. The following are descriptions of the RF Exposure and Compliance Services that Trott offers. Any of these services can be customized to meet the specific needs and requirements of our clients.

An RF Field Measurement RFE Study is a cost-effective and FCC/OSHA-approved method to document the existing RF field levels as a percentage of each FCC MPE Limit for each tested area. The field measurements are collected at the site by a Trott RF Engineer during normal business hours. This method works well in identifying a site for further evaluation, i.e. the site is measured to exceed one or both of the MPE Limits. To analyze a proposed installation or proposed modifications at a transmission site a Prediction RFE Study is required.

A Prediction RFE Study is also an FCC/OSHA-approved method to analyze the "worst-case" (highest possible) RF fields that could exist at a transmission site by utilizing software and/or manual calculations. The predictions assume all existing and/or proposed transmitters are operating at a 100% duty cycle (constantly transmitting). The predictions provide a means of easily re-analyzing the site's RF field levels in the future when changes are proposed. The output of a Prediction Study is a color-coded mapping of the rooftop/site which clearly defines the areas where the RF fields exceed the MPE Limits. This mapping is used to develop an RF Site Safety Plan for the rooftop/site and furthermore it will be a critical component of the RF Awareness and Safety Training.

A majority of the RFE Studies performed by Trott include an on-site survey by a Trott RF Engineer/Surveyor. During the survey, Trott will collect RF field measurements and will gather information regarding site access, the location of existing RF signs and controlled access areas (i.e. RF barriers/markers). Photos of the site will also be taken during the survey to visually document the site and the existing antennas in the final report. During the survey, spatially-averaged RF field measurements will be made at 1', 3' and 6' distances in front of or near each existing accessible antenna and at numerous locations where work by persons at the site may be required on HVAC or elevator equipment. All measurements will be made using a factory-calibrated Narda RF meter and broadband probe. Also during the survey, Trott will prepare a top-view drawing of the site that will note the location of all the existing antennas and where the non-antenna specific RF field measurements were collected during the survey. The drawing will also note the owner of each antenna (if available) and the areas/rooftops that were accessible by Trott during the site survey. If required by a local jurisdiction, one of Trott's Licensed Professional Engineers (PE) can oversee, review, sign, date, and stamp each Report with their respective PE seal.

RF Awareness and Safety Training (Training) is the process of educating all personnel needing access to an RF environment of the pertinent background/issues regarding RF radiation and the safety procedures for working in an RF environment. The Training conducted by a Trott RF Engineer will provide each trainee (i.e. building engineers, HVAC technicians, managers, construction personnel, building maintenance personnel, etc.) with the awareness and abilities to recognize, prevent, control, and monitor their RF exposure levels. Trott offers a comprehensive one-hour Training class specific to the building/property which can be conducted at your facility or via a webinar. The Training covers the pertinent background and RF safety topics and provides detailed site specific training for the building in question utilizing the results of its most recent Trott-conducted RFE Study.

If you have any questions and/or would like more information please contact Barry Black at (972) 518-1811 x106 or at barry.black@trottgroup.com. Also, please feel free to obtain additional information about Trott and our RF engineering services from our website at www.trottgroup.com.