

## **Importance of Accurate Onsite Meteorological Data When Calculating X/Qs**

Jim Holian  
Holian Environmental

### **ABSTRACT**

Onsite meteorological data is collected at commercial nuclear facilities and most DOE/DOD facilities throughout the U.S. for use in many applications, including short- and long-term dose assessment. Using accurate data that has been reviewed and scrubbed of all bad data is critical in ensuring that the calculated X/Qs used in these applications are correct and not under or over estimated. Bad data is not just limited to equipment or sensor failures that are easy to identify, but include data impacted by tower interference, tree growth, and nearby anthropogenic sources such as ISFSIs and parking lots. Recent studies have shown that onsite meteorological data sets that include only a small amount of bad data from any or a combination of these sources can result in annual X/Qs that are 1-2 orders of magnitude different from long-term averages and with wind direction frequency maximums and minimums that are in different sectors. This impact can have a dramatic effect on REMP programs, monitoring station placement, ODCM calculations, and emergency response planning.

Paper presented at the 24<sup>th</sup> Annual RETS/REMP Workshop, June 24-26, 2014, Savannah, GA.