

## Report to ACAT 01/25/2016

Text version below to accompany slides

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### • Noise Monitor Test Summary KTRK • November 2015 – November 2016 •

#### Summary:

In November of 2015, the Truckee Tahoe Airport District was asked by Vector Airport Solutions to act as a test location for integration of a noise monitor into their VNOMS software: Vector Noise and Operations Monitor System. NOMS screen shot.

One sound meter using a solar powered base station and broadband connectivity to the Vector server was placed near the departure end of Runway 29, the most frequently used runway at KTRK. Noise events were integrated into the user interface of the software so sound levels could be correlated to aircraft operations. Noise Analysis screen shot.

Staff referred to the noise meter analysis on approximately 3 occasions in relation to noise comments received from the community. As a standalone unit, the location was only effective to measure arriving aircraft to Runway 11 or departing aircraft from Runway 29. A sample of an operation scenario follows, however to understand the case studies, some education on sound terminology is required so the required definitions follow as well.

#### Sound Terminology and Concepts:

Decibels (dB) measure sound levels. They are logarithmic expressions, so it is important to understand increases in dB levels are exponential *so the differences in levels are substantial*. **Community Noise Equivalent Level (CNEL)** is a weighted average of noise levels over time. It is used to compare the noisiness of neighborhoods. CNEL is frequently used in regulations of airport noise impact on the surrounding community. Noise contours depict average levels and allow planner to ensure compatible land uses around airports. **Sound Equivalency Level (SEL)** is the total measurement of sound energy using a reference duration of 1 second. SEL allows for comparisons between transients noise with differing time durations. **Leq** is the sound equivalency level; it is an average over the sampled period. **Lmax**: The highest point of sound energy measured during the sample period.

Sample Noise Event – See Slides

Sample Summary Report – See Slides

ACAT and the Board of Directors have reviewed the use of noise monitors at KTRK and never initiated the process to procure and install a network of Noise Monitors. Some of the key factors in building a network of noise monitors are the number of monitors required, locations and site leases, power and communications to the sites, conflicts with ambient noise sources, additional staff and professional services to maintain the system.