

**2018 Mo-99 TOPICAL MEETING ON
MOLYBDENUM-99 PRODUCTION TECHNOLOGY DEVELOPMENT**

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STAX DATA SHARING PROJECT

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ABSTRACT

Fission based isotope production routinely emits radioxenon that can be difficult to distinguish from signatures resulting from underground nuclear explosions. Knowledge of the amounts and isotopes of radioxenon released from industrial sources, such as fission-based medical isotope production facilities, has the potential to help us better understand global radioxenon backgrounds which interfere with nuclear explosion monitoring. The Source Term Analysis of Xenon (STAX) project is intended to determine how radioxenon release data collected from such facilities can be used to improve nuclear explosion detection, such as in the International Monitoring System for the Comprehensive Nuclear-Test-Ban Treaty.

The STAX project works with willing producers to develop methods, tools and technology to collect stack release data from isotope production facilities, securely transfer the data to a central repository, and convert received data to a standard format. PNNL has begun collaborations with several medical isotope producers and international partners to standardize technology, purchase and install stack monitoring equipment, develop data transfer infrastructure, and design software for data handling and analysis.