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Security and Continued Use of Cesium-137 Chloride Sources and Notice of Public Meeting

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Security and Continued Use of Cesium-137 Chloride Sources: Granting Extension of Comment Period

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General Comment

The following comments are made in regard to issues with the elimination and/or replacement of these sources with alternative materials.

At nuclear power stations, these types of sources are stored in locked areas within the Protected Area (PA). The PA is designed to protect against the NRC defined Design Basis Threat. Only trained and authorized personnel, who also have received a thorough background check and been granted unescorted access to the PA, have access to these sources. The security of Cesium-137 chloride sources from potential terrorist threats including acts of sabotage, theft, or use of a radiological source in a radiological dispersal device is not considered to be a credible threat for nuclear power stations.

Gamma calibrators using Cs-137 sources are heavily shielded resulting in them being extremely bulky and heavy. It takes a major effort to move or transport these shielded sources.

Cs-137 represents the industry standard calibration source for a majority of radiation detection equipment due to its long half life and mid range energy approximation of what nuclear plants expect to see from plant operations.

A major portion of the industry?????????s radiation detection program is built around using these sources for calibration. A typical nuclear plant has hundreds of radiation

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detectors calibrated using Cs-137 sources. Overall the nuclear industry has literally tens of thousands of instruments calibrated with these sources.

Replacing these types of sources with some short lived alternative such as Cobalt-60 has many disadvantages. The Co-60 or other short lived alternative would require much more frequent and costly change out. On an atom for atom comparison, Co-60 and other acceptable shorter lived nuclide sources have much higher gamma energies than Cs-137. This would require such sources to have considerably more shielding resulting in greater weight and higher costs for manufacturing, handling, and transportation.

Shorter lived sources would require more curies of radioactivity to last longer and be of comparable value to Cs-137. This also would increase the amount of shielding needed for the sources.

The risk of more curies of higher energy shorter lived nuclides replacing Cs-137 sources may represent a greater threat than using the Cs-137 sources.