

$$\frac{(\text{Number of } \alpha\text{-particles per unit area})}{(\text{Area of detector})} = \frac{(N_{\alpha})}{(A)} = \frac{(N_{\alpha})}{(4\pi r^2)}$$

The processing of incinerator bottom ash creates a challenging environment due to its high humidity levels. The stringent standards of housekeeping enforced on site, necessitate regular jet washing and cleaning procedures to maintain safety and efficiency.

Concerns arose regarding the guarding system's complexity during maintenance tasks, particularly its removal when changing the belt. The original framework exacerbated the issue, especially with corroded and seized bolts and tabs, necessitating cutting. Additionally, the various-sized panels posed further challenges and prolonged maintenance timescales.

To address these concerns, discussions were held with all site operatives to devise a solution that would streamline the task and ensure safety and practicality. Various design options were considered, and after careful evaluation, the decision was made to adopt bi-folding guarding.

The design features continuous guarding around the entire unit, eliminating the need for removal. It can be easily opened when necessary and securely fastened after completion of work. This approach not only simplifies maintenance tasks but also enhances safety by providing uninterrupted protection.

Please see additional pdf for details of the design process