

# Nuclear Products and Technology

## Non-Intrusive Ultrasonic Decontamination (NU-DEC™)



### NU-DEC

DEI's patented system and process effortlessly remove deposits and solidified sediment from piping systems, tanks, and other components without the need to open, enter, or insert equipment into the component undergoing decontamination. The equipment system comprises:

- Ultrasonic power unit
- Transducer clamps and arrays for small and large bore piping (and vessels)
- Air compressor (cooling air)
- Optional battery pack to power the entire system

### Applications

NU-DEC distinguishes itself by applying non-intrusive techniques, preventing the generation of secondary wastes, and providing a versatile and cost-effective solution for decontamination efforts in operational and decommissioned facilities. Applications include:

- Elimination of accumulated crud in slow-moving drain lines
- Decrease in corrosion product levels in radioactive systems, such as RWCU, leading to reduced general area dose rates
- Minimization of radioactive deposits in decommissioned facility systems, lowering dose rates and waste handling demands
- Resolution and prevention of clogging issues at specific locations


### Features and Specifications

- Effectively cleans 3 to 5 feet of axial piping from a single installation point
- High portability, with reliance solely on electrical power for field applications (including power units and air compressors)
- Rapid cleaning process, typically accomplished in less than 10 minutes, with the flexibility for repetition as needed
- Rigorous engineering analysis ensures uncompromised structural qualifications



### Industry Experience

- Achieves a 90% reduction in contact dose rates on piping in PWRs and BWRs
- Applicable in both operational plants and decommissioning scenarios, offering effective contamination control during dismantling and reducing waste classification
- Restores degraded radwaste cement solidification systems and clears clogged piping, enabling a return to like-new performance
- Addresses clogging issues in resin transfer

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