IFDs – WHAT ARE THEY?
IFDs are devices that are installed inside bottom tubesheet F/Ds to improve flow distribution.

Major IFD Components
- New lower baffle plate
- Flow distribution tube
- Upper series of perforated plates

NO WELDING REQUIRED IN THE VESSEL

IFD Design
- Specific to each bottom tubesheet vessel type, dimensions, and operating conditions
- Computational fluid dynamics (CFD) modeling is used for the design

IFD Configuration
- Majority of flow goes up through IFD tube
- Radial velocity on tubesheet fittings is reduced by ~70%
- Applied hydraulic forces on tubesheet fittings are greatly reduced

IFD Benefits
Uniform precoating and improved precoat utilization result in:
- Lower dP rise rate to a dP endpoint
- Longer run lengths, less waste generation
- This benefit is quantifiable

Improved ion exchange performance
- If there are condenser leaks, then IFDs would result in longer run lengths to an effluent chemistry endpoint compared to the case if there are no IFDs.

Integrated Flow Distributor (IFDs)