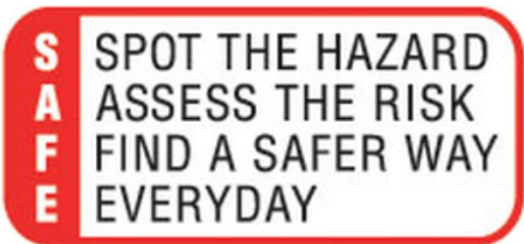


Prepared By: Simon Young		Copy No.: 1			
Title: Technical Author					
Reviewed by: Carl Edwards		Authorised by: Malcolm Coates			
Title: HSQE Advisor		Title: HSQE Manager			
Date of Issue: 16/08/2019		Review Date: N/A			
Reference No.: Tube Cleaning In Shell and Tube Heat Exchangers		Version No.: 01			
Supersedes: Tube Cleaning In Shell and Tube Heat Exchangers		Version No.: A			
Amendment No.	Section No.	Page No.	Paragraph No.	Date	Amended By



Risk Element

- Risk of personnel injury from use of tube cleaning machinery;
- Risk of dust to operator's eyes if tubes brushed dry.

Precautions to Eliminate/Reduce Risk

- Clear area of non-operational personnel from immediate vicinity and erect barriers;
- Operators wear correct PPE.

Safe Working Method

With the water side previously drained down and the end covers removed by others proceed as follows:

- Visually inspect tube cleaning machine to ensure it is in safe working order;
- If working wet: connect to water supply and make arrangements for collection of drain water;
- Screw brushes onto cleaning rods;
- Insert brush into tube and start machine to turn brush and move it forward into the tube;
- Continue until brush reaches far end of tube;
- If both ends covers are removed collect scale, etc. from far end;
- Withdraw brush and rod and repeat for other tubes until all have been cleaned;
- Collect all waste and leave area clean.