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Discharge Pressure; 3.3 Fouling in Final Condenser; 3.4 Reduction in Back Pressure; 3.5 Loss of LVGO Pan Level
3.6 Variations in Cooling Water Temperature
3.7 Multi-Component Malfunctions; 3.8 Partial Tabulation of Vacuum System Malfunctions; 4 Effect of Water Partial Pressure on Jet Efficiency; 4.1 Vapor Pressure of Water Limits Vacuum; 4.2 Reminder about Water Partial Pressure; 4.3 Air Leaks in Steam Turbine Surface Condensers; 4.4 Variable Cooling Water Temperature; 4.5 Loss of Sonic Boost; 4.6 Relative Jet Efficiency; 4.7 Definition of "Vacuum Breaking"; 4.8 Critical Discharge Pressure Exceeded; 5 Air Leaks; 5.1 Upper Explosive Limits; 5.2 How to Find Air Leaks; 5.3 Diffuser Air Leaks
5.4 Air Leaks on Vacuum Towers
5.5 Air Leaks in Heater Transfer Lines; 5.6 Air Leaks - Turbine Mechanical Seal; 6 Sources and Disposal of Hydrocarbon Off-Gas; 6.1 Evolution of Cracked Gas; 6.2 Sources of Cracked Gas; 6.3 Cracked Gas Evolution from Boot; 6.4 Air Equivalent; 6.5 Overloading Vacuum Jets; 6.6 Excess Cracked Gas Flow; 6.7 Field Checking Gas Flow Meter in Vacuum Service; 6.8 Surging 3rd Stage Jet Bogs Down Primary Jet; 6.9 Exchanger Leaks Overloads Jets; 6.10 Poor Vacuum Tower Feed Stripping; 6.11 Level Connection Purges and Pump Mechanical Seal Gas
6.12 Effect of Heater Outlet Temperature
6.13 Extracting H₂S from Vacuum Tower Off-Gas Upstream of Ejectors; 6.14 Disposal of Seal Drum Off-Gas; 6.15 Fouling of Waste Gas Burner; 7 Motive Steam Conditions; 7.1 Effect of Wet Steam; 7.2 Water in Motive Steam; 7.3 The Tale of Weak Steam; 7.4 Internal Freezing of Steam Nozzle; 7.5 High Pressure, Superheated Motive Steam; 7.6 Effect of Moisture Content of Saturated Steam on Temperature; 7.7 Steam Pressure Affects Vacuum; 7.8 Effect of Superheated Steam; 8 Mechanical Defects of Ejectors; 8.1 Steam Nozzle Testing; 8.2 Other Mechanical Defects of Jets
8.3 Fouled Steam Nozzles

Sommario/riassunto

Vacuum systems are in wide spread use in the petrochemical plants, petroleum refineries and power generation plants. The existing texts on this subject are theoretical in nature and only deal with how the equipment functions when in good mechanical conditions, from the viewpoint of the equipment vendor. In this much-anticipated volume, one of the most well-respected and prolific process engineers in the world takes on troubleshooting vacuum systems, and especially steam ejectors, an extremely complex and difficult subject that greatly effects the profitability of the majority of the world'
