1. Record Nr. UNINA9910876749103321 Autore Lieberman Norman P Titolo Troubleshooting vacuum systems: steam turbine surface condensers and refinery vacuum towers / / authored by Norman P. Lieberman Pubbl/distr/stampa Salem, Mass., : Scrivener Pub. Hoboken, N.J., : Wiley, c2012 **ISBN** 1-118-57096-0 1-299-18654-8 1-118-57120-7 1-118-57092-8 Descrizione fisica 1 online resource (282 p.) Disciplina 621.5/50288 Soggetti Vacuum technology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes index. Note generali Nota di contenuto Cover; Title Page; Copyright Page; Dedication; Contents; Preface; Introduction; Definition of Terms; Other Books by Author; 1 How Jets Work; 1.1 The Converging-Diverging Ejector; 1.2 Interaction of Steam Nozzle with Converging-Diverging Diffuser; 1.3 Compression Ratio; 1.4 Converging-Diverging Ejector; 1.5 Velocity Boost; 1.6 Surging; 1.7 Critical Discharge Pressure: 1.8 Observing the Conversion of Heat to Velocity; 1.9 Jet Discharge Pressure; 1.10 Reducing Primary-Jet Discharge Pressure; 1.11 Bypassing First Stage Ejectors; 2 Making Field Measurements: 2.1 Getting Started 2.2 How to Unscrew Steel Plugs2.3 Effect of Barometric Pressure on Indicated Vacuum; 2.4 Use of Piccolo; 2.5 Measuring Deep Vacuums using an Hg Manometer; 2.6 Measurement of a Deep Vacuum without Mercury; 2.7 Measuring Condensibles in Feed to First Stage Ejector; 2.8 Identifying Loss of Sonic Boost by Sound; 2.9 Identifying Air Leaks; 2.10 Air Leaks in Flanges; 2.11 Vacuum Measurement Units; 3 Tabulation of Vacuum System Malfunctions: 3.1 Tidal Flop in Delaware: 3.2 Critical Discharge Pressure; 3.3 Fouling in Final Condenser; 3.4 Reduction in Back Pressure: 3.5 Loss of LVGO Pan Level

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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'