1. Record Nr. UNINA9910140915003321 Autore Lieberman Norman P. Titolo Process engineering for a small planet: how to re-use, re-purpose, and retrofit existing process equipment / / Norman P. Lieberman Pubbl/distr/stampa Hoboken, New Jersey:,: Wiley,, 2010 ©2010 **ISBN** 1-118-06025-3 1-282-88345-3 9786612883453 0-470-63705-6 0-470-63704-8 Descrizione fisica 1 online resource (293 p.) Disciplina 660.283 660/.283 Soggetti Chemical plants - Equipment and supplies Chemical plants - Remodeling for other use Salvage (Waste, etc.) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references at the end of each chapters and Nota di bibliografia index. Process Engineeringfor a Small Planet: Contents: Foreword: Preface: Nota di contenuto Introduction: Turning of the Tide: 1. Expanding Fractionator and Compressor Capacity; 2. Vacuum Tower Heater Expansion; 3. Natural-Draft-Fired Heaters: 4. Crude Pre-Flash Towers: 5. Amine Regeneration and Sulfur Recovery; 6. Treating and Drying Hydrocarbons; 7. Minimizing Process Water Consumption; 8. Incremental Expansion Design Concept:; 9. Improving Fractionation Efficiency in Complex Fractionators; 10. Increasing Centrifugal Pump Capacity and Efficiency; 11. Eliminating Process Control Valves Using Variable-Speed Drivers 12. Expanding Refrigeration Capacity13. Oversizing Equipment Pitfalls; 14. Optimizing Use of Steam Pressure to Minimize Consumption of Energy; 15. Expanding Compressor Capacity and Efficiency; 16. Vapor-Liquid Separator Entrainment Problems; 17. Retrofitting Shell-and-

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## Sommario/riassunto

Methods for more planet-friendly process engineering. Our earth is just one big, complex Process Facility with limited air, water, and mineral resources. It responds to a number of process variables-among them, humanity and the environmental effects of our carbon consumption. What can professionals in the Hydrocarbon Process Industry do to retard environmental degradation? Rather than looking to exotic technology for solutions, Process Engineering for a Small Planet details ready-at-hand methods that the process engineer can employ to help combat the environmental crisis. Drawing