عنوان مقاله:
Root Cause Failure Analysis in Critical Equipment

محل انتشار:
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خلاصه مقاله:
Protection of national capitals and physical assets in upstream and downstream companies of Iranian oil industry (oil, gas, refining, and petrochemicals) that worth more than 400 billion dollars is highly important. Repetition of failures and unwanted stops is one of the major challenges of production and maintenance managers. Stops cause reduction of reliability and availability as well as increasing total price of the product and decreasing business competitiveness. Thus, planning and adopting maintenance policies based on root cause failure analysis in critical equipment leads to increasing life cycle, reliability, availability, and productivity. In this paper, it is attempted to use fish bone technique for explaining major failure causes of equipment, fault tree analysis for identifying failure modes, and Parto technique for identifying percentage and frequency of failures on pump 101 and drier 301. In addition, regression method was used for studying behavioral model of this equipment within a twenty-year period. Research findings indicate that 81 percent of major failure factors in production equipment include poor in executive procedures (24%), human error (22%), poor quality of materials and parts (20%), and lack of personnel training (15%).

کلمات کلیدی:
Root analysis, fish bone, fault tree, Parto, behavioral model