

# **Developing a Risk Based Maintenance - A Case study - Low Density Polyethylene (LDPE) production unit of Amir Kabir Petrochemical complex in Iran**

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## **Abstract**

This Research paper is a depiction of the application of the analytical hierarchy process in assigning appropriate and cost effective maintenance methodology to a petrochemical production unit based on Economic risk assessment. The process is employed in making decisions that are geared towards establishing a maintenance strategy to cover the four economic- safety risk zones that the risk-based inspection identifies in a petrochemical complex. The paper will show the process which is to be followed in identifying the areas in the industry that need increased care and maintenance to ensure the safety of the working personnel, the equipment, cater for minimal costs as well as minimize the effect on the environment, while maximizing productivity. Apart from risk areas, four main maintenance strategies are discussed. These strategies include preventive maintenance, corrective maintenance, predictive maintenance and reliability based maintenance. The benefits of these maintenance strategies are also clearly discussed.

## **Keywords**

Economic risk management, analytical hierarchy, maintenance strategy, petrochemical company, maximizing productivity

## **Biography**

**Seyed Amir Hossein Alavifar** is a PhD candidate in oil and gas economics in Moscow State University of Service and Tourism and a board member of BSTech Engineering consulting Co. He earned B.S in Industrial Engineering from Azad Islamic University of Tehran, Iran, Master in Engineering Management from University Putra Malaysia in field of operational risk management, He also earned certificate of Certified Risk and compliance Management Professional (CRCMP) from International Association of Risk and Compliance Professionals (IARCP), Washington DC, USA. Alavifar has completed several research projects in Urban Risk and Crisis Management with Iranian Governmental Sections. His research interests include risk assessment, risk management, crisis management, maintenance, project management, Security and Safety.