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Study of Industrial Plant Layout Development and Associated Safety Standards

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Abstract: A well-planned plant layout is essential for ensuring safety, efficiency, and environmental sustainability in industrial operations. This study presents key safety guidelines focusing on risk reduction, accident prevention, and worker well-being. It highlights critical factors such as fire protection, electrical safety, machine guarding, ergonomics, and hazardous material handling, along with environmental controls like ventilation, noise reduction, and waste management. Provisions for emergency readiness, first aid, and safety signage are also included, all aligned with ISO standards, and the Indian Factories Act, 1948. Integrating these measures from the design stage helps minimize risks, enhance productivity, and ensure compliance, while supporting sustainable development and operational excellence in modern industrial facilities.

Keywords: accident prevention

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