Designed to meet the capacity building needs of oil and gas and process industry HSE professionals

Nine modules
10 hours
Three assignments

Environment and Sustainability Training Programs Series

Integrated environment and sustainability management in process industries

Chola MS
RISK SERVICES

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Group # 1 Training Module

Module 1: Seven environment and social issues and their impact on business: Soil erosion and degradation, water scarcity, loss of biodiversity, deforestation, pollution and climate change and rapidly changing land use pattern, dimensions and magnitude of these issues with a specific reference to India, various commitments and obligations of international environmental treaties, various initiatives and policies of GoI for protecting environment and socioeconomic aspects.

Module 2: Concepts of environmental economics and responsible investment:
Overview of environmental and ecological economics, Environmental externalities, valuation of valued eco-systems, economy and environment interaction, Trade and the environment, environmental protection policy and regulatory impact assessment and fundamentals of environmentally responsible investments and methods for developing techno-economic feasibility reports for greenfield and brownfield projects incorporating environmental and social aspects for sustainable operations.

Module 3: Overview of environmental aspects of process industries
Fundamentals of material balance approach for estimating the emissions and discharges, point air pollution sources, emission factors, fugitive VOC emissions and their characteristics, emission inventory development, air pollution control systems for process boilers and combustion units, pollution controls systems for captive power plants, wastewater streams and characterization, wastewater treatment technologies, fundamentals of zero liquid discharge systems and operational aspects, sludge management and methods for developing integrated solid and hazardous waste management programs, zero to landfill initiatives.

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Group # 2 Training Module

Module 4: Environmental regulations applicable to oil & gas and process industries (design, operation and decommissioning phases): The Environmental protection Act 1986, The Air (Prevention and Control of Pollution) Act 1981, The Water (Prevention and Control) Act 1974, The Wildlife Protection Act, The Forest Conservation Act, seven waste management rules, Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, CSR under Corporate Law 2014 and The National Green Tribunal Act 2010, Industry specific emissions and discharge standards, minimum industry norms, guidelines and standards issued by Central Pollution Control Board

Module 5: Environmental impact assessment (EIA) and Coastal Regulatory Zone (CRZ) Notifications – national and international practices: Basic concepts of EIA, EIA implementation process, roles and responsibilities of project proponent and environmental consultants, legal aspects of EIA study, standard environmental clearance (EC) conditions, methods for implementing EC conditions, three case studies, fundamentals of CRZ Notification, permitted and prohibited activities in CRZ areas, CRZ clearance process, coastal and marine environmental management programs and two case studies.

Module 6: Methods for estimation of environmental risks and liabilities: Types of and definition of environmental liabilities, Regulatory context and few definitions on environmental and ecological risks/damage, Methods for identification and quantification of environmental and ecological damages, methods for estimating the liabilities, strategies for developing short-term and long-term risk mitigation measures, methods for monitoring the impact of the restoration plans and concepts of environmental stewardship.

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Group # 3 Training Module

Module 7: Methods for developing environmental risk mitigation measures and management plans: Fundamentals of ISO 14001:2015, risk-based approach for developing environmental management programs, defining organizational environmental obligations, environmental monitoring programs and environmental performance indicators, continuous emission and air quality monitoring systems, continuous wastewater quality monitoring programs, digital platform for environmental management systems.

Module 8: Fundamentals of sustainability goals: Understanding global sustainability goals, drives for adopting sustainability goals, sustainability indicators, India climate change and adoption policy and programs, fundamentals of carbon footprint, water footprint, ecological footprint, circular economy, product life cycle approach and Design for Environment approach etc.,

Module 9: Methods for identification, implementation and measuring sustainability programs: Defining business continuity risk aspects, mapping environmental, social and governance materiality aspects, methods for identifying priority goals and action plans, greenhouse gas emission inventory development and developing mitigation measures and becoming carbon positive, water footprint reduction and becoming water positive, responsible production and consumption and few case studies, basics of corporate governance and indicators, corporate social responsibility, benchmarks for process industries, methods for integrating sustainability goals into business strategy and Balanced Score Card, measuring and reporting outcomes of sustainability programs, assignment and case studies on few published sustainability reports.

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