

1.13.15. INTEGRATED MONITORING OF THE REFINERY AND CHEMICAL PLANTS AS THE TOOL FOR PROACTIVE MAINTENANCE

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The methods and results of the long-term integrated condition monitoring of refinery and chemical plants equipment (reactors, heat exchangers, separators, refinery columns, pipelines) and bulk isothermal vessels in-service are discussed. Primary monitoring method is acoustic emission. Addition methods used are infrared thermography, gas concentration analysis and process parameters analysis. Techniques for the ensuring long-term reliability of the monitoring system are discussed. One of the most serious problems for the continuous monitoring in-service is a noise of a technology nature. To avoid AE signal suppression and "false alarms" multilevel hardware and software filters systems were developed. Real time and periodic in-service integrated condition monitoring provide root defect identification and forms the actual knowledge database for proactive maintenance strategy.