iPOG™

The Interactive Process Optimization Guidance (iPOG™) is a software programme developed by UNEP that calculates Hg emission rates from coal-fired utility plants burning any type of coal or coal blend. The software requires the entry of data on coal properties; burning conditions; and the flue-gas cleaning configuration and conditions. The software is available for free.

Who is iPOG™ for and what can it do ?

The iPOG™ can be used by engineers, plant managers as well as policy makers for the following purposes. It delivers quantitative answers to all types of questions regarding fuel quality, gas cleaning configurations, and external Hg controls in minutes of execution time.

The iPOG can :

• To estimate mercury emissions rates for gas cleaning technology installations and / or the range of coal quality in current and foreseeable operations.

• To extrapolate from a limited set of test data to the full ranges of coal quality and gas cleaning conditions across utility operations of any size and complexity. It is often too costly and time consuming for a company to test all combinations of fuel quality and gas cleaning conditions of interest. Also, test data from one system is not directly applicable to other systems even if they are of similar configuration, because operating conditions during testing and operations may be different. An effective strategy is to use the available test data to verify the iPOG™ program and then use iPOG™ to estimate Hg emissions rates under other conditions.

• To estimate how modifications to the system would affect mercury emissions. For example, will coal cleaning reduce Hg emissions sufficiently to meet the company's target?

• To determine how modifications to the operations such as variations in fuel quality, firing and gas cleaning conditions affect mercury emissions rates. For example, what would happen if the coal-chlorine level surges by a factor of three or more in the primary supply mine?

• To validate the backlog of data for similar gas cleaning configurations and to understand where Hg is oxidized and removed along the gas cleaning system.

• To inform financial decisions: although iPOG™ does not estimate the costs for the various compliance options that are analyzed, it can be used for cost effectiveness assessment of regulatory compliance options by estimating the amount of Hg can be removed for a range of control options, provided that these options are associated with cost estimates.

• To run numerous "What If?" scenarios across local and regional coal-fired utility facilities.

This package was developed by Niksa Energy Associates LLC for the United Nations Environment Program, and is intended for unrestricted worldwide distribution.

System Requirements : Pentium processor or equivalent • 512 Mb RAM (1 Gb strongly recommended) • 50 Mb of free disk space • Windows XP with Service Pack 2, Windows Vista, Windows 7 • Screen resolution : 1024x768 pix. (1280x1024 or higher recommended)

Image credit : Polska Group

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