Practical Auxiliary Mine Ventilation Workshop

Purpose
Auxiliary ventilation is required to dilute the fumes from blasting and diesel exhaust to a safe concentration required to maintain acceptable working conditions and to replace the oxygen used up by the workers and diesel equipment. It is also required control airborne dust and to control the temperature and humidity of the air in the working area. The purpose of the course is to provide mining operations with the basic tools for the day-to-day planning, design, installation, maintenance, and effective operation and monitoring of auxiliary mine ventilation systems.

Who Should Attend?
The target audience for this course includes mining engineers, technologists, mine operators and engineers who are involved in the design, management and day-to-day operation of auxiliary mine ventilation systems.

Program
This intensive workshop is designed to provide comprehensive training on auxiliary mine ventilation operation, planning and design as an integral part of day-to-day production. The first day is designed to familiarize the participant with standard techniques utilized in duct ventilation design and operation. Reference to case studies is made to demonstrate examples of good practice. The second day is dedicated to field testing of a duct system installation in an operating mine, including visual inspection, airflow and pressure surveys and air quality checks. The collected information will be used to develop detailed evaluation of the performance of the auxiliary ventilation installation.

Participants are encouraged to bring along auxiliary ventilation technical material from their mining operation. This material is used in informal discussions that invariably turn out to be one of the most interesting aspects of the course. Participants are also encouraged to bring any specific problems to be solved during ventilation design sessions.

Topics
- regulations relating to auxiliary ventilation;
- ventilation requirements in headings;
- auxiliary ventilation system sizing and design;
- fan and duct selection;
- auxiliary ventilation installation practices;
- system maintenance, duct repair;
- ventilation checks and ventilation surveys.
Course Materials

A comprehensive 163-page colour Auxiliary Mine Ventilation Manual, first published in 2010 by Workplace Safety North, will be the primary text used during the workshop; each participant will receive a copy of the latest version of the manual.

Chapters and appendices include:

- Mine ventilation principles
- Methods of auxiliary ventilation
- Auxiliary ventilation fans
- Auxiliary fan location and operation
- Auxiliary ventilation ducts
- Devices for controlling airflow
- Air volume and fan requirements
- Practical design and operational requirements
- Auxiliary ventilation design
- Surveys for verification of system compliance
- Management of auxiliary ventilation systems
- Ventilation plans and emergency preparedness
- Glossary
- Ontario regulations pertaining to mine ventilation
- Airflow fundamentals
- Fan characteristic curves
- Suggested survey forms
- Health & safety considerations

Dr. Euler De Souza

Euler De Souza, a registered professional engineer in the Province of Ontario, is a mining engineer and technical advisor in mine ventilation and environment. He holds B.Sc., M.Sc. and Ph.D. degrees in Mining Engineering. He is affiliated with the Robert M. Buchan Department of Mining, Queen’s University as an Associate Professor. He is President and CEO of AirFinders Inc., a company providing engineering services in mine ventilation.

Dr. De Souza is a well established and recognized advisor to industry in the area of mine ventilation. He provides consulting services to mining companies throughout Canada and overseas. He has organized the North American / 9th U.S. Mine Ventilation Symposium in 2002. This was the first time the symposium was held outside the United States.

Some of his recent advisory work to mining companies includes: mine ventilation planning and design; shaft ventilation; design of ventilation raises; ventilation surveys; ventilation computer modeling; fan sizing and commissioning; and ventilation optimization. He regularly performs ventilation audits for a number of mines and has been active in providing industrial training at mine sites in mine ventilation.

He is a member of the Canadian Institute of Mining, Metallurgy and Petroleum, the American Institute of Mining Engineers and the Mine Ventilation Society of South Africa.