

Auxiliary Ventilation Design and Mine Safety 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 workshop is to provide participants with the basic tools for the day-to-day planning, design, installation, maintenance, and effective operation and monitoring of auxiliary mine ventilation systems.

Organized by Workplace Safety North (www.workplacesafetynorth.ca) and AirFinders Inc. (www.airfinders.ca) this workshop has been specially designed for those involved in mine safety and mine ventilation design.

Who Should Attend?

The target audience for this course includes mining engineers, technologists, mine operators, manufacturers and engineers who are involved in the design, management and day-to-day operation of auxiliary mine ventilation systems. Researchers involved in mine ventilation and mine safety will also immensely benefit from the workshop.

Program

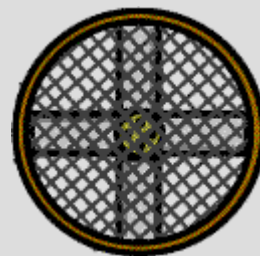
This intensive workshop is designed to provide comprehensive training on auxiliary mine ventilation operation, planning and design as an integral part of day-to-day production. The workshop is designed to familiarize the participant with standard techniques utilized in duct ventilation design and operation. Reference to case studies is made to demonstrate examples of good practice. Presentations are dedicated to duct system inspections, airflow and pressure surveys and air quality checks, and on how the collected information is used to develop detailed evaluation of the performance of auxiliary ventilation installations.

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.

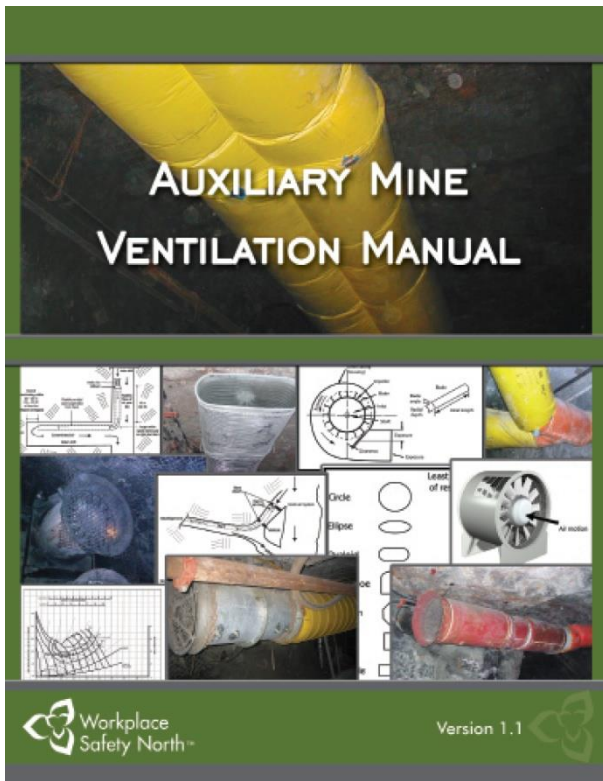
A duct ventilation training program for the ventilation operator.

- planning
- duct and fan selection
- installation
- control
- maintenance
- surveys



Course Materials

A comprehensive 169-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 manual.



Chapters 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 and operation of auxiliary ventilation systems
- Ventilation plans and emergency preparedness
- Glossary
- Ontario regulations pertaining to mine ventilation
- Health & safety considerations
- Airflow fundamentals
- Fan characteristic curves
- Suggested auxiliary mine ventilation survey forms

Each participant will also receive a copy of an **Auxiliary Ventilation Design Software** developed for the mining industry to assist engineers and planners with the design of fan and duct systems.

Dr. Euler De Souza

Euler De Souza, a registered professional engineer in the Province of Ontario, Canada, 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.