Form Approved
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Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health
Pittsburgh Research Laboratory
P.O. Box 18070
Pittsburgh, Pennsylvania 15236

Survey of Mine Safety Interventions

NIOSH

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)
SURVEY OF MINE SAFETY INTERVENTIONS

Thank you for taking the time to complete the Survey of Mine Safety Interventions. This survey is designed to evaluate the mining industry's use and awareness of several safety and health interventions developed by the NIOSH Mining Program. Results will be used to enhance the effectiveness and adoption of these and other tools to improve the safety and health of those working in underground coal mines. The survey should be completed only by the Mine Manager or the person responsible for the overall safety and health of workers at the mine (e.g., Safety Director).

NOTICE: This survey is anonymous and participation is voluntary, not a regulatory requirement. NIOSH plans to publish all statistical data and results in aggregate form only, and will not release information that allows the identification of individual mines or employees unless compelled by law.

MARKING INSTRUCTIONS

- Use pencil or pen. Make heavy dark marks that fill the circles completely. If you wish to change an answer, erase cleanly (pencil), or put an "X" over the incorrect response (pen).
- Fill in one answer circle for each question unless it tells you to "mark all that apply".
- When you are finished, please place the survey in the enclosed self-addressed postage-paid envelope, seal, and return to the survey contractor, ICF International.

Correct Mark

Incorrect Marks

1. How many persons at your mine are employed exclusively in jobs that involve monitoring mine safety?

0
1-2
3-4
5 or more

4. What is the highest education or degree you have completed?

Less than high school
Some high school, but no diploma or GED
High school diploma or equivalency (i.e., GED)
Technical certificate or non-degree program
Some college, but no degree
Associate's degree (e.g., A.A., A.S.)
Bachelor's degree (e.g., B.A., B.S.)
Graduate or professional degree (e.g., M.A., Ph.D., M.D.)

4a. Are any of your degrees in mining?

Yes
No

4b. If yes, please specify which one(s) below:

2. What is your current position at the mine?

Mine Manager
Safety Director (or similar title)
Other (please specify below):

3. How long have you been in your current job at this mine?

Less than 1 year
1-3 years
More than 3 years, but less than 10
10 years or more

5. On your job, do you have access to a computer with an internet connection?

Yes, a dial-up connection
Yes, a cable modem/DSL connection
No

6. Please indicate if you have done any of the following in the past 12 months:

No
Yes

7. (Continued)

Low
Medium
High

Attended a mine industry trade show or event . .
Attended a technical conference or meeting where mine safety issues were discussed . . . . . .
Attended a workshop or seminar sponsored by NIOSH . . . . . .
Used the Internet to read or download information/tools related to mine safety . . . . . .
Conducted a workshop or training on safety issues with mine employees . . . . . .
Developed or revised an emergency response plan for your mine . . . . . .
Participated in a mine emergency preparedness exercise . . . . . .
Read an article about mine safety in a journal or trade publication . . . . . .
G. Best placement of mining machinery to reduce amount of dust generated . . . . . .
H. Proper positioning of mine workers to limit dust exposure . . . . . .
I. Roof bolter dust control . . . . . .
J. Use of gob curtains . . . . . .
K. Controlling dust from longwalls (e.g., using shear-clearer) . . . . . .

8. Overall, how much of a problem has respirable dust control been for your mine in the past 2 years?

Serious problem
Moderate problem
Slight problem
No problem

9. Do you or your mine have a copy of the Handbook for Dust Control in Mining (the Handbook)?

Yes
No
Not sure

(If yes, please specify publication below):

If no or not sure, skip to question 13

10. How familiar are you with the contents of the Handbook?

Handbook for Dust Control in Mining

The questions in this section deal with dust control issues and the 2003 NIOSH publication Handbook for Dust Control in Mining (the Handbook), which focuses on controlling respirable coal dust.

Very familiar
Moderately familiar
Not very familiar
Not familiar at all
Not sure

11. How did you learn about the Handbook?

(Mark all that apply.)

Word of mouth (e.g., from a colleague or coworker)
Received in the mail
NIOSH website
Other website (Please specify below):

7. Please rate your mine's level of expertise in the following areas of dust control.

Low
Medium
High

A. Identifying sources of dust . . . . . .
B. General ventilation techniques (e.g., dilution, displacement) . . . . . .
Professional conference or meeting (Please specify below):
Print or electronic newsletter (Please specify below):
C. Keeping brattice curtain within 10 ft. of face .
D. Use of water sprays (e.g., sprayer positioning, water pressure rates) . . . . . .
E. Use of scrubbers on or near mine equipment (e.g., filter sizes, types) . . . . . .
F. Use of auxiliary fans . . . . . .
Journal article or association publication

(Please specify below):
Other source (Please specify below):

12. Please rate how useful the information provided in the Handbook was in helping your mine address dust control in each of the following areas.

Have not used Handbook in this area
Not useful at all
Not very useful
Moderately useful
Very useful

Mine Emergency Response Interactive Training Simulation (MERITS)

The questions in this section deal with handling mine emergencies and with MERITS, a mine emergency simulation exercise software program developed by NIOSH.

A. Identifying sources of dust . . . . . .
B. General ventilation techniques (e.g., dilution, displacement) . . . . . .
C. Keeping brattice curtain within 10 ft. of face . . . . . .
D. Use of water sprays (e.g., sprayer positioning, water pressure rates) . . .
E. Use of scrubbers on or near mine equipment (e.g., filter sizes, types) . . .
F. Use of auxiliary fans . . . . . .
G. Best placement of mining machinery to reduce amount of dust generated . . . . . .
H. Proper positioning of mine workers to limit dust exposure . . . . . .
I. Roof bolter dust control . . . . . .

15. Please rate your mine's level of expertise in the following areas of emergency preparedness.

Low
Medium
High

A. Knowledge about how to manage a mine emergency . . . . . .
B. Coordinating with the Mine Safety and Health Administration (MSHA) agencies . . .
C. Coordinating with local first responders (e.g., local fire department, police, rescue) .
D. Dealing with a lack of information about status of victims . . . . . .
E. Housing mine rescue teams . . . . . .
F. Obtaining emergency supplies . . . . . .
G. Informing victims' families . . . . . .
H. Dealing with the news media . . . . . .
J. Use of gob curtains . . . . . .
K. Controlling dust from longwalls (e.g., using shear-clearer) . . . . . .

13. If an operator at another mine came to you for advice about dust control, how likely would you be to recommend the Handbook as a resource?

Very likely
Moderately likely
Not very likely
Not likely at all
Does not apply; not familiar with it

14. What could NIOSH do to improve the industry's awareness and use of the Handbook as a resource?

I. Developing a mine emergency response plan . . . . . .

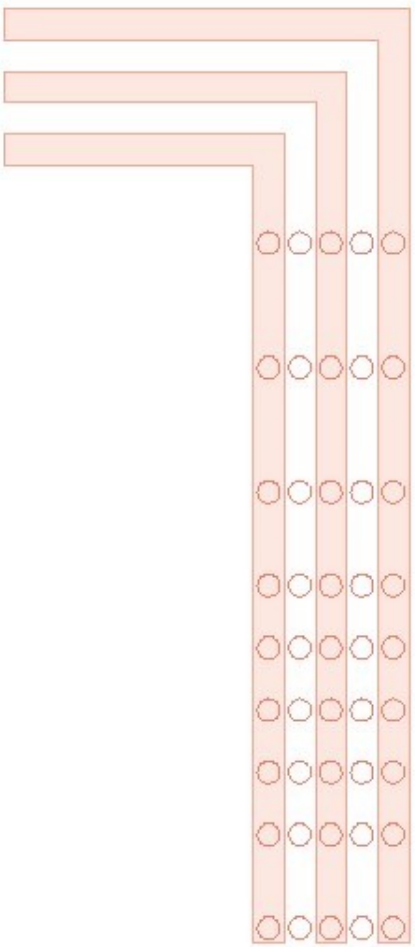
16. Have you heard about the MERITS software prior to this survey?

Yes
No

If no skip to question 23

Please continue on the next page.

17. How did you learn or hear about MERITS?
(Mark all that apply.)
Word of mouth (e.g., from a colleague or coworker)
Participated in MERITS demonstration
NIOSH website
Other website (Please specify below):
22. Please rate how useful MERITS was in helping your mine strengthen emergency preparedness in the areas listed below.
Have not used MERITS in this area
Not useful at all
Not very useful
Moderately useful
Very useful
Professional conference or meeting
(Please specify below):
A. Knowledge about how to manage a mine emergency . . . . . .
B. Coordinating with the Mine Safety and Health Administration (MSHA) agencies . . . . . .
C. Coordinating with local first responders (e.g., local fire department, police, rescue) . . . . . .
D. Dealing with lack of information about status of victims . . . . . .
Print or electronic newsletter (Please specify below):
Journal article or association publication
(Please specify below):
Other source (Please specify below):
E. Housing mine rescue teams . . . . . .
F. Obtaining emergency supplies . . . . . .
18. How familiar are you with MERITS?
Very familiar
Moderately familiar
Not very familiar
Not familiar at all
19. Do you or your mine have a copy of the MERITS software program?
Yes
No
Not sure
G. Informing victims' families . . . . . .
H. Dealing with the news media . . . . . .
I. Developing a mine emergency response plan . . . . . .
23. If an operator at another mine came to you for advice about emergency preparedness, how likely would you be to recommend MERITS as a resource?
Very likely
Moderately likely
Not very likely
Not likely at all
Does not apply; not familiar with it
24. How could NIOSH improve the industry's awareness and use of MERITS as a resource?
If no or not sure, skip to question 23
20. Did you have any difficulty downloading MERITS from the NIOSH website?
Yes
No
Does not apply, I was not the one who downloaded MERITS
21. Have you used the MERITS software or participated in the MERITS simulated mine emergency exercise?
Yes
No
If no, skip to question 23 →



Reducing Rock Fall Injuries

This section deals with the methods used to prevent rock fall injuries. For this survey, "rock falls" refer to pieces of rock falling from between the primary roof supports (roof bolts) or around the automated temporary roof support, and not major roof collapses.

25. Does your mine employ any of the following "surface control" or "skin control" techniques to prevent rock falls? If no, please indicate why not.

No
Yes

If no, why not?
Does not apply to this mine
Better method available
Too difficult to use
Too time consuming
Too costly
Not familiar with it

A. Wire mesh or roof screen . . . . . .
B. Straps . . . . . .
C. Large plates . . . . . .
D. Personal Bolter Screens (PBS). . . . . .
E. Other technique (Please specify below): . . . . . .
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.....
.....
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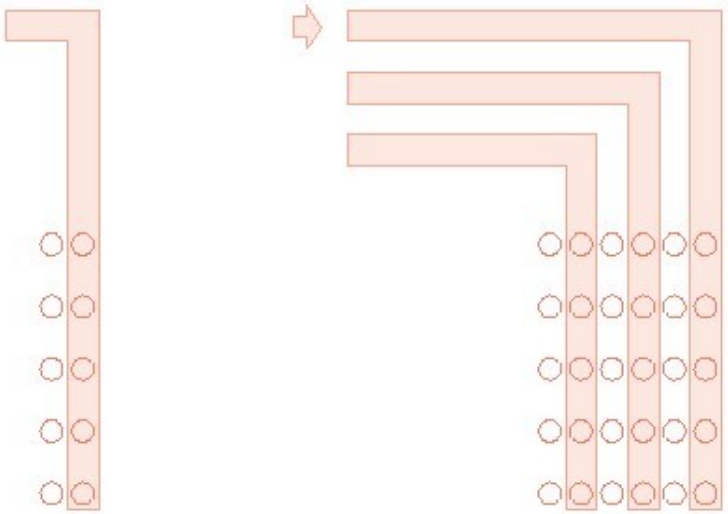


26. Overall, how familiar are you with the range of surface control techniques listed above?

Very familiar
Moderately familiar
Not very familiar
Not familiar at all

27. How familiar are you with the Preventative Roof/Rib Outreach Program (PROP)?

Very familiar
Moderately familiar
Not very familiar
Not familiar at all

28. In the past 2 years, how frequently have you used the Internet to learn about specific tools or strategies to prevent rock fall injuries?

Often
Occasionally
Rarely
Never

If never, skip to question 30

29. From which of the following websites have you found useful information on preventing rock fall injuries? (Mark all that apply.)

Mine Safety and Health (MSHA) website
NIOSH Mining Program website
Regional or National Mining Association website
Equipment manufacturer's website
United Mine Workers website
Other website (Please specify below):
None

30. Do you or your mine have a copy of the NIOSH video/DVD Make it Safer with Roof Screen?

Yes
No
Not sure

If no or not sure, skip to question 32

31. How useful was the video/DVD in helping your mine address rock fall injuries?

Very useful
Moderately useful
Not very useful
Not useful at all
Don't know, I have not seen the video/DVD

Please continue on the next page.

32. In the past 2 years, have you consulted any NIOSH publications about ground control (e.g., Best Practices to Mitigate Injuries and Fatalities from Rock Falls) or seen any related NIOSH presentations?

Yes
No

Mine Fire Preparedness and Response Checklist

This section deals with fire preparedness issues and the Mine Fire Preparedness and Response Checklist (the Checklist) developed in 2000 by NIOSH. The Checklist is a data collection instrument used to profile the fire prevention and response capabilities of an underground coal mine site.

If no, skip to question 34

33. Of the NIOSH publications or presentations that you have read/seen, how useful have they been in helping your mine address rock fall injuries?

Very useful
Moderately useful
Not very useful
Not useful at all

36. Please rate your mine's level of expertise in the following areas of fire prevention and preparedness.

Low
Medium
High

A. Awareness of the risk factors that can lead to mine fires . . . . . .

34. If you have not read or seen any NIOSH products or publications on preventing rock fall injuries, why not?

B. Awareness of the factors (e.g., training, equipment) that determine the mine's level of fire preparedness . . . . . .
C. Meeting requirements specified by 30 CFR (part 50) . . . . . .
D. Operating/maintaining fire detection and suppression systems (e.g., sensors, alarms, fire extinguishers) . . . . . .
E. Storage and handling of combustible materials . . . . . .

35. How much of a problem have rock fall injuries been for your mine in the last 2 years?

Serious problem
Moderate problem
Slight problem
Not a problem at all

F. Training of first responders (e.g., fire brigades, rescue personnel). . . . . .
G. Assessing/inspecting the mine's water systems (e.g., water lines, storage, hydrants, water pressure, hoses, nozzles) .
H. Operating/maintaining Self-Contained Self Rescuers (SCSRs) . . . . . .
I. Preparing an emergency response plan . . .

37. Overall, how would you rate the level of expertise in fire prevention and response at your mine?

High
Medium
Low

38. In the past 5 years, have you or your mine reported any fires lasting more than 30 minutes, or in which anyone was injured?

Yes
No
Don't know

39. In the past 5 years, have you or your mine experienced any less serious fires?

Yes
No
Don't know

40. Prior to this survey, have you heard of the Mine Fire Preparedness and Response Checklist (the Checklist)?

Yes
No

44. Of the 16 sections on the Checklist (e.g., Water System, Hoses and Nozzles, Fire Detection and Suppression Systems), approximately how many did your mine complete?

All sections (i.e., the entire Checklist)
More than half the sections, but not all
About half of the sections
Less than half of the sections, but more than 1 or 2
1 or 2 sections
Don't know

45. Overall, how many days were spent completing the Checklist at your mine?

4 days or more
3 days
2 days
1 day
Less than 1 day
Don't know

46. After using the Checklist, did you or your mine submit the results to NIOSH?

Yes
No

If no, skip to question 49

41. How did you learn or hear about the Checklist? (Mark all that apply.)

Word of mouth (e.g., from a colleague or coworker)
Received in the mail
NIOSH website
Other website (Please specify below):
Professional conference or meeting (Please specify below):
Print or electronic newsletter (Please specify below):

46a. Did you receive a response from NIOSH?

Yes
No

If no, skip to question 47

Journal article or association publication (Please specify below):

46b. Was the response helpful?

Yes
No

Other source (Please specify below):

46c. Please specify why or why not:

42. Do you or your mine have a copy of the Checklist?

Yes
No
Don't know

If no or don't know, skip to question 49

43. Have you or your mine used the Checklist to assess your mine's fire prevention and response capabilities?

Yes
No
Don't know

Please continue on the next page.

If no or don't know, skip to question 49

47. Please rate how useful the Checklist was in helping your mine strengthen fire prevention and/or fire preparedness in the areas listed below.

Have not used Checklist in this area
Not useful at all
Not very useful
Moderately useful
Very useful

A. Awareness of the risk factors that can lead to mine fires . . . . . .
B. Awareness of the factors (e.g., training, equipment) that determine the mine's level of fire preparedness . . . . . .
C. Meeting requirements specified by 30 CFR (part 50) . . . . . .
D. Operating/maintaining fire detection and suppression systems (e.g., sensors, alarms, fire extinguishers) . .
E. Storage and handling of combustible materials . . . . . .
F. Training of first responders (e.g., fire brigades, rescue personnel) . . . . . .
G. Assessing/inspecting the mine's water systems (e.g., water lines, storage, hydrants, water pressure, hoses, nozzles) . . . . . .
H. Operating/maintaining Self-Contained Self Rescuers (SCSRs) . .
I. Preparing an emergency response plan . . . . . .

48. Which, if any, of the following changes in fire prevention and response has your mine made as a result of using the Checklist? (Mark all that apply.)

Improved the training of mine employees to respond to fires
Purchased new fire control equipment
Organized/conducted fire drills
Made arrangements to use a rescue team from another mine
Changed the way that combustible materials are handled and/or stored
Created or updated the mine's fire emergency response plan
Other (please specify below):

49. If an operator at another mine came to you for advice concerning mine fire prevention and response, how likely would you be to recommend the Checklist as a resource?

Very likely
Moderately likely
Not very likely
Not likely at all
Does not apply; not familiar with it

50. How could NIOSH improve the industry's awareness and use of the Checklist as a resource?

Please continue on the next page.

Emergency Simulation and Training

This section deals with mine emergency simulations and training, including research-focused simulations held for mine rescue teams at NIOSH's Lake Lynn Laboratory (Lake Lynn).

54. How did you learn or hear about the simulations held at Lake Lynn? (Mark all that apply.)

Word of mouth (e.g., from a colleague or coworker)
NIOSH website
Other website (Please specify below):

51. Please rate your mine's level of expertise in the following areas of disaster/emergency response.

Low
Medium
High

Professional conference or meeting (Please specify below):
Print or electronic newsletter (Please specify below):

A. Overall preparedness of mine rescue teams to respond to a disaster/emergency . . . . . .
B. Using new technology during mine rescues (e.g., laser pointers, lightsticks, reflective team lifelines) . . . . . .
C. Communication between rescue teams and fresh air base . . . . . .
D. Identifying and communicating with other team members . . . . . .
E. Using self-contained breathing apparatus . .
F. Marking locations . . . . . .
G. Locating trapped miners . . . . . .
H. Finding and extinguishing fires . . . . . .
I. Building confidence among the rescue team(s) . . . . . .

52. Overall, how well prepared is your mine to effectively respond to an underground mine emergency?

Well prepared
Moderately prepared
Not well prepared
Not prepared at all

53. Prior to this survey, have you heard about the mine emergency simulations and exercises held at Lake Lynn?

Yes
No

Journal article or association publication (Please specify below):
Other source (Please specify below):

55. How familiar are you with the mine emergency simulations held at Lake Lynn?

Very familiar
Moderately familiar
Not very familiar
Not familiar at all

56. Have you or any rescue staff/teams from your mine participated in the emergency simulations held at Lake Lynn?

Yes
No
Not sure

If no or not sure, skip to question 60

57. Overall, how would you rate the realism of the mine disaster simulation you experienced at Lake Lynn?

Very realistic
Moderately realistic
Not very realistic
Not realistic at all

Please continue on the next page.

If no, skip to question 60

58. Please rate how useful the Lake Lynn simulation and training activities were in helping your mine's emergency preparedness in each area.

Have not used Lake Lynn training in this area
Not useful at all
Not very useful
Moderately useful
Very useful

A. Overall preparedness of mine rescue teams to respond to a disaster/emergency . . . . . .
B. Using new technology during mine rescues (e.g., laser pointers, lightsticks, reflective team lifelines) . . .
C. Communication between rescue teams and fresh air base . . . . . .
D. Identifying and communicating with other team members . . . . . .
E. Using self-contained breathing apparatus . . . . . .
F. Marking locations . . . . . .
G. Locating trapped miners . . . . . .
H. Finding and extinguishing fires . . . . . .
I. Building confidence among the rescue team(s) . . . . . .

60. If an operator at another mine came to you for advice, how likely would you be to recommend Lake Lynn as a resource?

Very likely
Moderately likely
Not very likely
Not likely at all
Does not apply; not familiar with it

61. How could NIOSH improve the industry's awareness and use of the Lake Lynn as a resource?

Please continue on the next page.

59. Which, if any, of the following changes related to mine emergency rescue and response has your mine made as a result of participation in Lake Lynn simulation and training? (Mark all that apply.)

Improved the training and skills of mine rescue team(s)
Purchased new equipment for use in a mine emergency
Organized/conducted emergency drills at our own mine
Scheduled additional staff to participate in Lake Lynn simulations
Made arrangements to use a rescue team from another mine
Reassessed the capabilities of mine employees who currently staff the rescue team(s)
Created or updated the mine's emergency response plan
Other (please specify below):

Training for Inspection, Care and Use of Self-Contained Self-Rescuers (SCSRs)

The questions in this section deal with a training program developed by MSHA and NIOSH to address inspection, care, and use of SCSRs. The training program is available as a computer based on-line course or on a CD, as well as in DVD or video format. (The online training can be accessed here: http://www.msha.gov/interactivetraining.htm)

62. Which Self-Contained Self-Rescuer (SCSR) is used at your mine?

CSE SR-100
Draeger OXY K
Draeger OXY K Plus S
OCENCO EBA 6.5
OCENCO M-20
MSA Life Saver 60
Unknown

63. Prior to this survey, have you heard of the Self-Contained Self-Rescuer Inspection, Maintenance, and Use Training?

Yes
No
Not sure

Support Technology Optimization Program (STOP)

This section deals with roof support issues and with STOP, a software program developed by NIOSH to assist in making engineering decisions about the selection and placement of various standing roof support technologies.

67. Please rate your mine's level of expertise with the following aspects of roof support.

Low
Medium
High

A. Making decisions about the placement and types of standing roof supports . . . . . .
B. Making decisions about the use of intrinsic support (cable bolts) . . . . . .
C. Determining installation requirements for particular roof support technologies . . . . . .
D. Improving safety by matching support performance to mine conditions . . . . . .
E. Avoiding inadequate support designs . . . . .
F. Comparing costs of various roof support technologies . . . . . .
G. Determining spacing requirements for roof supports . . . . . .
H. Petitioning MSHA for approval to use an alternative support technology . . . . . .

If no or not sure, skip to question 67

64. Please rate how useful the Self-Contained Self-Rescuer Inspection, Maintenance, and Use Training was in helping you understand each area.

Have not used the SCSR Training Course
Not Useful At All
Not Very Useful
Moderately Useful
Very Useful

A.
B.
C.
D.
E.
F.

SCSR Daily Inspection requirements .
SCSR 90 day Inspection requirements .
SCSR cleaning and caring requirements .
Putting on the SCSR . . . . . .
Expectations when wearing an SCSR .
SCSR switchover procedures . . . . . .

68. Have you heard about the STOP software program prior to this survey?

Yes
No

If no, skip to question 75

65. Which Inspection, Maintenance, and Use Training format have you used (Mark all that apply)?

DVD or Video
Computer-based training (CD)

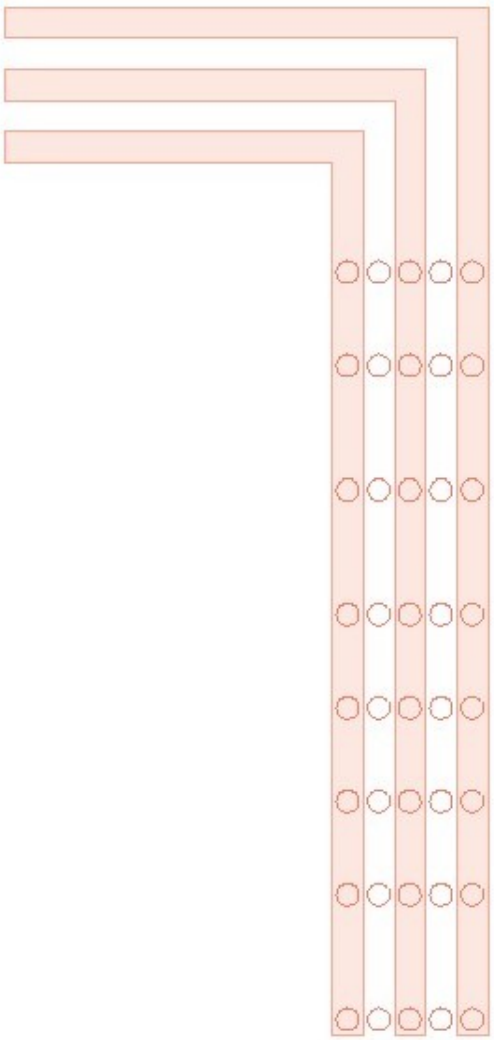
Computer-based training (on-line)
None of the above

66. I used the MSHA/NIOSH SCSR Inspection, Maintenance, and Use Training within the past:

3 months
6 months
1 year
2 years
Not applicable, I have not used the training course.

Please continue on the next page.

69. How did you learn or hear about STOP?
(Mark all that apply.)
Word of mouth (e.g., from a colleague or coworker)
NIOSH website
Other website (Please specify below):
74. Please rate how useful STOP was in helping your mine in each of the following areas.
Have not used STOP training in this area
Not useful at all
Not very useful
Moderately useful
Very useful
Professional conference or meeting
(Please specify below):
A. Making decisions about the placement and types of standing roof supports . . . . . .
B. Making decisions about the use of intrinsic support (cable bolts) . . . . . .
C. Determining installation requirements for particular roof support technologies . . . . . .
D. Improving safety by matching support performance to mine conditions . . . . . .
E. Avoiding inadequate support designs . . . . . .
Print or electronic newsletter (Please specify below):
Journal article or association publication
(Please specify below):
Other source (Please specify below):
70. How familiar are you with STOP?
Very familiar
Moderately familiar
Not very familiar
Not familiar at all
F. Comparing costs of various roof support technologies . . . . . .
G. Determining spacing requirements for roof supports . . . . . .
H. Petitioning MSHA for approval to use an alternative support technology . . . . . .
71. Do you or your mine have a copy of the STOP software?
Yes
No
Not sure
If no or not sure, skip to question 75
75. If an operator at another mine came to you for professional advice about secondary roof supports, how likey would you be to recommend STOP as a training resource?
Very likely
Moderately likely
Not very likely
Not likely at all
Does not apply; not familiar with it
72. Have you or your mine used STOP as a tool to aid decisions about roof supports?
Yes
No
Not sure
If no or not sure, skip to question 75
73. How would you rate the ease of use of the STOP software?
Very user-friendly
Moderately user-friendly
Not very user-friendly
Not user-friendly at all
76. How could NIOSH improve the industry's awareness and use of STOP as a resource?



THANK YOU FOR YOUR PARTICIPATION!

For more information about the NIOSH publications or products discussed in this survey, please visit the NIOSH Mining website at http://www.cdc.gov/niosh/mining or call 1-800-35-NIOSH (1-800-356-4674).

For further information about the survey itself, or how the data will be used, please contact:

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Pittsburgh Research Laboratory
Phone (412) 386-6116
E-mail: LMcWilliams@CDC.gov

Mine ID