

The Post-Blast Inspection

Guidance on the post-blast inspection process

Target Audience

Shotfirers and Explosive Supervisors.

This toolbox talk may be freely reproduced except for advertising, endorsement or commercial purposes. It has been developed by the Quarries National Joint Advisory Committee (QNJAC) to help quarry operators, contractors, managers and others make health and safety improvements in the quarry industry.

This guidance represents good practice which may go further than the minimum you need to do to comply with the law.

If you use the information provided in this document please acknowledge 'QNJAC' as the source .



The Post-Blast Inspection

1. Introduction

- **The Shotfirer has a responsibility to carry out a post-blast inspection**
 - The purpose of the inspection is to confirm that conditions are safe for work in the area to recommence
 - In particular the shotfirer is looking for evidence of misfires and unsafe ground conditions
 - **Where a dangerous condition has resulted from the blast the shotfirer should maintain the Danger Zone and inform the Explosives Supervisor as soon as possible**
 - **Shotfirers need to follow the manufacturers recommended minimum time after firing before carrying out the inspection particularly when using electronic detonators**
- **Most safety professionals consider the post-blast inspection to be the most hazardous part of the shotfiring job**



The Post-Blast Inspection

2. What are the hazards

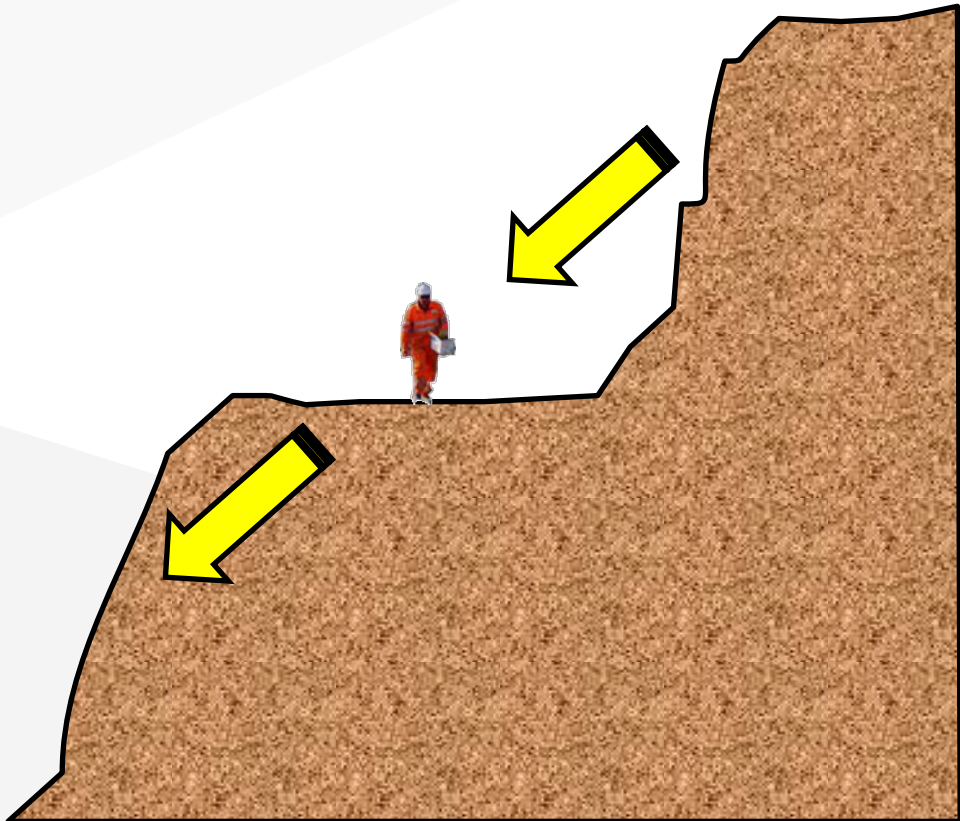
- **Fumes and dust**
 - All blasts will produce fumes and this is often accompanied by dust
 - Both fumes and dust in excessive quantities can be harmful to health and exposure to them should be avoided
 - See QNJAC TBT No 16 Post Blast Fumes



The Post-Blast Inspection

2. What are the hazards

- Falls of ground
 - The blasting process inevitably results in some movement of the rock mass for some considerable distance from the blast area
 - This can lead to falls of ground from both the benches above and below the blast
 - These falls of ground can happen some considerable time after the blast has been fired and pose a serious threat to the safety of the shotfirer and any other personnel in the area



The Post-Blast Inspection

2. What are the hazards

- Falls of ground
 - The area of ground immediately surrounding the blast area can be especially unstable
 - On buffer blasts care needs to be taken walking over the heaved up and fractured blasted area
 - It is not unusual for overhangs to be left behind on the newly formed crest
 - Edge protection should be placed behind and to the side of the shot before it is fired if possible
 - The face will not have been ‘dressed’



The Post-Blast Inspection

2. What are the hazards

- **Slips, trips and falls**
 - The shotfirer needs to take great care when walking around and inspecting the blast due to uneven ground, voids and rocks they may encounter
- **Misfires or burning explosives**
 - If the shotfirer discovers explosives that have either misfired or are burning then there is a clear danger of additional detonations with the associated risks of blast damage and flyrock
 - In such cases the shotfirer should note their positions and
 - Return to the shotfiring shelter
 - Ensure that the all-clear is not sounded
 - Ensure that all sentries stay in-place
 - Inform the Explosives Supervisor of the situation
 - The Shotfiring Rules for each quarry should include a section dealing with misfires and it is these procedures that should be followed in this event



The Post-Blast Inspection

3. Minimising the risks

- **Fumes and dust**
 - Make sure the shotfiring shelter is not positioned downwind of the blast area
 - See QNJAC TBT 01 Positioning a Shotfiring Shelter
 - Wait for the fumes and dust to clear
- **Falls of ground**
 - Keep away from the toe of the face above and crest of the face below
 - If possible inspect the blast muck-pile from the bench below
 - Blasting may expose cavities in limestone quarries or old workings in opencast sites
 - Inspect the blast muck-pile from the side



The Post-Blast Inspection

4. Key points

- The post-blast inspection is potentially the most risky part of the shotfiring process
- After firing wait until the dust and fumes have cleared, following the manufacturers guidance on minimum times before inspecting
- Approach the blast area with care avoiding the toes and crest of faces
- Inspect the blast area from below or from the side of the blast
- Do not rush the inspection process
- Carry out the inspection in pairs, if not possible stay in communication
- Do not sound the all-clear until the inspection process is complete

