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|  <p><b>HEALTH, SAFETY &amp;<br/>ENVIRONMENTAL PROGRAM</b></p> | <b>Section 5: Personal Protective Equipment: Respiratory Protection</b>                      |                            |              |
|  | APPROVED BY: Sarhan Abu-Kwiek  | COR Elements: 6, 3         |              |
|  | APPROVAL DATE: 02/24/2023  | DATE OF ORIGIN: 02/02/2023 | REVISION # 1 |
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## RESPIRATORY PROTECTION SELECTION

**Note:** In 2014 J-AAR Excavating hired an occupational hygienist to conduct an air and noise sampling study across several positions in the company. The following procedure is based on exposure levels found in this study. Relevant information will be quoted as needed, the study in its entirety is available if required for reference.

### PURPOSE

The purpose of this procedure is to identify the specific requirements for the selection, use, and requirement for respiratory protective equipment.

J-AAR acknowledges that there is a hierarchy of controls and will protect our workers from workplace hazards using the control strategies in order of: Elimination, Substitution, Engineering, Administrative, PPE.

The first control against dust related hazards is to use water as a suppressant. Where this is not practicable this procedure is to help supervisors and workers select the right PPE as a last line of defense.

### GUIDELINES


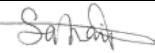
During the hygiene study the largest exposure to total respirable particulate (including silica quartz) were found in a top worker who had spent the last 40 minutes of their shift continuously cutting into a concrete culvert. The time weighted average for the top worker was 0.8 mg/m<sup>3</sup>. Current TWA Ontario guidelines are determined to be 0.1 mg/m<sup>3</sup>. At the time this worker was wearing a disposable N95 respirator (N95), which the hygienist determined to be adequate protection for the duration of the cut. She advised that if workers were to be dry cutting concrete for an extended period of their shift than a fit-tested full-face respirator be used. Based on her findings, MOL guidelines, and other Canadian sand and gravel best practices, J-AAR has determined PPE selection as follows:

#### **Disposable N95:**

- Suggested if you are close to a cut when applying water or if you are working within 25m of extended dry cutting or concrete grinding work
- Required at a minimum when dry cutting or chipping for short durations
- Short durations are considered to be:
  - Cumulative time throughout a shift no greater than two hours
  - Each cutting and chipping task is no greater than 30 minutes in duration

#### **Fit Tested Half-Mask with P100 Filter:**

- Required when water is not used as a suppressant and:
  - Cutting, Chipping, or Grinding is taking place outside of a confined space;
  - Cumulative time throughout a shift is expected to be greater than two hours and less than six hours per shift; and
  - Each task is no greater than two hours in duration.

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|  <p><b>J-AR<br/>EXCAVATING</b></p> <p>HEALTH, SAFETY &amp;<br/>ENVIRONMENTAL PROGRAM</p> | <b>Section 5: Personal Protective Equipment: Respiratory Protection</b>                      |                            |              |
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## RESPIRATORY PROTECTION SELECTION

### Fit Tested Full-Face Respirator with P100 Filter:

- Full-face respirators with P100 filters are the only respiratory protection to be used when cutting or grinding concrete in a confined space
- They are additionally required when:
  - Cumulative time throughout a shift is expected to exceed six hours
  - Each task is expected to be greater than two hours
  - There is an increased risk of eye injury due to excessive debris.