

COVID-19 Protocol for the Allocation, Use and Reuse of N95, KN95 or Similar Respirators

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Teck

Protocol for the Allocation, Use and Reuse of N95, KN95 or Similar Respirators

Purpose

This protocol provides guidance for the Allocation, Use and Reuse (AUR) of N95, KN95 and similar Respirators (similar respirators include: AS/NZ P2, Korea 1st Class, Japan DS, and J European FFP2 respirators). All operations must develop and implement policies for the allocation, use and reuse of N95, KN95 and similar respirators based on this guidance.

Due to the scarcity of N95, KN95 and similar respirators in the global supply chain, these types of respiratory protection must be used and conserved prudently to ensure they are available to support front line healthcare workers and other allied professions (e.g. doctors' offices, paramedics, fire, police, emergency dentistry etc.). While these types of respiratory protection are generally considered to be "disposable" in nature, during the COVID-19 Pandemic they must be utilized and reused in a manner that optimizes and maximizes their repeated use.

Strategies for the reuse of "disposable" respirators have been developed for healthcare settings; these strategies require the use of active decontamination practices such as the use of vaporized hydrogen peroxide. Other methods for reuse have been endorsed by health & safety agencies. Teck's AUR guidance is based on "passive" decontamination that relies on the passage of time; one of the accepted methods. The viability of COVID-19 and other viruses that require a host to survive diminishes significantly after 72 hours; current information indicates maximum COVID-19 viability of 72 hours (e.g. cardboard = 24 hours; metals = 48 hours, plastic = 72 hours).

1. Protocol

Use of N95, KN95 or similar respirators must only be used to augment protocols designed to protect against COVID-19 under the circumstances described below. All other protocols must be followed:

- Following all guidance from public health authorities
- Stay home, removal from site if experiencing any symptoms
- Strict physical distancing – minimum of 2 meters between individuals
- Frequent handwashing
- Keeping hands from face
- Surface cleaning and decontamination
- Transportation protocols etc.

2. Approval for Use

Use of N95s, KN95s or similar respirators are approved for use during:

- Transportation on buses, aircraft, light vehicles and watercraft
- Close proximity work that:
 - Cannot be arranged to ensure physical distancing of at least 2 meters
 - Cannot be delayed until a later date

- The individuals performing the work do not normally wear respiratory protection during the course of their work; individuals who normally wear respiratory protection during the course of their work must use that respiratory protection in order to conserve the supply of N95s and KN95s)
- Does not require respiratory protection to against exposures other than COVID-19 (e.g. silica, coal dust, welding fume lead etc.)

3. Prohibition for use other than Transportation and Close-Proximity Work

Under no circumstances will N95s, KN95s or similar respirators be used in place of respiratory protection commonly used in Teck workplaces to protect against contaminants such as lead, welding fume, coal dust, silica and other chemicals.

4. Allocation Policies

Each operation must develop allocation policies for their workforce who are involved with transportation or close-proximity work based on the expected reuse guidance in section 10 below.

5. Warehouse Issue/Receipt Policies

Policies for warehouse issuing and returning N95, KN95 or similar respirators must be established prior to implementation of this protocol.

6. Training for Users of N95s, KN95s or Similar Respirators

Users must be provided training on the care, use and limitations of N95, KN95 and similar respirators. Users must:

- Understand how COVID-19 is transmitted through air and why they must use the respirator
- Understand their responsibilities for use of N95, KN95 (supervisor, employee, contractor) see below.
- Understand how the N95, KN95 respirator works (use, limitations, maintenance)
- Have an interference free surface where the respirator contacts the face (e.g. clean-shaven)
- Should not wear perfume, cologne, make-up etc. as these will compromise respirators and deteriorate their reuse capacity
- Understand the structural and functional integrity of any part of the respirator to determine if it is compromised in any way
- Follow proper donning/doffing procedures; must assume surface is contaminated with COVID-19, limit touching and proper handwashing prior to donning and after doffing
- Must understand decontamination of the mask using the passive method
- Follow proper storage techniques – must be stored in a breathable container such as a clean paper or cloth bag

7. Workspace Cleaning and Decontamination Protocol

- Confirm the proper selection and use of equipment by employees as required by this protocol
- Ensure that employees maintain their required interference-free respirator seal and do not have any object or material (including facial hair) that would interfere with operation of the respirator

- Refer to Site Program Administrators or Site Human Resources any situations in which an employee expresses an inability to comply with (2)
- Consult with the Site Health and Safety Department if employees are presenting difficulties while wearing a respirator.

8. Employee and Contractor Responsibilities

- Properly inspect, use, care and maintain the respirator(s) in accordance with the requirements of this protocol
- Notify the Supervisor of any issues with respirator fit, usage, performance, malfunction or difficulty using the respirator
- Confirm that an adequate tight-fitting respirator-to-face seal is achieved by ensuring there are no interferences with maintenance of the seal such as facial hair
- Perform respirator user seal checks each time the respirator is worn

9. Fit-Testing N95s, KN95s Used to Protect Against COVID-19

The efficacy of any respirator is dependent on achieving a seal with the wearer’s face. Teck has taken the decision to not fit-test individuals wearing N95, KN95 and similar respirators worn for the circumstances described in this protocol and only for the duration of the COVID-19 pandemic. However, wearers **must** confirm that they have achieved a seal with their face by conducting proper user seal checks as per the training provided (see section 6 above).

10. Expected Reuse Parameters

Each operation must allocate/issue appropriate number of N95s, KN95s or similar respirators to individuals based on the time spent in transportation or close-proximity work as per the table below.

Please note: wherever possible (e.g. respirator is not damaged, is not soiled, is not difficult to breathe through, is fully functioning etc.), minimum number of reuse cycles should be exceeded.

Reuse policies must be consistent with the table below:

Activity	Minimum Number of Reuse Cycles Per Respirator
Bus ¹ <6 hours/day	10
Van <6 hours/day	10
Van <6 hours/day	10
Light Vehicle <6 hours/day	10

¹ All transportation protocols must be followed

Activity	Minimum Number of Reuse Cycles Per Respirator
Close-proximity work (light work) ^{2,3} <6 hours/day	10
Close-proximity work (light work) ≤ 12 hours/day	5
Other	Professional judgement: BU or operational occupational/industrial hygienist must be consulted

11. Reuse Methodology

A five-day reuse cycle is in place to ensure at least five days have lapsed prior to the reuse of each respirator; this will ensure that any COVID-19 or other viruses are no longer viable when respirators are reused. Current understanding is that COVID-19 is not viable on most surfaces after 72 hours; this protocol is designed to provide additional time duration between reuse as a safety precaution.

12. Equipment Required

- Five bags made of paper or other breathable material. Plastic bags MUST NOT be used
- Five N95, KN95 or similar respirators (similar respirators include: AS/NZ P2, Korea 1st Class, Japan DS, and J European FFP2 respirators)
- Soap and running water and soap for hand washing (or use 70% alcohol-based hand sanitizer)
- Location for daily storage in the workplace – e.g. locker, dry, change-room etc.; must be a location where an individual’s respirator can be stored without being mixed-up with those of others
- Location for daily storage of all five bags with respirators in your home (or room if living on-site)

13. Reuse Instructions

Prepare respirators for reuse rotation

- Receive five N95, KN95 or similar respirators
- Receive five reusable, breathable bags (e.g. paper, cloth)
- Number and put your name on each bag: 1, 2, 3, 4, 5 (include your shift if applicable)
- Number and put your name on the straps of each respirator 1, 2, 3, 4, 5

Prepare to don respirator

- Wash hands with soap and running water (or use 70% alcohol-based hand sanitizer) prior to handling and donning respirator
- Put on day 1 respirator
- Perform seal-check

² Risk assessment must be performed prior to close-proximity work; rearrangement/reconfiguration or delaying work must be considered prior to performing close-proximity work

³ Close-proximity work must consider whether heavy, moderate or light work is being performed.

- Avoid touching hands to face while wearing
- Repeat for five consecutive workdays using the numbered respirator for that day (e.g. day 2 respirator on day 2, day 3 respirator on day 3 etc.)

Prepare to doff respirator (take it off) and store in reusable container

- Remove respirator; avoid touching the surface of the respirator
- Place into reusable bag corresponding with day in the cycle (e.g. day 1 respirator placed into day 1 bag); store bag in a dry location where it cannot be accessed by others during the day at work or at home
- Wash hands with soap and running water (or use 70% alcohol-based hand sanitizer) after doffing and storing respirator into reusable container

Appendix 1 – User Seal Checks for N95 and KN95 Respirators

Seal Check – Non-Valved N95

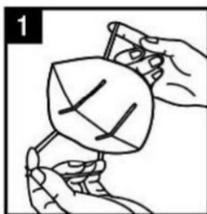
To check the respirator-to-face seal, place both hands completely over the respirator and exhale sharply. Be careful not to disturb the position of the respirator. If air leaks around your nose, readjust the nosepiece. If air leaks at the respirator edges, work the straps back along the sides of your head.

Seal Check – Valved N95

To check the respirator-to-face seal, place both hands completely over the respirator and inhale sharply. Be careful not to disturb the position of the respirator. A negative pressure should be felt inside the respirator. If air leaks around your nose, readjust the nosepiece as described in step 3. If air leaks at the respirator edges, work the straps back along the sides of your head.

Seal Check – KN95 Respirator (with Ear-Loops)

1. With nosepiece facing away from you, hold the ear loop strap in each hand with the nosepiece up.
2. Position the respirator under the chin.
3. Pull each strap over the ear. Adjust the straps as comfortable as possible.
4. Place the fingertips of both hands at the top of the metal nosepiece. Mold the nosepiece to the shape of the nose bridge by pushing inwards while moving your fingertips down both sides of the nosepiece. Pinching the respirator nosepiece using only one hand may result in less effective respirator fit.
5. The seal of the respirator on the face must now be checked:
 - Cover the front of the respirator with both hands, being careful not to disturb the position of the respirator.
 - Exhale sharply. If air leaks around the nose bridge, readjust the nosepiece as described in step.
 - If air leaks at the respirator edges, work the straps back along the side of your hand. until no leakage is detected, then work may proceed.
 - Note: It is very important to press the nosepiece firmly to the nose bridge to form a good seal



References:

[Health Canada](#): Respirators Approved Under Standards Used in Other Countries That Are Similar to NIOSH-Approved N95 Respirators

[Health Canada](#): Notice – Important Regulatory Considerations for the Reprocessing of Single Use N95 Respirators during the COVID-19 Response

[United States Department of Labor](#): Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic; Extended use or reuse of N95s

[United States Department of Labor](#): Enforcement Guidance for Use of Respiratory Protection Equipment Certified under Standards of Other Countries or Jurisdictions During the Coronavirus Disease 2019 (COVID-19) Pandemic.

[Decontamination & Reuse of Filtering Facepiece Respirators](#); US NIOSH.

[Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings](#)

[3M Technical Bulletin](#), January 2020; Revision 2. Comparison of FFP2, KN95 and N95 and Other Filtering Facepiece Respirator Classes.

[US FDA Emergency Use Authorization](#): Authorized Imported, Non-NIOSH Approved Respirators Manufactured in China