

2. SELECTING AND WEARING YOUR PPE

On the following page is a large photograph of the minimum PPE that you and your family members need to obtain, retain and keep in the ready for use. Each individual should have his or her own PPE; do not share anything except in a dire emergency, and when not in use, always keep your PPE immaculately clean and prepared to wear at a moment's notice. Print out the photograph and refer to it as you read the ensuing text.

Remember, the items illustrated on the following page are for one person, and one person only. This ensures that should an 'emergency' occur nobody will be lacking in his/her PPE, or left searching for one or more item 'borrowed' from his/her cache by someone else. Also, before you don *any* PPE, you *must* be thoroughly prepared to do so. This means that your hands should be immaculately clean, including your fingernails, which should be cut as short as possible, and have no sharp edges. After washing, both hands must be thoroughly dried; this is very important to prevent your gloves from adhering to your skin as you don them.

Of equal importance is what you do *with* your hands at all times of the day, evening and especially when you have donned your PPE (because you might have touched something contaminated and not be aware of the fact). At all times, you must not touch your mouth, nose, ears, lips or eyes, as these are prime pathways for the COVID virus to enter your body. Of equal importance is that you should be mindful to protect every cut and abrasion to your skin, in particular any burns that you may have, even if they are very small, as these are even more susceptible to virus entry. For cuts, abrasions and burns, it is imperative that you cover these areas with some protective salve and an overlying bandage. Any medicinal cream or gel will suffice, but the important item is the covering. If you have no protective cream or bandage, in a pinch use lip balm – the balm wax is excellent in providing a liquid-proof layer over anything in need of protection.

The following is a description of the thought process you should follow (in general) when you intend to leave your home. Included is a detailed description of each PPE component, its characteristics as well as any 'special' information about its use, how it is best stored and kept ready for wearing.

1. Before venturing outside, always plan ahead so you will have an exact itinerary of where you will be heading, the route(s) you will be taking and the approximate time you intend to be away from home and at each destination. Make a detailed list, such as 1. Get mail at the Post Office, 2. Go to the WAWA 2 blocks away and fill up the gas tank, 3. Travel to the Pharmacy 3 miles away and pick up 4 prescriptions, and so forth. Keep your itinerary in clear view on the passenger's seat of your vehicle



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so you can refer to it if necessary and not forget an important stop (only view your itinerary when your vehicle is completely at rest and/or with the engine off).

2. Before leaving, make a mental list of every document you will need for your trip. For example, you will need your Driver's License, Auto Insurance Card, Credit Card, possibly some cash, your Prescription Card, and so forth. Put these items in your Wrist Wallet, Credit Card/ID Wallet (Item #5), or if you prefer, in a dedicated Zip Lock Baggie (Item #12).
3. Place the 'expendable' items in a Zip Lock Baggie (Item #12). For example, place two Vegetable Bags (Item # 15) in a Zip Lock Bag (Item #12) with your Ear Protection (Item #4) and extra pair of Vinyl Gloves (Item #6). In another Baggie (Item #12), place the Paper Towels (Item #14), Alcohol Wipes (Item #8) and 3 oz. bottle of Hand Sanitizer (Item #10).
4. Select your outdoor and indoor shoes. Make certain you have an outdoor only and an indoor only pair of shoes so you will never contaminate your home with anything your shoes drag with them upon your trip back home, especially on their soles.
5. Place half of the Rubber Bands (Item # 13) around your right wrist and the remainder around your left wrist. These will be used in an emergency should you tear your exterior vinyl gloves. Make sure that you place them in front of the wrist wallet (nearer your wrist) rather than behind it, so in the event that you will need to cover a damaged glove with one of the Vegetable Bags (Item #15), you will not prevent access to the wallet's contents, and it will be easy to encircle the Vegetable Bag's end with a Rubber Band by rolling it. Afterwards, you can make adjustments..
6. Select your outerwear – this may become crucial in a contamination event. It is highly suggested that you use 'cargo-style' pants and a long sleeved shirt; a jacket or coat is optional. The rationale for the cargo pants is simple – they have a lot of pockets, some zippered, some with Vel Cro™.
7. Select the side of your clothing (pants, shirt and jacket/coat) that you will be using to access your credentials and PPE. For example, if you are right hand dominant, it's probably best to select the right hand side of your clothing's pockets to store spare PPE and anything else that you'll need on your trip. The non-dominant left side of your clothing (and pockets) you will use to retain anything that is contaminated (or unknown) and expendable (such as a used Paper Towel (Item #14) inside a Vegetable Bag (Item #15)). Remember, everything that is 'clean' goes on the side of your dominant hand, everything else goes to the opposite hand side (with one exception – see bullet #9).
8. In one 'clean' side pocket put your Credit Card/Identification Wallet (Item #5). Place the Wrist Wallet (Item #5) on your dominant hand's wrist. In your non-dominant hand rear pocket place any remaining unused Zip Lock Baggies (opened, Item #12) and any remaining Vegetable Bags (Item #15).



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9. Finally, place your writing instrument, ball point or gel pen (not shown in Figure #3), in the top pocket of your shirt. Never use any writing instrument except your own and when done immediately return it to your shirt pocket. Never ever allow anyone to borrow your pen, period.
10. Everything else not mentioned in Figure #3 will be either worn by yourself or will be left at home on your 'step off pad' awaiting your return.
 - Do not don your Face Mask (Item #1), Inner Gloves (Item #7), or Outer Gloves (Item #6) until you are at your first destination and you are ready to depart your car. This ensures that you will not contaminate your vehicle's steering wheel, keys, or door and/or trunk handle(s) should your hand worn PPE is old and not decontaminated (from a prior trip you forgot about, etc.).
 - You have the option of wearing your Safety Goggles (Item #2) and Hat (Item #3) at any time you wish before exiting your car.
 - Important – ensure that your Face Mask (Item #1) is properly placed and tightened on your face before exiting your vehicle. The aluminum band at your nose bridge should be snug and prohibit any air from leaking out of the top of the mask (as a minimum, so that you do not fog your Safety Glasses). Also, the entire perimeter of the Mask should be snug, even to below the bottom of your chin – to test, take a deep breath in and out, the Mask should not leak anywhere and should slightly bulge out when you exhale and slightly in when you inhale.
 - If you have a sufficient number of Alcohol Wipes (Item #8) you may elect to leave the large container of Towelettes (Item #9) at home at your step off pad. Otherwise, you may place the container on the Passenger's side seat or floor of your car. Important – ensure that you have at least one Towelette (Item #9) or Alcohol Wipe (Item #8) 'saved' in a baggie to decon your car's driver's side floor mat. When you return home and immediately upon exiting your vehicle, lightly rub the floor mat with the Towelette or Wipe, and when done place it in a Baggie (Item #16). Afterwards discard the Baggie in your home's trash or recycling bin.
 - Finally, leave the two Fingernail Scrub Brushes (Item #11) near the soap dispenser of the sink where you intend to decontaminate your hands. Remember, whether you have contaminated your hands/fingers or not during your trip, you must thoroughly wash and scrub every part of each hand after you return home. It is imperative that you scrub between your fingers as you do your palms and the top and underneath each fingernail. Thereafter you must clean and decon the used Scrub Brush with the second Brush (basically, scrub the first Brush with the second one). Place both brushes, once cleaned and rinsed on the backsplash to allow both to air dry, preferably in a location that receives sunlight.





Figure #3 Array of Personal Protective Equipment needed to Combat COVID-19

16. Two **Full** Pages from a Daily Newspaper Will Be Needed as Decon "Step Off" Pads (Later)

12. Minimum of 4 Pint Sized Zip Lock Baggies

11. Fingernail Scrub Brushes (two)

10. Three Oz. Container of Hand Sanitizer

9. Large Container of Sanitizer Towelettes

8. Alcohol Wipes (Assortment)

3. Light Colored Baseball Hat with Brim

2. Safety Goggles with Side Shields & Lanyard

15. Minimum of 6 Vegetable/Fruit Baggies from Grocery Store

14. Assortment of Paper Towels

13. Assortment of Rubber Bands

7. Inner Cotton Gloves (1 Pair)

6. Outer Vinyl Gloves (2 Pair)

5. Thin Wrist Wallet and/or CC/ID Wallet

4. Ear Protection

1. Face Mask



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That's it, you are now COVID-19 PPE 'Nuclear Qualified', with one exception which is to practice, practice, practice donning and removing your PPE, as one must (and does) in a Nuke Plant environment.

A word about 'Social Distancing'. Our Administration has adopted a seeming arbitrary distance of six feet as the necessary distance random individuals should be from one another in order not to spread the COVID-19 virus. When viewed analytically, this distance has little defensible reasoning behind it – *any* distance between individuals will be of *some* aid in limiting the spread of the virus, but why just six feet, why not 10 feet, 15, or even 20 feet?

It has been shown by studies performed by various technical institutions ⁴ that the distance between individuals in spreading disease is important, but the actions of these individuals, and the nature of the airway between individuals is as important, and in some cases even moreso, as the distance. In our research and analysis of the current situation, we've drawn on the many published experiences of our Military and Police Agencies in locating felons or individuals buried beneath tens of feet of fallen concrete using various canines, specifically bloodhounds. We asked, how is it possible for a bloodhound to follow the exact hours-old path that a felon had taken, by foot, even in a vehicle on a major highway, hours after s/he had left the crime scene? The only tool that the dog has is his extremely numerous and sensitive nerve endings in his nose, yet after a seemingly impossible amount of time has elapsed, the animal was still able to locate the culprit. The *only* reason for the dog's success is that the perpetrator had left an enormous number of sub-microscopic airborne particles in the atmosphere that the dog was able to track. Fast forward to today and the COVID-19 virus laden sub-microscopic liquid particles left within the atmosphere by an infected individual by virtue of one or more sneezes, coughs or just talking. Those infectious particles will persist in the atmosphere for *hours*, and anyone who inhales them will be at an enormous risk for COVID infection for that same period of time!

As an aid to help anyone who has a question regarding PPE, the donning/removal procedure or other commonly experienced event that might unexpectedly occur, the following Q+A Section is included. If the previous text does not address a particular issue of importance to you, read the next Section. Since this time is fraught with an immense number of unknowns that simply cannot be fully anticipated and addressed in *any* technical paper on the topic, should you have any question or concern that remains unanswered *after* reading this entire document, we welcome your asking us a specific question via e-mail. In return, we will make every attempt to promptly reply as thoroughly as we can. In this event, write us at Info@IntegrityEngg.com, and in the Subject Line type "COVID-19 PPE Paper Question".

⁴ See the New York Times article, entitled *Social Distancing: Why 6 Feet?*, published April 19, 2020.

