



Innovative Ideas From Creative Minds™

INTEGRITY ENGINEERING, INC.

P.O. BOX 2371 WEST CHESTER, PA 19380-0113 (610) 692-7650

U.S. Patent Nos.: 6,470,696, 6,834,509, 6,886,351, 7,798,159, 8,002,897
Zoggles™ Electronic Anti-Condensation Technology
Tooth Fairy™ UV-Peroxidation Dental Appliance Cleaner/Sterilizer
SPARGE™, EXTRACT™, DISPERSION™ CFD FEA Software

FAX: 610-692-2883

WEB ADDRESS: WWW.INTEGRITYENGG.COM

E-MAIL: INFO@INTEGRITYENGG.COM



NASA Create the Future Winner
International Invention of the Year



Invention of the Year
Zoggles™ Anti-Fog Technology

How to Select and Wear PPE Like a Pro in the Era of COVID-19

Teachings from the Most Risk Laden Professionals – Nuclear Power Workers

By Don A. Skomsky, PE

Integrity Engineering, Inc.

1. PREFACE

If time is of essence, the reader may skip reading the text between the blue lines until later, as it merely provides a context for the paper's content

Except for a renowned University or National Library, who would believe that a Commercial Nuclear Power Generating Facility¹ would be a one of the best repositories for Scientific and Engineering knowledge? How is that possible you ask? You might be baffled at this point, but the answer becomes apparent when you consider several factors. Primary among these is that during the early stages of a concurrent design-construct



Figure #1 Dual Unit Nuclear Plant Susquehanna Steam Electric Station in Berwick, PA. Photo courtesy of the Author.

project (such as was the case for the plant in Figure #1), the average two-unit facility maintains a workforce exceeding 6,000 craftsmen, supported by an additional 2,500 Scientists and Engineers, who provide the site with technical support on a 24-7 basis. The latter are well educated and are expert in every conceivable topic from Nuclear Physics, to Chemistry, Medicine, all branches of Engineering, even Public Relations and Law. Add into this mix expert QA and QC oversight investigators, estimators, CPM schedulers, cost accountants, procurement officers, and site safety staff,

one then begins to ‘see the big picture’. Further, in the amalgam, one needs to consider that the time elapsed

¹ Contrary to opponents of Nuclear Energy, the Industry is not bent on annihilating our world but rather making it safer, cleaner and more prosperous. Of all of the electricity used in America, twenty percent is produced by Nuclear Energy.



How to Select and Wear PPE Like a Pro in the Era of COVID-19

from plant concept up to and including licensing can range up to, or even *beyond*, a decade, it then truly becomes self-evident that such sites possess an enormous quantity of knowledge and intellectual skill, in many cases this is available nowhere else except at another similar facility. The talent becomes palpable. During this decade-plus time period, hundreds upon hundreds of technical staff come and go, and as they do so they bring their special skills to the site ‘masses’ before they move on to another project. What makes working at such sites an intellectual’s dream is that an education in any topic, at any level of skill is available on a daily basis to any employee with the interest, free time (typically lunch hour or after one’s shift ends) and a supervisor’s authorization. Many of these educational programs are intimately related to the plant and its operation – these lectures are absolutely mandatory. Others are informational only and are intended for employee enrichment. If you want to learn how to radiograph Schedule 240 carbon steel pipe and learn how to identify weld inclusions, that technical lecture is available. If you are interested in learning about the local geography 500 feet below the plant’s base mat, that’s available too. And, if you want to know how to search for, excavate and become a millionaire selling Coprolite ² on the Internet, all the inquiring mind needs to do is ask!

At this point it bears asking the question what the preceding has to do with COVID-19 and protecting oneself with Personal Protective Equipment (hereinafter, PPE) ³. The answer is straightforward and simple – those Medical and Site Safety staff workers who are employed at nuclear sites are absolutely expert in the selection, donning, removal and decontamination of PPE. EVERY site employee who *will* be, *could* be, or with the remotest of possibilities *might* be at any risk of entering a known or possible radiologic zone or hazardous area of the plant at *any* time is required to undergo rigorous and repeated training on the donning and removal of his/her own PPE. This paper is a shortened version of the teachings of expert site Health Physicists, with whom this Author has had numerous interactions and from whom this Author received expert instruction in this topic. In essence, this paper *is* an abbreviated version of their instruction as applicable to COVID-19.

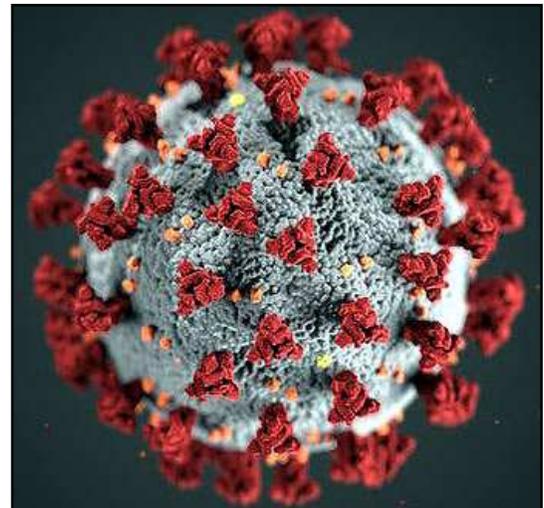


Figure #2 CDC Rendition of the Corona Virus

² We’ll leave the reader to further research Coprolite and discover what it is and why it is valuable. Of interest, however, is that one of the SSES technical consultants *did* seek out, discover and sell Coprolite, becoming a millionaire in the process!

³ Currently at nuclear sites to the east of the Mississippi protective gear is called ‘PPE’; to the west, it is called ‘anti-C’s’, which means ‘anti-contamination’ gear.



How to Select and Wear PPE Like a Pro in the Era of COVID-19

It is hoped that those who read this paper will gain the requisite knowledge and skill to protect him or herself, and thereafter minimize the possibility of becoming a hazard in passing the disease onto others, including one's children, spouse, extended family, even total strangers. This is extraordinarily important, because an oversight of but a few seconds or a failure to follow a simple task that one has done countless times before may mean the difference between health and sickness, life and death. It is THAT important, period!

- Wearing PPE and protecting yourself and others is NOT a fashion show,
- Wearing PPE is NOT a competition between you and everyone else,
- Maintaining the correct *minimum* distance between yourself and others may mean the difference between you becoming contaminated or not due to the inhalation of sub-microscopic virus-laden fluid droplets, and/or you contaminating others with your contaminated breath,
- Cooperating with everyone, even in the heat of a disagreement or controversy is MANDATORY,
- What our World is going through *should* bring out the *best* in ALL Americans, NOT the worst –
 - Stop being petty; this does nothing but spread animosity and breed hate,
 - Stop acting like you are special and above everyone else, you are NOT,
 - Put your arrogance in your hip pocket and keep it there,
 - Learn to share with others and to do so with Dignity and Grace,
 - Cease being a fear-monger; we all *will* prevail and if we keep our heads about us and act with Decorum, a Positive Can-Do attitude and Hope, we WILL get through this, faster and with less angst. To do so...
 - BE THE LEADER OF DOING WHAT IS RIGHT, NOT WHAT IS POLITICALLY 'CORRECT' OR EXPEDIENT. MEDICINE, PHYSICS, SCIENCE AND ENGINEERING RULE; EVERYTHING ELSE IS MERELY BASELESS OPINION.

Let's begin.

