

UCS Views on the NRC's Pandemic Response and Implications for the Future

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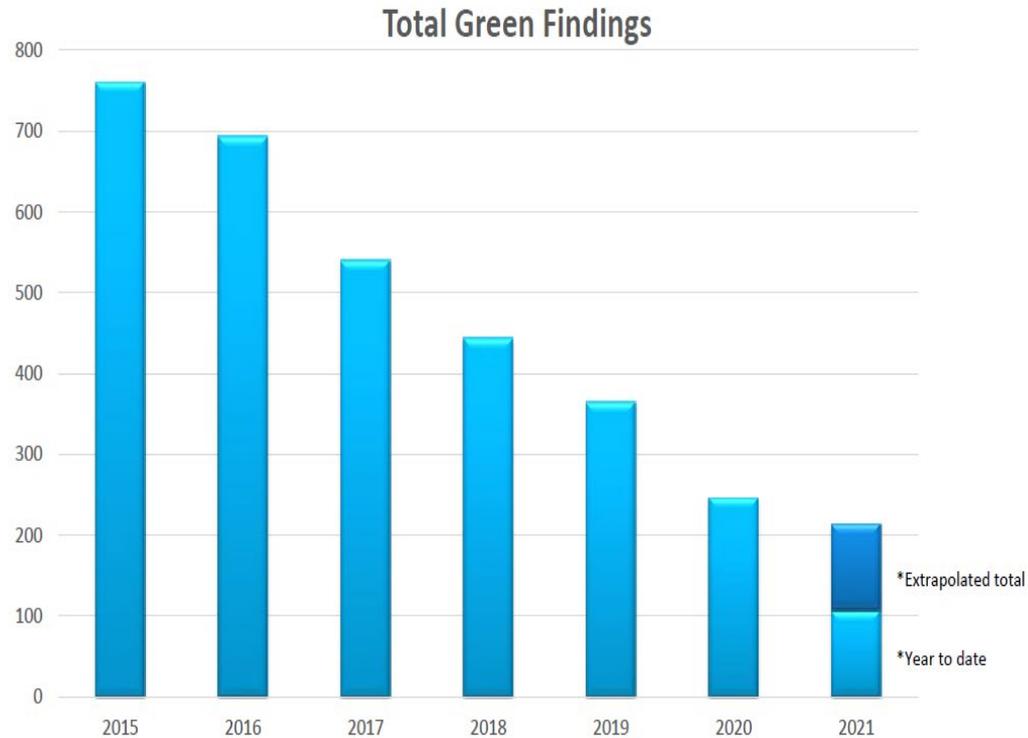
An ongoing situation

- The COVID-19 public health emergency is ongoing and is still having an impact on licensees and NRC's activities. It is premature to make any conclusions regarding lessons learned at this point
- Although the Omicron wave has decreased, the future remains uncertain
 - legality of mask and vaccine mandates
 - “living with COVID” – what does that mean?

Safety impacts

- A substantial number of plants (about 40 percent) received Part 26 work-hour limit exemptions
 - Some received multiple exemptions (Fermi-2)
 - Not all who received exemptions used them
- Numerous relief requests granted regarding steam generator inspections, valve testing, etc
- What are cumulative impacts on safety of
 - Fatigued operators
 - Deferred maintenance and testing
 - Lower numbers of inspection samples
 - Deferred emergency preparedness exercises
 - COVID19-related stress and anxiety

Impact of the pandemic on inspections?



Impact on safety?

- Average number of unplanned scrams per 7000 critical hours (UCS estimate):
 - 2019: 0.44
 - 2020: 0.43
 - 2021: 0.34
- Can't discern a trend from a few data points, but no apparent significant increase due to the pandemic
- But is there a relative increase in events due to operator or maintenance errors and age-related degradation that may have been missed by deferred inspections/testing?
- What about the future if conditions worsen again?

Security-related exemptions

- Security officer work-hour limits
- Training and requalification (Part 73 Appendix B)
 - On-the-job armed responder training
 - Firearms familiarity
 - Weapons range activities
 - Quarterly tactical response drills
- Annual licensee-run force-on-force exercises
- What is the cumulative effect of multiple, prolonged security exemptions on protective force performance?

Exemptions granted

- All nuclear plants requested and received at least one security-related exemption except:
 - ANO-1, River Bend, Sequoyah, Wolf Creek*
 - What do they know that the others don't?
- Certain exemptions expired on December 31, 2020 and were not renewed, but some licensees have renewed work-hour limit exemptions, and many have requested exemptions from annual force-on-force self-evaluations for CY 2020 and also for CY 2021
- *(but were exempted from emergency preparedness exercises)

Double standards

- Licensees received security exemptions based on arguments that the necessary activities would have required staff to be in close proximity and violate social distancing protocols
- But off-site, staff reportedly did not maintain social distancing, leading to COVID-19 outbreaks (e.g. Fermi-2)
- And other activities that carried significant risks of transmission, such as refueling outages and construction of the Vogtle 3 and 4 AP1000 reactors, continued apace

Decreased baseline security oversight

- COVID-19 restrictions contributed to a decreasing trend in baseline security inspections and findings

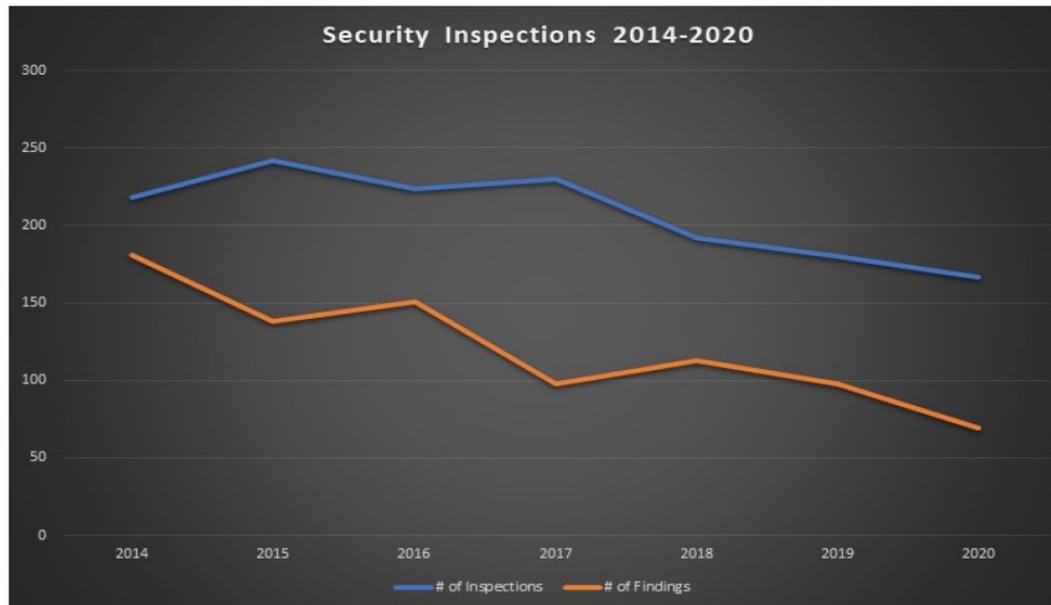


Figure 7: Number of Security Inspections (2014-2020)

Suspension of NRC force-on-force inspections

- FOF inspections scheduled at 18 sites in 2020
- After PHE was declared FOF inspections were suspended because they involve
 - NRC staff travel
 - Multiple in-person gatherings (preparation) over several weeks
 - Large number of licensee staff, including some from out of area
 - Close contact (e.g. in bullet-resistant enclosure positions)
- Only one FOF was successfully completed in 2020 (VC Summer) before suspension

Limited-scope drills

- To maintain some level of performance assessment in the absence of FOF, the NRC developed a special inspection procedure (IP 92707) with provisions to reduce close contact, including
 - limited-scope tactical drills on “key elements” of the protective strategy
 - “Increased acceptance of simulations”
- The limited scope of the 92707 inspections did not allow NRC to determine the overall effectiveness of protective strategies or meet the letter of the Energy Policy Act FOF requirement

Resuming FOF inspections

- NRC then developed criteria and protocols for a safe resumption of FOF inspections where possible given site COVID-19 conditions and restrictions
 - Licensees must cite COVID-19 “hardship” to qualify for 92707
 - Some modifications to exercises to address COVID concerns
- Industry pushed back, even as vaccinations became widely available and pandemic waned in spring 2021
- At least 1 hardship request (Quad Cities) was denied in 2021
- 12 FOF in 2021 with “COVID mitigation protocols”
- Should nuclear plant owners require vaccinations for security staff that would reduce risk?

Licensee-run FOF exercises

- As annual licensee-run FOF exercises resume, NRC understands they may involve “increased artificialities and simulations” due to COVID-19 protocols
- NRC expects that these artificialities will be removed “once the PHE has ended or conditions support a safe training environment”

The future?

- Before COVID-19, the industry was pressing for across-the-board reductions in security requirements and intensity of inspections
- COVID-19 has provided the perfect excuse to reduce security requirements and oversight
- Industry is interested in extending certain practices indefinitely

Remote activities and cybersecurity

- COVID has resulted in a major shift to remote activities, including some inspection activities, increasing reliance on digital communications on external networks
- Incidents such as the Colonial Pipeline ransomware attack demonstrate that there are ways to compromise business systems that could have profound and unexpected effects on plant operations
- The SolarWinds hack demonstrates the dangers of sophisticated supply chain attacks that have the potential for bypassing data diodes

Conclusions

- There is likely to be a cumulative negative impact if COVID-related safety and security exemptions and reductions in inspections are prolonged
- As the pandemic wanes, the NRC should revise its process for granting hardship-related exemptions
- NRC should fully evaluate the safety and security impacts of any COVID-related changes before considering requests to make them permanent