

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

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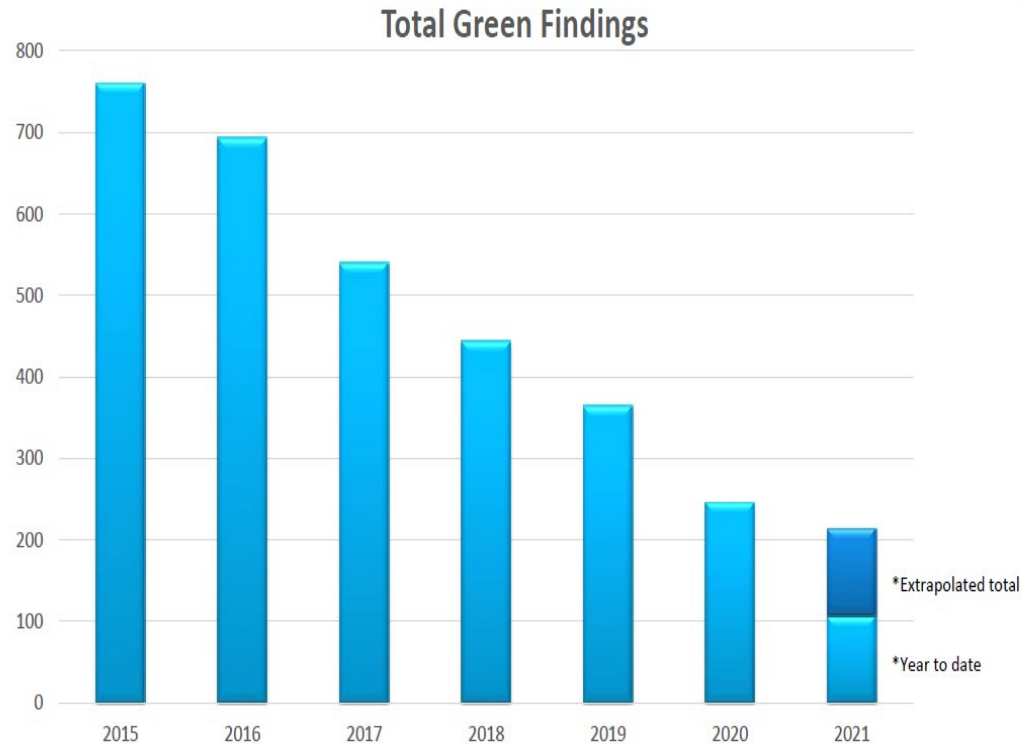
# An ongoing situation

- 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 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

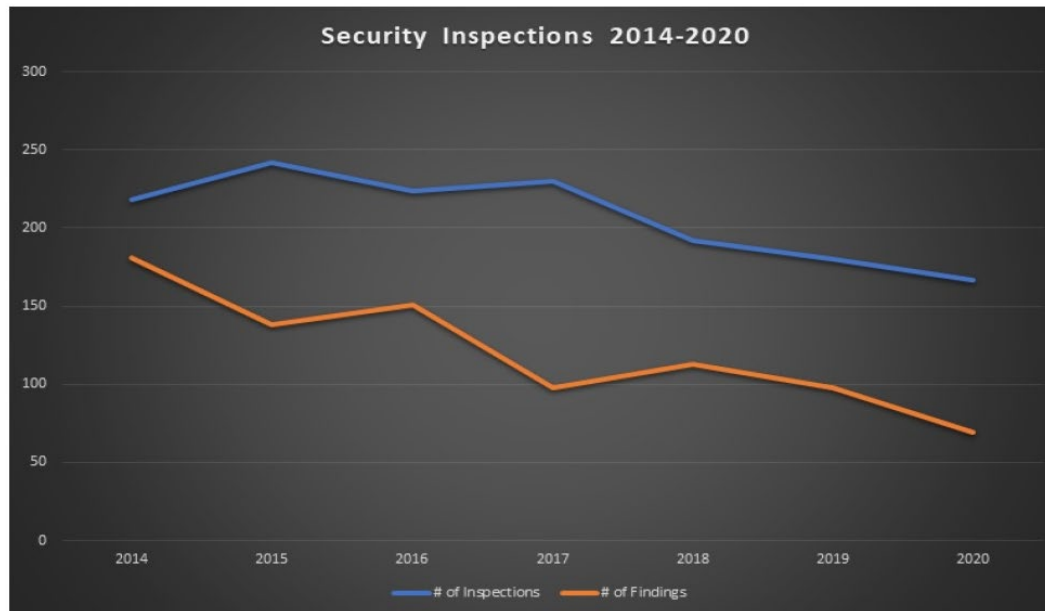


Figure 7: Number of Security Inspections (2014-2020)

# 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