

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D.C. 20555-0001

July 28, 2022

MEMORANDUM TO:

Christopher G. Miller, Director Division of Reactor Oversight Office of Nuclear Reactor Regulation

FROM:

Mark Franke, Director Civision of Reactor Safety

Region II

Signed by Franke, Mark on 07/28/22

SUBJECT:

FINAL REPORT FOR THE FOLLOW-ON REVIEW OF THE LESSONS LEARNED, BEST PRACTICES, AND CHALLENGES DURING THE COVID-19 PUBLIC HEALTH EMERGENCY

The purpose of this memorandum is to communicate the results and recommendations from the working group efforts to identify lessons learned, best practices, and challenges during the COVID-19 public health emergency (PHE). The working group was formed in December 2021 and included input and feedback from internal, external, and international sources. The working group evaluated the prioritization and performance of NRC inspections related to the health and safety of NRC employees and any related inspection activity impacts to licensee personnel. Additionally, the working group evaluated inspection information technology solutions, on-site and remote inspection techniques, and enhancements to the Reactor Oversight Process.

The working group concluded that the NRC responded to the challenges of the COVID 19 PHE by exercising existing flexibilities within the Reactor Oversight Process and by improving capability to meet mission needs through the use of modern communications technology and innovative approaches to inspection. The lessons learned from the NRC's response to the COVID-19 public health emergency include communication and coordination practices with licensees during remote inspection activities that are applicable to routine inspections as well as to situations where access to licensee facilities could be limited. Many of these communication and coordination best practices continue in use between NRC and licensee staff to facilitate efficient and effective inspections.

The continued application of existing program flexibilities, communications technology, and innovative inspection approaches can provide ongoing benefit to agency effectiveness and efficiency during routine periods, can foster continued agility to interface with modernizing licensee organizations, and can promote preparedness for future circumstances that may limit site access.

Enclosure: As stated

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SUBJECT: FINAL REPORT FOR THE FOLLOW-ON REVIEW OF THE LESSONS LEARNED, BEST PRACTICES, AND CHALLENGES DURING THE COVID-19 PUBLIC HEALTH EMERGENCY DATED: JULY 28, 2022

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Executive Summary:

In December 2021 the Office of Nuclear Reactor Regulation (NRR) initiated a working group to fully explore the impact of practices utilized during the COVID-19 public health emergency (PHE) on the Reactor Oversight Process (ROP) in order to make informed decisions regarding what long-term improvements could be made for future emergencies and non-emergency conditions. Members of the working group included all four regions, NRR, the Office of Nuclear Security and Incident Response, and the Office of Nuclear Material Safety and Safeguards (NMSS). The working group engaged internal and external stakeholders as well as international regulatory organizations to develop recommendations for improvements to the ROP and Baseline Inspection Program.

The working group concluded that the NRC responded to the challenges of the COVID 19 PHE by exercising existing flexibilities within the Reactor Oversight Process and by improving capability to meet mission needs through the use of modern communications technology and innovative approaches to inspection. The lessons learned from the NRC's response to the COVID-19 public health emergency include communication and coordination practices with licensees during remote inspection activities that are applicable to routine inspections as well as to situations where access to licensee facilities could be limited. Many of these communication and coordination best practices continue in use to facilitate efficient and effective inspections.

The continued application of existing program flexibilities, communications technology, and innovative inspection approaches can provide ongoing benefit to agency effectiveness and efficiency during routine periods, can foster continued agility to interface with modernizing licensee organizations, and can promote preparedness for future circumstances that may limit site access.

The working group's review determined that there is broad agreement internally and externally that on-site and in-person inspection remains the most effective and preferred inspection method for the majority of NRC inspection activities. Inspection program flexibilities exist to allow for performing portions of inspections remotely which can lead to greater flexibility in meeting inspection objectives.

As a result of this effort, the working group is recommending changes to program guidance to (1) include direction for the program offices to identify consistent criteria, resources, evaluation methodology, and inspection prioritization for future events, (2) establish a standard definition of on-site, remote, and hybrid inspection, (3) better support hybrid inspection through available controls, guidance, and risk mitigation strategies to ensure inspections are efficient and effective, and (4) encourage flexibility in interactions with licensee personnel, including the conduct of entrance and exit meetings, by leveraging virtual technology.

Additionally, the working group recommends actions to (1) explore implementation or development of solutions for licensee information sharing with NRC inspectors for long-term implementation, (2) to establish a list of standards and expectations for information sharing with NRC inspectors for licensees to consider, and (3) ensure Memorandums of Understanding with licensees reflect current information technology resources and appropriate restrictions.

Finally, the working group supports the NRC's continued review for adverse trends in licensee performance attributable to the responses to the PHE. The baseline inspection program is sufficient as is to address concerns as they arise.

Follow-On Review of Lessons Learned, Best Practices, and Challenges During the COVID-19 Public Health Emergency

1. Purpose:

This report documents the conclusions and recommendations of the Follow-On Review of Lessons Learned, Best Practices, and Challenges during the COVID-19 Public Health Emergency (PHE). This working group was formed to fully explore the impact of the practices utilized during the COVID-19 PHE on the Reactor Oversight Process (ROP) and to develop risk--informed long-term ROP improvement recommendations for emergency and non-emergency conditions.

The working group engaged internal and external stakeholders, and international peers to discuss improvements, limitations, lessons learned, and revisions to inspection practices and programs based on the NRC and licensee response to the COVID-19 PHE. The working group explored the feasibility of continued and expanded sharing of licensee information resources and the impact of enhanced access to licensee procedures and records on inspection activities. Additionally, the working group reviewed NRC actions related to the protection of the health and safety of NRC and licensee staff during the planning and conduct of on-site inspection activities. Finally, the working group evaluated the impact of continuing practices that were developed as a result of the PHE on baseline inspections for effectiveness and efficiency benefits.

Working group members included representatives from each region, the Office of Nuclear Reactor Regulation (NRR), the Office of Nuclear Security and Incident Response (NSIR), and the Office of Nuclear Material Safety and Safeguards (NMSS). Team members included:

Mark Franke (Executive Sponsor)	Region II, Division of Reactor Safety (DRS)
Eugene Guthrie (Team Leader)	Region II, DRS
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Mario Fernandez (Cybersecurity)	NSIR, Division of Physical and Cyber
	Security Policy
Leira Cuadrado	NMSS, Division of Materials Safety,
	Security, State, and Tribal Programs

The charter for this working group can be found at Agencywide Document Access and Management System (ADAMS) Accession No. <u>ML21322A259</u>.

2. Background:

Following the March 11, 2020, declaration of COVID-19 as a pandemic by the World Health Organization and the March 13, 2020, declaration of a national emergency, the NRC implemented personnel protective actions to protect the health and safety of inspectors and licensee personnel. The Office of the Chief Human Capital Officer directed NRC staff to maximize the use of telework and provided expanded work schedule flexibilities.

On March 19, 2020, the NRC Executive Director for Operations issued memorandum, "Mandatory Telework" (ML20079D933), requiring telework for all NRC staff in "non-mission critical functions." NRR provided interim guidance for resident office site coverage and baseline inspection completion that was revised in an April 6, 2020, memorandum, "Updated Implementation of Resident Inspector Site Coverage During COVID-19" (ML20097E538). This NRR guidance memorandum directed resident inspectors to report to the site once every three days and deferred all on-site baseline inspections originating from the region or headquarters offices until further notice. Non-emergency event response and plant status was completed, to the extent possible, remotely.

On March 27, 2020, NRR revised inspection manual chapter (IMC) 2515, Appendix E, "Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases," to update guidance regarding ROP inspection program modifications, resident inspector site staffing, the expanded use of technology, and other considerations for the performance of inspections remotely.

On April 2, 2020, the Office of the Chief Financial Officer issued revised travel guidance for staff completing mission critical functions, such as response to risk-significant events and resident inspector office coverage, to allow consideration of alternative methods of travel. Specifically, the requirement for completing a cost comparison for staff use of personal vehicles for official travel was suspended to alleviate staff health and safety concerns when traveling via common carrier.

On May 28, 2020, in response to the easing of COVID-19 stay-at-home restrictions, NRR issued memorandum, "Inspection Guidance During Transition from COVID-19 Mandatory Telework" (<u>ML20141L766</u>). This memorandum established the inspection completion goal of minimum inspection samples in accordance with the baseline inspection program for the remainder of calendar year 2020. Additionally, it provided updated guidance for regional consideration for determining whether to increase or decrease on-site inspection. This guidance included consideration of:

- Specific health and safety circumstances of individual inspectors and their families, and availability of other inspectors, as appropriate;
- Plant risk configuration, including but not limited to, the availability of safety-related systems, outage activities, and planned or emergent maintenance activities;
- The availability, connectivity, and usefulness of remote technologies for inspectors to provide effective oversight of safety and security activities, including plant information (e.g., meetings, corrective action program, or other data);
- On-site COVID-19 conditions and trends; and

• Local COVID-19 conditions around the site and the community where the inspectors reside, including directions from local authorities.

On June 21, 2020, the NRC transitioned from Mandatory Telework that had been in effect since March 19, 2020, to Maximum Telework. Employees were encouraged to continue to telework, and personnel travel remained limited to only mission critical functions; however, limited NRC building re-occupancy was authorized. Inspectors and managers were advised to review the NRR guidance from May 28, 2020, licensee site protective measures, and Centers for Disease Control and Prevention guidelines before performing on-site inspections.

Each region responded to the issuance of the May 28, 2020, memorandum and the transition to Maximum Telework by evaluating regional inspection practices and adjusting or deferring inspections, where possible, to limit on-site inspection and face-to-face interaction with licensee personnel. Regional inspectors identified and utilized flexibilities already contained within the ROP baseline inspection program to identify methods of completing inspections in accordance with existing guidance while minimizing on-site activities. Some critical inspection activities (e.g., initial license examinations) were performed on site with additional attention to personal protective measures and social distancing. Other inspections were performed remotely utilizing licensee documents and records that could be provided electronically through various information technology tools. Also, many inspections utilized a combination of on-site and remote inspection methods, in which a remote review of licensee documents and records was combined with limited on-site inspection for those that required on-site observation of licensee personnel or equipment walkdowns. In a few cases, equipment walkdowns and licensee personnel observations were completed by resident inspectors in support of regional inspections.

On February 1, 2021, NRR issued memorandum, "Calendar Year 2021 Inspection Guidance During COVID-19 Telework Restrictions," (ML21027A274) that established the ROP baseline completion goal of nominal samples in accordance with the baseline inspection program for calendar year 2021. The memorandum reiterated the guidance in the May 28, 2020, memorandum and encouraged the regions to leverage telework technology to complete the objectives of the NRC's inspection procedures and/or the administrative aspects of the ROP (e.g., inspection preparation, documentation, and entrance and exit meetings).

On November 2, 2021, NRR issued memorandum, "Implementation of Inspection Programs Following Re-Entry from the Public Health Emergency for the Reactor Safety Program" (ML21295A302). This memorandum superseded the April 6, 2020; May 28, 2020; and February 1, 2021, memoranda. In this memorandum, NRR established that the "intent is to perform inspection activities onsite..." including "returning to normal onsite presence by resident inspectors and conducting regional-based inspections onsite." However, discretion was provided in which inspectors could continue to use appropriate flexibilities from the PHE to complete some inspection objectives using alternate methods.

3. Public Outreach:

The working group held public outreach meetings to engage industry and members of the public in identifying lessons learned and best practices. The first of these public outreach meetings was held on January 26, 2022, in which discussion topics were provided in advance to better facilitate dialogue (ML22010A273). The discussion topics included health and safety of licensee and NRC personnel; prioritization and performance of inspections; inspector access to licensee information resources; and long-term improvements to the ROP.

During the January 26, 2022, public meeting, the overwhelming conclusions from industry were that the NRC's communications protocols that were put in place during the PHE were very effective in communicating and responding to licensee challenges and priorities and that the NRC's inspection techniques were an overall improvement to the traditional inspection process. Industry personnel indicated that virtual plant meetings that were implemented to reduce close contact situations during the PHE would likely continue and should be adopted for routine NRC inspections. Additionally, industry personnel agreed that information technology (IT) resources provided to the resident inspectors during the PHE improved NRC oversight and inspection activities; however, there was reluctance to support a standardized adoption of technology due to differences in licensee IT infrastructure and architecture.

Members of the public that commented during the January 26, 2022, public meeting cautioned against adopting changes to the ROP before the full impact of the PHE is understood. Additionally, members of the public questioned if the NRC was taking steps to understand the nature and causes of the elevated COVID-19 outbreaks at some sites so that corrective actions could be identified to prevent recurrence. The working group assessed this comment and determined that the concern fell outside the NRC's regulatory purview. However, as discussed later in this report, the working group recommends inspectors follow up adverse trends and performance deficiencies in accordance with the ROP baseline inspection program (Section 11: Assessment of the Long-Term Impact of the Public Health Emergency).

On April 6, 2022, the working group held a second public meeting to gather input relative to the development of the working group's preliminary conclusions and recommendations. Again, discussion topics were provided in advance (ML22080A084). These discussion topics included discussion of what the definition of 'hybrid' inspection meant to the NRC and external stakeholders; the performance of effective and efficient 'hybrid' inspections; NRC access to licensee information resources; and the long-term impact of the PHE.

During the April 6, 2022, public meeting licensee personnel emphasized that effective and efficient 'hybrid' inspections could be accomplished through deliberate planning and communications between NRC inspectors and licensee representatives. Specifically, the feedback emphasized that an efficient and effective 'hybrid' inspection includes onsite and offsite activities that are clearly planned, scheduled, and communicated and that the 'hybrid' inspection plan should ensure that the inspection is completed within the scheduled time frame and is not burdensome to the licensee staff. The licensees acknowledged that remote information sharing methods may not meet the needs of each inspection and that allowances to pivot planned remote activities to on-site inspection should be included in the inspection plans. Additionally, licensees emphasized that inspection schedules should be adhered to noting that 'hybrid' inspections during the PHE often extended beyond the scheduled end date, resulting in challenges to licensee resources.

The working group reviewed inspection data to assess the industry concern regarding adherence to inspection scheduling. In the absence of specific examples from licensees, the working group sampled team inspections, such as inspection procedure (IP) 71111.21M, "Design Bases Assurance Inspection (Teams)," time charging and reports. While total direct inspection hours were consistent with the procedure resource estimates and previous inspection years, the working group identified numerous inspections that extended beyond the scheduled exit date, consistent with the feedback received from the industry during the January and April public meetings. The working group determined that these examples resulted from difficulties completing inspection objectives with the information resources available to the inspection

teams and the inspection methodology utilized in response to the site-specific conditions of the PHE. The working group acknowledged that an expansion of the inspection schedule caused resource constraints to both licensees and the NRC. The working group agreed that inspections should adhere to the inspection schedule to the extent practicable based on inspection results.

4. International Inspection and Oversight Methods:

One of the working group members participated in international inspection workshops related to the use of remote inspection practices during the PHE and shared the insights and feedback. Additionally, representatives from international regulatory organizations shared their lessons learned to the working group so that best practices of the international community could be included in consideration of NRC best practices.

On March 30, 2022, and April 13, 2022, representatives from various international regulatory organizations discussed lessons learned from performing inspections during the COVID-19 PHE with the working group. One of the presentations focused on remote inspection practices while the other presentation primarily addressed combined on-site and off-site inspections. Of note, the responses of each country differed significantly from the United States' response in that other governments enacted multiple lockdowns based on infection rates and hospitalizations. While most regulatory agencies were exempt from lockdowns, this presented a challenge for maintaining the health and safety of their staff.

The March 30th presentation described the development of a standardized framework for remote inspections that included tabletop demonstrations to validate and refine the methods for completing various inspection objectives. This remote inspection framework separated a given inspection into modules that could be performed individually. Some modules that required on-site verification were deferred until COVID-19 levels abated. Similar to the NRC's experiences, the remote inspection technique relied on communications with licensee personnel and the remote availability of documents and records. While the remote inspection technique was successful for the needs of the situation, there is a sense within the regulatory organization that the success was the result of inspectors' pre-established relationships and familiarity with licensee staff and facilities.

The April 13th presentation discussed inspections performed through a combination of remote and on-site activities, depending on the PHE conditions at the time of the inspection. However, the international regulatory organization developed a slightly different inspection technique favored by their inspectors that combined remote inspection by in-office inspectors concurrent with on-site inspectors. The presentation described that this mixed technique allowed for greater coordination of on-site and offsite inspection efforts than the 'hybrid' inspection technique of remote inspectors could respond to concerns and questions raised by the remote inspectors to verify conditions or descriptions contained in the reviewed documents.

5. Health and Safety of NRC and Licensee Personnel:

The working group reviewed the health and safety programs that were implemented in regional offices to protect NRC inspectors and licensee staff during on-site inspections. The working group reviewed regional assessment criteria used to determine whether an inspection should be performed on-site, performed remotely, deferred, or canceled. Additionally, this review included the assessment criteria used to validate that travel to the licensee site was safe for inspection staff.

The NMSS, "COVID-19 Public Health Emergency Oversight Activities Assessment – Phase B Report," (ML21294A342) performed a comprehensive evaluation of the review process each region utilized for approval of region-based on-site inspection activities. The decision-making discussion in the Phase B report is consistent with ROP-related inspection activities at operating reactor sites. Specifically, Section VI.F.1 describes the use of transition review panels in each region, discusses regional similarities, and identifies regional variations. As part of this process, the inspection lead or regional representative gathers information on local COVID-19 conditions, generate a briefing, and discuss conditions and concerns with management. While each region differed slightly in the details, the overall methodology was similar.

During the early PHE period, the approval authority for performing an on-site inspection resided with senior management. As conditions changed, the decision-making authority transitioned to the inspection lead's branch chief with input from the inspector. Ultimately, the decision to perform an on-site inspection was heavily weighted by the risk appetite for exposure to COVID-19 of the inspectors. However, as the PHE progressed, some inspectors believed that on-site inspection decision-making focused on determining that the site was not safe in order to authorize a remote or 'hybrid' inspection. Some inspectors commented that this strategy prioritized the completion of the inspection program over the health and safety of the inspection staff.

Of note in the NMSS Phase B report and through working group interviews with regional inspectors, a considerable difference in the level of input included in the regional evaluations was identified. The inspectors interviewed stated that only minimal guidance was provided to inspectors for identifying onsite inspection criteria, the data sources that were credible for gathering criteria-related input, and how to consider the collected information to identify concerns or limitations for performing an on-site inspector identifying slightly different resources. While some inspectors embraced the on-site inspection decision-making flexibility provided by the minimal guidance, others believed the program and regional offices did not do enough to standardize the decision-making method or considerations.

Separately, some resident inspectors that were interviewed stated that the justification required of them to perform a remote or 'hybrid' inspection was higher than for regional inspectors for performing a region-based remote or 'hybrid' inspection. As noted by some inspectors, residents were reporting to sites for on-site inspections while 'hybrid' or remote region-based inspections were authorized due to local COVID-19 conditions. For some inspections, resident inspectors performed equipment walkdowns or licensee personnel observations on-site in lieu of region-based inspectors.

Additionally, the working group noted an inconsistency in the assessed importance of on-site inspection activities. For example, early in the PHE, operator licensing examinations were identified as mission critical and necessary to support the safe operation of licensee facilities. As a result, operator licensing examinations were the first on-site activity performed by NRC regional and Headquarters staff during the period of Mandatory Telework. However, Force-on-Force exercises were determined to be unsafe regardless of site conditions and an alternate inspection procedure was developed that limited on-site inspection and contact with licensee personnel. This alternate inspection procedure was approved for use throughout 2020 despite the determination that it would not satisfy the NRC's statutory requirements under the Energy Policy Act of 2005. The working group noted that both decisions supported critical operational

staffing requirements for the licensed facilities; however, it is not clear if this criterion was applied to other baseline inspection activities.

The working group noted that other baseline inspection procedures were assessed individually, on a case-by-case basis rather than generically and considered the on-site and local conditions when making an on-site inspection decision. The working group concluded that the absence of a generic on-site inspection assessment tool that could be used by all of the regional offices led to a perception that all baseline inspection activities and inspection requirements were equally important to the assessment of reasonable assurance of adequate protection and caused unnecessary pressure on the inspection staff to justify inspection deferral or cancellation.

Upon the resumption of on-site inspection activities in the summer of 2020, significant staff and management time was spent determining whether local conditions supported on-site inspections and what mitigating measures such as time on-site, number of inspectors, and personal protective equipment, should be implemented. This resulted in qualitative risk determinations that considered site location, methods of travel, and mitigation strategies to further manage risk of exposure. As the PHE progressed it became apparent that the mitigation strategies that were applied were consistent for each inspection effort. The working group concluded that when considering how the agency decision-making methods and processes evolved throughout the PHE, the establishment of a standard, conservative, mitigation strategy may have reduced staff effort, alleviated anxiety and confusion in decision-making, and improved staff trust in the process.

The working group concluded that while decision-making should be at the lowest appropriate level and that site-specific conditions varied widely across the country at different times throughout the PHE, greater guidance may have been helpful in supporting regional decision-making efforts. Some inspectors and first line supervisors stated that they were not provided with sufficient guidance for reviewing local COVID-19 conditions and how best to quantify the risks associated with travel and on-site inspection for both region-based and resident inspectors.

The working group developed a decision-making and risk analysis tool in accordance with the Be riskSMART framework to more efficiently manage inspection decisions. The working group concluded that application of this analysis method can provide a consistent framework for making risk-significant decisions relative to inspector travel and whether to defer, delay, or cancel inspection program activities during future emergency conditions. The draft Be riskSMART inspection analysis tool can be found in Appendix B.

The working group recommends that NRR revise IMC 2515, Appendix E, "Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases," to include direction for the program offices to identify consistent criteria, resources, evaluation methodology, and inspection prioritization for each time the IMC is invoked. This recommendation will provide sufficient flexibility to account for future occurrences of events that limit inspection activities at licensee facilities while identifying specific responsibilities and approval authority for the program office and regions in the oversight and implementation of the baseline inspection program (Appendix A: Recommendation 1).

6. Definition of Hybrid Inspection:

The working group determined that a clear and well-defined definition for the term 'Hybrid Inspection' was important to ensure alignment during discussions with stakeholders, the public,

and the NRC staff. The term has been commonly used but no specific adherence to a common definition or understanding was established. The working group identified, through the industry meetings that were held that the definition of the term "hybrid inspection" varied between stakeholders. For example, some stakeholders expressed the collective view that a hybrid inspection consisted of a limited review of licensee documentation during inspection for the completion of inspection requirements. However, other stakeholders believed that a hybrid inspection consisted of the region-based inspector review of licensee documents and records with resident inspector performance of on-site verification of equipment and observation of licensee personnel. The working group concluded that the former definition may not take full advantage of the lessons learned during the PHE and was functionally no different than a traditional on-site inspection; while the later could represent an inefficient and ineffective use of resident inspector resources and regional expertise leading to inadequate performance of NRC inspections in the long-term.

The working group concluded that hybrid inspections should allow for the completion of some inspection requirements from remote locations through document and records review and virtual interviews with licensee personnel. However, the primary focus of most inspections should include on-site verification of licensee equipment and observations of licensee personnel by the inspection team. A clear definition is intended to maintain continuity between the inspection objectives and the completed actions.

The working group developed a draft definition of on-site, remote, and hybrid inspection for the purpose of clarifying the working group's position and providing a common starting point for development of a final definition. The proposed draft definitions are presented as follows:

<u>On-Site Inspection</u>: An on-site inspection is an inspection strategy in which all inspection requirements are performed through direct observation of licensee personnel, walkdowns of licensee equipment, and the review of licensee documents and records. Licensee document and record review is performed on-site utilizing licensee resources or personnel to retrieve documents.

<u>Remote Inspection</u>: A remote inspection is an inspection strategy in which all inspection requirements are performed from a remote location requiring limited licensee interaction and coordination. Licensee documents and records are provided directly to the inspector electronically or through a third-party file sharing method. No on-site observation or walkdown is required to complete remote inspections and limited requests for additional information from licensee personnel is expected. This is anticipated to rarely apply to NRC inspections. If extensive interaction with licensee personnel occurs or is anticipated during the course of a remote inspection, the inspection lead should transition to a hybrid or on-site inspection strategy.

<u>Hybrid Inspection</u>: A hybrid inspection is an inspection strategy that provides flexibility in the planning and execution of the inspection activity. Some inspection requirements are required to be performed through direct observation and/or face-to-face licensee interaction and some inspection requirements associated with licensee document and record review, and meetings and/or interviews with licensee personnel may be performed remotely. Entrance meetings may be performed remotely prior to the beginning of hybrid inspection activities and the exit meeting is usually held virtually upon the completion of all inspection requirements unless the inspection results

necessitate a face-to-face discussion. On-site verification, observation, or walkdown by the inspection team is required to complete a hybrid inspection.

The team leader for a hybrid inspection should identify the inspection requirements and objectives that will necessitate on-site verification or face-to-face interaction with license personnel during inspection planning. The team leader should discuss the inspection plan with the cognizant branch chief to ensure alignment and inspection consistency and obtain approval from the branch chief for execution of the plan.

During development of the definitions above, NMSS expressed interest in coordinating a common definition across all NRC inspection functions.

The working group recommends that NRR coordinate with NMSS to establish a standard definition of on-site, remote, and hybrid inspection. This standard definition should be added to IMC 2515, "Light Water Reactor Inspection Program - Operations Phase," for clarity, consistency, and transparency for internal and external stakeholders (Appendix A: Recommendation 2).

7. Adoption of Hybrid Inspections During Routine Periods:

The working group evaluated whether the hybrid inspection developed during the PHE should be expanded to routine inspections during non-PHE periods. The evaluation included an assessment in accordance with the Be riskSMART framework presented in Appendix C. Prior to the PHE the term hybrid inspection was not routinely used even though the inspection program offered flexibilities that supported this inspection planning methodology.

Prior to the PHE, region-based inspections at nuclear power plants typically consisted of one week of inspection preparation conducted at the regional office, one- or two-weeks of on-site inspection at a licensee facility to complete the requirements of the inspection procedure, and one week of inspection results documentation in the regional office. For multiweek inspections, an in-region week for documentation of the previous week's activities and preparation for the next on-site week was scheduled in between the two on-site inspection weeks. This resulted in a scheduled three to five weeks of inspection activity but limited direct inspection to the on-site weeks.

During the PHE, inspections were completed using a variety of techniques with limited on-site presence. Licensee documentation and records were reviewed remotely using IT tools; while portions of the IPs that required on-site observation of licensee personnel and equipment were conducted by resident inspectors or select members of the inspection team during limited site visits. Direct inspection activities were often performed throughout the three- to five-week inspection period due to the availability of licensee procedures and documents, delays in responses to inspector questions or requests for additional information, and scheduling of on-site inspection activities. Occasionally, inspection activities were extended beyond the scheduled three- to five-week period so that all inspection requirements could be completed. Other inspection-related changes necessitated by the PHE included virtual entrance and exit meetings, remote inspection interviews with licensee subject matter experts, and the use of licensee-generated photographs and video recordings of plant equipment.

Inspection experience has demonstrated that inspectors can usually perform at least some inspection activities remotely if they are provided with necessary resources. While licensees are supportive of expanding the performance of hybrid inspections, there are a wide range of views

on whether this would be efficient and effective. Any expansion of hybrid inspections into routine periods should consider the impact that remote inspection activities may have on overall inspection quality, the need for additional NRC and licensee resources, and the overall efficiency and effectiveness during both the remote and onsite portions of the inspection.

Through this review, the working group concluded that the flexibilities to perform inspections in a hybrid application have always existed within the ROP. Continued application of these flexibilities should continue to be evaluated on a case-by-case basis and emphasize inspection planning and communication with the licensee.

The working group determined that guidance for hybrid inspections should include provisions for early communication of inspection planning with the licensee to establish a clear understanding of which activities would be completed while on-site and what specific face-to-face interviews will be needed, so that required licensee support resources could be identified. However, the working group recognized that as issues, concerns, or questions arise during the performance of an inspection that additional interactions may be warranted such that on-site verification or face-to-face interviews may be needed. For example, some licensee documents may not be effectively transmitted and reviewed electronically due to age, size, or medium and therefore need to be reviewed on-site. The guidance should not discourage an inspector from revising the inspection plan to perform verifications on-site that were originally believed to be able to be completed remotely. During the working group's April 6, 2022, public meeting, the industry echoed a similar opinion.

The working group evaluated the routine performance of hybrid inspections using the Be riskSMART framework. The risk evaluation took into account the pros and cons and program liabilities associated with routine hybrid inspection. The evaluation identified that various controls and measures should be implemented when applying the hybrid inspection methodology. The evaluation determined that it is important for licensee information sharing methods to meet NRC needs and recognition that differences in NRC inspections precludes a one-size-fits-all solution. The working group recommends that NRC inspections continue to apply the built-in flexibilities that exist in the ROP inspection program; however, all of the risk management actions contained in Appendix C should be adopted in order to minimize the identified risks (Appendix A: Recommendation 3).

The working group recognized that virtual entrance, exit, and daily debrief meetings were more broadly attended, which enhanced the communication of NRC objectives, observations, and findings to licensee personnel. Additionally, the working group recognized that licensee business practices would likely necessitate the expanded adoption of virtual interviews with licensee staff due to licensee decisions to support NRC inspections from remote locations. The working group supports virtual and/or hybrid inspection meetings with licensee staff and recommends that inspectors should consider virtual meetings when they may benefit efficiency and effectiveness (Appendix A: Recommendation 4).

8. Evaluation of Licensee Information Sharing Methodology

The working group performed an assessment of improvements to the sharing of important licensee safety information remotely with the NRC. The working group evaluation included an assessment of the benefits of continuing the information sharing methods implemented during the PHE and the impact of returning to pre-PHE information sharing methods. Enhancements to inspector access to licensee information were discussed at both the January and April public meetings. All of the potential enhancements provided below were discussed with licensee

stakeholders and feedback was collected and assessed by the working group. One of the concerns that was shared and agreed upon with the industry, Nuclear Energy Institute (NEI), and the NRC was that improvements and enhancements should be made without increased costs on the licensees. Discussion centered around improving the file transfer programs that are currently in use by licensees.

Region-based Inspections

NRC resident and region-based inspectors require access to licensee documents and records for the performance of the inspection and oversight responsibilities of the ROP. As part of inspection preparation for traditional on-site regional inspections, region-based inspectors contact licensee personnel several weeks in advance of an on-site inspection and request documents that describe relevant licensee programs and processes and lists of licensee work products related to the inspection activity from which to select inspection samples. During the direct inspection period, regional inspectors request additional documents and records relevant to the selected sample and completion of the inspection requirements. Licensees share the requested documents and records physically or electronically with the region-based inspectors through a variety of methods (e.g., third-party file sharing, email, compact disk, United States Postal Service Priority Mail) depending on the preferences and business practices of the licensee.

During remote and hybrid inspections conducted because of the PHE, region-based inspectors completed limited aspects of IPs related to the review of documents and records from remote locations. This approach required significantly more remote interaction with licensee contacts to provide documents and respond to inspector questions through one or more of the available document sharing methods. Any delay in the response to inspectors' requests and questions often resulted in a delay in the performance of the inspection activity. This was discussed in Section 7, "Adoption of Hybrid Inspections During Routine Periods," of this report and was identified in the Be riskSMART evaluation in Appendix C as a challenge to the efficient and effective performance of hybrid inspections.

The working group determined that a significant challenge to the broad adoption of hybrid inspections is the availability of licensee documents and records and the timeliness of licensee responses to inspector requests for inspection-related information. The working group performed an evaluation to identify potential information sharing solutions that could support efficient and effective hybrid inspections and engaged licensee stakeholders during public meetings to gauge interest in the development of these options. The working group identified a number of potential options, including direct access to licensee IT resources through dedicated licensee terminals in the regional office, remote virtual desktop access to pre-identified licensee information databases that could be accessed from NRC equipment, and third-party file sharing services.

Direct access to licensee IT resources mirrors the existing level of access provided to resident inspectors as described below. There is significant NRC and licensee experience with this information sharing method; however, regional experience with specific licensee programs is limited, which would likely result in varying "learning curves" for individual inspectors and the associated inspections. To support this information sharing method, dedicated office space and licensee equipment; IT staff training in the troubleshooting of licensee equipment; and new regional procedures, policies, and training for accessing these resources would be required. Licensee implementation costs, enhanced IT security, and business enterprise restrictions would also exist. During discussions at public meetings, licensees were not in favor of

implementing this type of solution. The working group concluded that pursuit of this method of information access would be challenging and would not be offset by the benefits that would be gained versus the use of other methods that are currently available.

A virtual desktop environment, similar to the CITRIX platform used at the NRC, would alleviate many of the concerns associated with direct access, but would still require significant IT investment by the licensees and NRC. Under this option, NRC inspectors could be granted access to a virtual licensee environment where the inspector could gather and review licensee documents and records on the virtual system from NRC supplied equipment. Training and experience of NRC inspectors with licensee systems, licensee business enterprise restrictions, and IT security would still be a consideration with this option. Additionally, NRC network security would require modification to allow access to the virtual desktop environment. The working group concluded that further exploration of this option and additional study for long-term development along with other potential options is merited. The working group recommends a proposal to the NRC's Future Focused Research project to explore this option (Appendix A: Recommendation 5).

Finally, the working group explored third-party file sharing platforms. Many licensees currently use similar platforms to provide inspection-related materials to NRC regional inspectors. However, concerns with the response timeliness to information requests, availability of records, and ability of inspectors to interact with these file sharing platforms limit their overall effectiveness.

The expansion of an existing platform or development of a new platform that would allow NRC inspectors to log information requests directly without requiring interaction with a licensee point of contact would partially alleviate the timeliness concerns associated with current file sharing methods. The development of a new internal system would likely incur significant costs to the NRC and licensees; however, endorsement of an existing platform may limit these costs to an acceptable level. During public meetings some licensees expressed a preference for this option baring significant additional cost and mentioned that development costs are already included in their software license fees and therefore any required modifications to the existing platforms to address NRC concerns should not be cost prohibitive. One utility opinion offered was that the proposed solution should remain optional for licensee implementation and should not endorse one platform over other potential solutions.

The working group determined that the endorsement of a specific third-party file sharing platform is not necessary, but that any platform used by a licensee in support of efficient and effective hybrid inspections would need to support several basic functions and not adversely impact the timeliness of inspection activities. The working group identified the following minimum system functions:

- 1. Compliance with IT security and other requirements.
- 2. Licensee and NRC ability to upload and download documents.
- 3. Licensee and NRC ability to log questions, information requests, and responses.
- 4. Tracking system for open, closed, and resolved questions and requests.
- 5. A repository of basic references (e.g., Technical Specifications, Updated Final Safety Analysis Report, select licensee procedures, etc.).

No current regulatory requirement compels any licensee to adopt a standardized methodology for electronically sharing information with NRC inspectors. However, NRC access to licensee documents directly supports efficient and effective on-site and remote inspection activities. Delays in information retrieval or document accessibility directly correlate to increased inspector

resources to complete inspection objectives. Therefore, the working group recognizes the advantages of establishing voluntary standards and expectations for any system used by a licensee to support NRC inspections. During the public meetings with industry stakeholders, there was recognition and agreement that improvements could be made to existing IT information transfer platforms that could achieve significant enhancements to inspector efficiencies.

The working group recommends that NRR propose that the NRC's Future Focused Research Program coordinate with industry stakeholders to explore implementation or development of solutions for licensee information sharing with NRC inspectors for long-term implementation (Appendix A: Recommendation 5). In the short-term, the working group recommends NRC and industry establish a voluntary list of standards and expectations for information sharing with NRC inspectors (Appendix A: Recommendation 6).

NRC and industry coordination and communication on these short- and long-term recommendations is necessary to establish improvements to the information transfer IT platforms that are used to provide requested information for NRC inspections. Hybrid and on-site NRC inspections can then be tailored to the information sharing methods implemented by each licensee.

Resident Inspectors

Since resident inspectors perform a wider variety of inspection and oversight functions and require documents and records more frequently, licensees typically provide resident inspectors with direct access to their IT resources, networks, and records databases. This access is provided in the resident inspector office through dedicated licensee terminals and is controlled through a mutually agreed upon Memorandum of Understanding (MOU) between the regional office and the specific licensee facility. These MOUs are based on the agreement that resident inspector access to licensee IT resources is mutually beneficial. There is no regulatory requirement for licensees to provide inspectors direct access to their IT networks.

During the PHE, many licensees expanded the resident inspectors' access capabilities to IT resource networks by providing laptops in place of the dedicated terminal in the resident office and/or virtual private network (VPN) access from the resident inspector's personal computer. This was done so that resident inspector's inspection and oversight functions could be more easily accomplished from remote locations during periods of limited site access.

Through interviews with resident inspectors, the working group recognized that the expanded access to the licensee's IT resources was a significant improvement to NRC inspection and oversight. For example, access to licensee data from remote locations significantly improved inspector response to plant transients through the ability to access plant parameters without requiring travel to the site. Additionally, licensees that participated in the working group's public meetings in January and April of 2022 agreed that the expanded resident inspector access to licensee IT resources was advantageous.

The working group found that much of the IT resources provided to resident inspectors during the PHE exceeded the specific and unique MOU agreements for many of the licensee sites. Therefore, based on the internal and external feedback, the working group discussed revising the MOUs generically to standardize the IT resources provided to the resident inspectors. Licensees commented that a standardized solution was not desirable based on the differences between licensee IT enterprise systems and network protocols. However, the licensees agreed

that each of the individual MOUs could be revised to include those IT resources that were provided to resident inspectors by the specific site.

The working group recommends each region engage licensees individually to evaluate and ensure each site's IT MOU reflects current IT resources and appropriate restrictions discussed in this section (Appendix A: Recommendation 7).

Separately, the working group recommends that resident inspectors discontinue using VPN access to licensee systems from personal computers. While this activity was deemed appropriate by the April 6, 2020, "Updated Implementation of Resident Inspector Site Coverage During COVID-19," memorandum, continued access to licensee systems should be limited to NRC or licensee provided IT equipment (Appendix A: Recommendation 8).

Pre-PHE Information Sharing

The working group recognized that all information sharing methods adopted during the PHE and available prior to the PHE were voluntarily implemented by each licensee. The Code of Federal Regulations only requires that documents and records be made available for NRC inspection. The method of supplying documents to NRC inspectors was based on licensee preferences and business practices. While many of the revised information sharing methods developed during the PHE or recommended above allowed for efficient and effective inspections, reverting to pre-PHE methods of information sharing will not prohibit the NRC from performing its mission.

9. Evaluation of Long-Term Improvements to the Reactor Oversight Process:

The working group performed an evaluation of the lessons learned and recommendations from inspection experience during the PHE to identify long-term improvement recommendations to the ROP. The working group reviewed ROP program and procedure documents including IMCs and baseline IPs, and the results of previous PHE lessons learned efforts.

IMC 2515, Appendix E, "Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases," contains the NRC guidance on the application, modification, and/or suspension of the baseline inspection program during pandemics and other widespread health emergencies. In response to the developing PHE, IMC 2515, Appendix E was revised in March 2020 to add new PHE-related guidance for ROP inspection program modifications, resident inspector site staffing, the expanded use of technology, and remote inspection considerations. The working group noted that while much of the guidance in IMC 2515, Appendix E was consistent with NRR PHE inspection memoranda; many of the provisions of IMC 2515, Appendix E were not implemented by any of the memoranda during the NRC's response to the PHE. This was determined to be a missed opportunity as some of the IMC 2515, Appendix E guidance for resident inspector observations would have improved standardization of the NRC's oversight during the changing PHE conditions at licensee sites.

For example, IMC 2515, Appendix E requires that NRC inspectors verify licensee staffing of key positions, evaluate deferred maintenance, and identify the need for licensing or regional support at the onset of a pandemic and periodically thereafter. The working group noted that while there is evidence that these verifications occurred throughout the PHE, the structured requirement as prescribed by IMC 2515, Appendix E would have standardized these reviews and improved implementation consistency.

Additionally, the working group's review of IMC 2515, Appendix E noted that the intent of the IMC is to provide guidance to NRC staff relevant to maintaining essential functions during a continuity of operations event associated with a pandemic. In accordance with Federal Continuity Directive 1, NSIR performs an annual review of the NRC Pandemic Plan. The working group noted that IMC 2515, Appendix E should also be reviewed annually to ensure consistency with the NRC Pandemic Plan.

The working group reviewed the "Comprehensive Baseline Inspection Program Review – Calendar Year 2021," dated November 5, 2021 (ML21252A154). The working group agrees with Recommendation 1 which recommended that IMC 2515, Appendix E be revised to clarify conditions for acceptability of digital media in lieu of direct observation during periods when on-site inspection is prohibited. Additionally, the working group agrees that IMC 2515, Appendix E should be expanded to include additional situations or events that would restrict inspector on-site presence.

Because the ROP is flexible and accounts for the varying methods of performing inspection, the working group did not identify any additional long-term improvements to the ROP separate from the recommendations associated with IMC 2515, Appendix E. However, the working group agrees with the Comprehensive Baseline Inspection Program Review for CY 2021, which recommended that IMC 2515, Appendix E be revised to include all potential situations that would limit access to a facility (e.g., natural disasters).

10. COVID-19 Impact on Training and Qualification of Inspection Staff:

In CY 2020, 44 of 329 and in CY 2021, 87 of 308 inspectors, operator licensing examiners, and senior reactor analysts did not complete required post-qualification and refresher training courses in accordance with IMC 1245, "Qualification Program for Reactor Inspectors," and its appendices. All four regions were affected primarily due to COVID-19-related course cancellations and travel restrictions. In response to the ongoing PHE, DRO revised IMC 1245, Appendix D1, "Maintaining Qualifications," to authorize a onetime blanket deviation for certain IMC 1245 refresher training requirements during the COVID-19 PHE.

The NRC Technical Training Center and the regional offices continued to support general training opportunities, when possible, through virtual means. Virtual training during CY 2020 and CY 2021, which were well attended by NRC staff and inspectors, included formal training courses, weekly agencywide knowledge management presentations on a variety of technical topics, and biannual inspector seminars held in the regions. In addition, inspectors actively performed technical inspection activities, which also supported maintenance of inspector proficiency.

The working group concluded that the inspection training program is a robust and mature program. Although not all inspectors attended required post-qualification or refresher training in CY 2020 or CY 2021, other on-the-job training opportunities were sufficient to mitigate the short-term impact of canceled in-person training courses during the PHE.

The working group noted that many of the required in-person requalification training courses, specifically R-704 Simulator Requalification for Westinghouse or General Electric technology have been scheduled for CY 2022. The availability of these and other courses is expected to resolve most of the requalification challenges that were experienced during the PHE.

While the working group did not identify a significant impact to the training and requalification of existing inspectors, the working group recommends that the NRC Technical Training Center consider performing an evaluation of the efficiency and effectiveness of virtual training courses compared to in-person training courses (Appendix A: Recommendation 9). This review would be valuable in determining if continued application of virtual training courses would be beneficial to the NRC.

11. Assessment of the Long-Term Impact of the Public Health Emergency

As discussed in previous sections, the NRC leveraged the inherent flexibilities of the ROP to perform inspections through a combination of remote and on-site techniques. The working group agrees that licensee performance was adequately monitored and that there was reasonable assurance of adequate protection throughout the PHE. However, the working group notes that the COVID-19 PHE is still in effect and regional offices, licensees, and state and local governments are still evaluating protective health measures, as necessary, based on local conditions.

The working group recommends proactive measures to actively monitor for adverse trends in accordance with the baseline inspection program. Specifically, the working group recommends that resident inspections should prioritize Problem Identification and Resolution semiannual trend samples with appropriate input from regional inspectors in the near-term to monitor for trends attributable to the PHE (Appendix A: Recommendation 10).

12. Conclusion:

All of the recommendations contained in this report are summarized in Appendix A. The summary of recommendations is intended to provide NRC management and stakeholders with a consolidated list of working group recommendations for review and discussion.

The working group concluded that the NRC responded to the challenges of the COVID-19 PHE by exploiting the flexibilities inherent to the ROP. Inspections were completed, delayed, deferred, or canceled as appropriate based on local conditions and the health and safety considerations of the inspectors.

The working group's review determined that there is broad agreement internally and externally that on-site and in-person inspection is the most effective and preferred inspection method for the majority of NRC inspection activities. However, some inspection activities associated with document and record review can be performed from alternate locations. Inspection leaders should evaluate the individual inspection requirements, the availability of inspection documents, and the coordination with licensee resources to assess if some portions of each inspection can be performed remotely. Clear identification, communication, and approval of inspection plans to the responsible NRC branch chief will be necessary to maintain consistent and efficient inspections.

Many of the lessons learned and recommendations identified by the working group apply to other instances and events that would limit inspector access to licensee sites or challenge the performance of inspections. The lessons learned should be applied as broadly as possible so that inspection efficiency and effectiveness can be maintained during normal and abnormal situations. Primarily, the flexibility of the ROP allows for individual solutions to each inspection challenge. Overly prescriptive requirements or guidance may inadvertently hinder completion of inspection objectives when challenges arise.

Finally, the working group recognizes that many of the recommendation contained in the report have applicability to different program offices within the NRC. Implementation of the recommendations contained in this report should coordinate closely with all potentially affected NRC program offices to ensure consistent application of these lessons learned during future routine and off-normal circumstances (Appendix A: Recommendation 11).

Appendix A: Summary of Recommendations

Recommendation 1 (Section 5: Health and Safety of NRC and Licensee Personnel):

Inconsistencies and inefficiencies in the evaluations for performing inspections during the public health emergency were identified. Revise inspection manual chapter 2515, Appendix E, "Inspection Program Modifications During Pandemics, Epidemics, or Other Widespread Illnesses or Diseases," to include direction for the program offices to identify consistent criteria, resources, evaluation methodology, and inspection prioritization for future events.

Recommendation 2 (Section 6: Definition of Hybrid Inspection):

Due to identified differences in terminology and expectations between internal and external stakeholders, adopt a standard definition of on-site, remote, and hybrid inspection between NRR, NSIR, and NMSS. The working group presented a proposed definition in the body of the report. Add the standard definition to IMC 2515, "Light Water Reactor Inspection Program - Operations Phase."

Recommendation 3 (Section 7: Evaluation of Adoption of Hybrid Inspection During Routine Periods):

Hybrid inspection practices can provide greater flexibilities to inspection staff for completing inspection objectives. Controls, guidance, and risk mitigation strategies are available and presented in the body of the report to ensure inspections are efficient and effective. Inspection staff should continue to utilize these flexibilities, when appropriate, during routine inspection periods.

Recommendation 4 (Section 7: Evaluation of Adoption of Hybrid Inspection During Routine Periods):

Virtual entrance and exit meetings are broadly supported by internal and external stakeholders. For routine inspections, inspectors should consider virtual meetings when they may benefit efficiency and effectiveness.

Recommendation 5 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Greater inspector access to licensee information resources would significantly improve the efficiency and effectiveness of all NRC inspections. Improvements to the current systems for providing inspection documents will require additional research and coordination with licensee and inspector stakeholders. The NRC's Future Focused Research Program should coordinate with industry stakeholders to explore implementation or development of solutions for licensee information sharing with NRC inspectors for long-term implementation.

Recommendation 6 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Improvements to the existing methods for inspection documentation sharing with NRC inspectors can facilitate improved efficiency and standardization of inspections of licensee facilities. The NRC and industry should adopt a voluntary list of standards and expectations for information sharing with NRC inspectors. Hybrid and on-site NRC inspections can then be tailored to the information sharing methods implemented by each licensee. The working group presented proposed standards in the body of the report.

Recommendation 7 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Many resident inspectors have been provided information technology (IT) resources beyond what is contained in the site-specific Memoranda of Understanding with the respective licensees. These agreements between the licensees and the regions should be evaluated to ensure they reflect current IT resources and appropriate restrictions.

Recommendation 8 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Some resident inspectors were granted access to licensee IT systems through virtual private networks from personal devices. While this was appropriate during periods of limited site access, continued access to licensee systems should be limited to NRC or licensee provided IT equipment.

Recommendation 9 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Due to the public health emergency, the NRC revised many training courses to include more virtual or computer-based instruction. The NRC Technical Training Center should consider performing an evaluation of the efficiency and effectiveness of virtual training courses compared to in-person training courses in determining if continued application of virtual training would be beneficial to the NRC.

Recommendation 10 (Section 11: Assessment of the Long-Term Impact of the Public Health Emergency):

While there is reasonable assurance that adequate protection has been maintained throughout the public health emergency, there is currently insufficient information available for the NRC to assess the long-term impact. Therefore, resident inspections should prioritize PI&R semiannual trend samples with appropriate input from regional inspectors in the near-term to assess for trends attributable to the public health emergency.

Recommendation 11 (Section 8: Evaluation of Licensee Information Sharing Methodology):

Many of the recommendation identified by the working group have applicability to different program offices within the NRC. Implementation of the recommendations should coordinate closely with all potentially affected NRC program offices to ensure consistent application of these lessons learned during future routine and off-normal circumstances.

Appendix B:

Be riskSMART Evaluation Template for Onsite Inspection During PHEs and Other Events Precluding Site Access

Background

Over the course of the COVID-19 public health emergency (PHE), NRC offices and regions developed a range of travel protocols, including approaches to inform decision-making for authorizing NRC staff domestic travel. All these approaches fundamentally sought to balance the importance of protecting the health and safety—both of traveling NRC staff and the public at large—with the need to conduct effective oversight and external agency functions¹ that support the NRC's critical safety mission. NRC offices and regions likewise adopted internal guidance for NRC travelers to incorporate appropriate COVID-19 precautionary measures, including those measures adopted by licensees and state and local health authorities in response to the COVID-19 PHE.

NRC travel protocols and decision-making approaches should be agile, allowing for a necessary degree of case-by-case flexibility with early and sustained engagement by the traveler and the supervisor. Moreover, to the extent possible, a decision-making approach to travel should be risk-informed with respect to meeting the objectives of inspection and licensing programs and other external agency functions. Such a risk-informed approach would allow for the possibility of deferring and/or rescheduling planned external agency functions, changing function periodicities (as appropriate), or a combination of those actions, while seeking to maintain as much of normally scheduled external agency functions as possible. Such an approach should be informed by site-specific conditions and information, as well as guidance from Federal, State, local government agencies, and licensees, all the while keeping in full view the health and safety of NRC staff and contractors involved and the public. Travel decisions should be informed by guidance from the Center for Disease Control and Prevention (CDC), the Office of Management and Budget, and any other applicable guidelines.

NRC offices and regions have identified certain key activities that remain essential for purposes of performance of the NRC's critical safety mission and sustainment of the Nation's civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment. Furthermore, the NRC is conscious of the need to maintain the unfettered access of its staff to licensees' facilities as required by 10 CFR 50.70.

Be riskSMART Evaluation Tool for Travel During PHEs and Other Events that Affect Site Access

Risk-Informed Decision-Making (RIDM) is an integrated approach to the decision process that considers risk in addition to requirements and deterministic factors.

The Be riskSMART RIDM framework is a collaborative tool to bring people together to authoritatively speak on the challenges and opportunities that exist for each type of risk. This framework can empower people to accept or reject risk, depending solely on the attributes and risk appetite.

For additional details regarding the considerations included in this template, see "Guiding Principles" discussion at the end of this document.

¹ "External agency functions" are any official agency functions and activities that are to be performed by an employee outside of their residence. However, it does not apply to inspection activities that are performed completely through remote data sharing and/or observation.

<u>Challenge</u> – During the COVID-19 PHE, the NRC was challenged with completing the inspection program at reactor and materials licensees and ensuring the safety of the staff.

This Be riskSMART evaluation tool can be used to evaluate the risks associated with inspection travel to support an NRC inspection during a PHE or any other event that affects site access.

Proposed Solution/Solution Options – To address this challenge, this Be riskSMART tool can be used to evaluate the risks associated with inspection travel and determine the best option among many.

		During a PHE or other event affecting safe travel or site access, which of the following inspection options should be selected for an upcoming inspection?
B e	clear about the problem	 Option 1: Conduct Routine Inspection All assigned inspectors actively participate in the inspection Inspection includes on-site inspection activities in close contact with licensee staff Inspection includes on-site or remote document and record reviews Option 2: Conduct On-site Inspection with Mitigation Strategies Utilize a reduced number of inspectors to perform onsite inspection activities Only minimally required onsite activities should be performed All inspection that can be performed offsite is completed at temporary offsite lodging Option 3: Conduct 100 % Remote Inspection Utilize available technology to remotely perform onsite inspection activities to the maximum extent practicable Perform administrative reviews remotely Option 4: Conduct Remote Inspection with Onsite Follow-Up Barform all elements of Option 2
		 Conduct follow-up onsite inspection at a later date. All document reviews will be performed remotely, and the inspection remains open until an inspector can safely travel to the site to perform required onsite inspection activities. Option 5: Cancel Inspection Risk of site travel (e.g., contracting virus, local environmental conditions) too high to conduct onsite inspection Remote inspection not a viable alternative
		Remote administrative reviews insufficient to credit inspection completion
	What can go right?	1) Inspectors perform a successful on-site, remote, or hybrid inspection.
S pot	What can go wrong?	 2) Inspector exposed to unnecessary personal hazard 3) Remote inspection unable to fully evaluate licensee performance 4) External stakeholder concerns with NRC's ability to conduct an effective inspection 5) Unavailable lodging in the surrounding community

		6) Critical NRC inspection unable to be performed due to unacceptable risk to NRC inspectors and licensee staff.
	What are the consequences?	 Successful Inspection: Reasonable assurance provided that licensee operations are conducted safely Personal Hazard: Potential life-threatening conditions to NRC inspectors or licensee staff Remote Inspection/Licensee Performance: NRC cannot determine whether operations were conducted safely External Stakeholder Concerns: Loss of external stakeholder confidence Unavailable Lodging: Onsite inspection activities may be unable to be conducted Critical Inspection Unable to be Performed: <i>Enter Specific Consequence Here</i>
	How likely is it?	 Successful Inspection: Likely – with appropriate Be riskSMART decision-making Personal Hazard: <i>Enter High/Medium/Low Here</i> - Dependent on local conditions and identified hazards Remote Inspection/Licensee Performance: <i>Enter High/Medium/Low Here</i>; "Managewhat you can actions" may reduce likelihood External Stakeholder Concerns: <i>Enter High/Medium/Low Here</i>; "Managewhat you can actions" may reduce likelihood Unavailable Lodging: <i>Enter High/Medium/Low Here</i> – Depending on local conditions and hazards Critical Inspection Not Completed: <i>Enter High/Medium/Low Here</i>
M anage	what you can	 Options available to manage and/or mitigate the likelihood and consequences of exposure to personal hazards includes the following: Assess the options available to complete the inspection. Discuss with the inspection team and management the capability to accomplish the inspection requirements remotely. Limit the number of inspectors that conduct onsite inspection activities to minimize potential exposure. Ensure that local lodging is available. Discuss risks with inspectors and management. Assess any concerns and inspector(s)' willingness to travel. Consider the overall history of the licensee program area being inspected. Test the practicality of remote interfaces and understand the capabilities and limitations of these remote interfaces. Review state and local restrictions due to identified hazards prior to travel to minimize risks and remain compliant with state guidelines to the extent practicable (if applicable). Consider the necessity to perform the inspection. Consider precautionary testing just prior to travel, if PHE-related event. Assess the overall risk and risk appetite for travel.
Act	on a decision	 When making a decision, be sure to consider risk appetite. Risk appetite establishes the context for making a decision. As determined by the entire organization, it is the amount of risk the organization is willing to accept in pursuit of strategic objectives. Risk Factors and Considerations: Demonstrated capability and success of remote technology systems. Adequate camera coverage verified (if applicable). Number and significance of previous findings in subject inspection area. Process changes that have occurred since previous subject area inspection.

		 Impact to licensee if inspection not completed (e.g., operator licensing (OL) examinations, OL program inspections, etc.)
R ealize	the result	 Realizethe result by implementing the decision while managing what you can and measuring your performance and progress. Carry out actions resulting from the decision, including identified "Managewhat you can" actions.
Teach	others what you learned	 Use Be riskSMART to choose the best solution among many options. Consider risk in all areas of NRC activityoversight, public perception, and any others that are present.

Guiding Principles

In making travel-related decisions during a PHE or other event restricting onsite inspection, consideration should be given to:

- 1) The health and safety of NRC employees,² NRC contractors, and the personnel and contractors of regulated entities;
- 2) State and local conditions, including travel advisories, restrictions, and other related trends impacting the ability of employees to safely travel;
- 3) The potential for remote performance of the external agency function; and
- 4) The urgency and/or importance to safety or security of the external agency function.

Health and Safety of NRC employees

Consideration should be given to each employee's willingness to travel based on their unique circumstances and personal views regarding their own health and safety. Employees should be encouraged to engage with their leadership early to discuss alternatives if they are uncomfortable about traveling for health and safety reasons. Employees who raise such concerns should be excused from traveling without fear of adverse consequences.

Public Health Emergency Data-Related Trends

Consideration should be given to any PHE-related health and safety guidance promulgated by state or local health authorities and the Centers for Disease Control when making travel decisions. Consideration should also be given to state and local PHE conditions and data trends (e.g., case count, test positivity rate, hospitalization utilization rates, etc.).³

Another valuable source of consolidated PHE information are the NRC regional offices. Each regional office has developed a process to assess the feasibility of travel within its respective territory during the PHE. These regional processes necessitate the routine review and evaluation of PHE-related conditions in and around regulated sites. In that way, the regions also maintain general awareness of any state or local health and safety guidelines. As a best practice, supervisors making travel decisions should consult and coordinate with the responsible regional office for the location of the intended travel to obtain regional office insights and up-to-date site-specific PHE information.

Urgency and/or Importance of External Agency Function to Safety and/or Security

As a general recommendation, decision-making regarding NRC staff travel during the PHE should effectively balance the urgency and/or importance of the external agency function with the health and well-being of the traveler, particularly when NRC travelers would need to pass through or temporarily reside in areas experiencing high rates of virus transmission during a PHE. However, there may be instances in which, even though the conditions are not favorable to travel, the NRC is still obligated to conduct certain activities. Such mission-critical activities would include those that are urgent and/or important to safety or security, having a nexus with public health and safety.

² This would include taking into consideration the concerns and willingness to travel by individual NRC staff members.

³ State and local health and safety guidance is generally posted on state or county health department websites.

Coordination Between Members of Agency Teams and Between Headquarters and the Regions

Supervisors should coordinate, as a best practice, with the responsible regional office for the location where travel is planned to understand conditions and communicate status to team members. Depending on the local conditions at the travel location, supervisors should consider whether other NRC resources are available to support the activity (e.g., would it be possible for other staff living in the vicinity of the inspection activity to support). When possible, supervisors should consider cross-regional inspection support to avoid traveling through hazardous areas. For vendor inspections and research and test reactor (RTR) inspections, the supervisors should inform, as a best practice, the regional state liaison officer of vendor and RTR inspections planned in their region.

Members of agency teams should coordinate the use of personal protective supplies (PPS) to make informed decisions as to whether the members are comfortable with travel.

Consideration of State and Local Travel Advisories and Licensee-Implemented Programs

As a best practice, NRC travelers are recommended, to the extent feasible, to comply with state and local travel advisories.⁴ Likewise, the NRC travelers should seek to cooperate, to the extent feasible, with licensee precautionary measures. Details and planning of these efforts should be discussed with the supervisor ahead of time so that a common understanding exists between the licensee and the NRC. External agency functions should be announced and coordinated with licensees in advance, as appropriate. While planning for any scheduled external agency function to occur at a site owned and/or under the control of a licensee, the supervisor in charge should maintain awareness, via communication with site management, of any licensee-sponsored PHE-related precautionary measures with which the licensee would request cooperation by NRC employees while onsite.⁵

Personal Protective Supplies

As a best practice, NRC travelers should determine in advance what will be considered appropriate and adequate PPS during the performance of an external agency function. In a PHE environment, PPS may consist of facial covering (e.g., surgical mask or other cloth mask), face shields, disinfecting wipes, hand sanitizers, and gloves. Some other best practice considerations regarding PPS are:

- Follow licensee or other site-specific facility PPS requirements.
- NRC staff should use NRC-provided PPS to meet licensee or site-specific facility requirements whenever possible, though PPS provided by the licensee may be used if explicitly offered to NRC staff.

⁴ This is not intended to address the personal responsibility of NRC employees to comply with travel advisories apart from and unrelated to the performance of NRC external agency functions. This should not be construed as a release of any NRC employee, as a resident of a state or locality, from any personal obligation, unrelated to NRC duties, to comply with the terms of a travel advisory issued by that state or locality.

⁵ As to those staff who would otherwise have been directed to self-quarantine per the terms of a pertinent travel advisory, the licensee may request the adoption of additional PHE-related precautionary measures, such as the increased use of personal protective supplies.

Respirators

Under certain circumstances, it is recognized that NRC staff would be required to wear licensee (or destination) provided PPS, such as K95, N95, or N100 respirators. NRC offices and regions should direct staff to follow licensee facility respirator PPS requirements, as appropriate, and use respirators provided by licensees if the licensees are requiring use of respirators.

NRC staff members may voluntarily wear their own personal or agency supplied KN95, N95 or N100 masks whose use involves filtering facepieces (e.g., K95, N95 or N100 masks without the respirator attachments).

Precautionary Testing

The NRC does not have a PHE-related testing requirement or program. Site-administered precautionary testing should be evaluated on a case-bycase basis by NRC offices and regions as to whether such testing constitutes a reasonable request. NRC offices and regions should evaluate whether it would be feasible to conduct external agency functions at any location by NRC staff who would voluntarily submit to precautionary testing consistent with the applicable site-specific precautionary testing program for that location, assuming that such cooperation would not potentially jeopardize the NRC's oversight role and responsibilities at the location. If a person would be requested to be tested in order to gain site access to conduct an external agency function, then the supervisor responsible for the external agency function should ensure alignment with senior management on any decision on how to proceed.

As a best practice, NRC offices and regions should engage reasonable efforts to cooperate with licensee precautionary testing programs when those programs are undertaken to protect their employees and contractors in order to maintain the continuity of licensed operations.

If NRC employees are assigned to participate in travel or inspection activities, those employees and their supervisors should consider whether it would be feasible to cooperate with any constraints or conditions imposed by any applicable travel advisories upon exempted workers for essential businesses. This would include consideration of how to reasonably cooperate with precautionary testing requested of essential and/or critical infrastructure workers.

Appendix C: Be riskSMART Evaluation of Expanded Hybrid Inspection During Routine Periods

Be...clear about the problem:

<u>Problem</u>: NRC inspections were performed through a variety of methods throughout the COVID-19 Public Health Emergency. Remote completion of select inspection requirements along with on-site verification and observation of licensee equipment and personnel, referred to as hybrid inspections, gained popularity due to necessity and perceived efficiency with both NRC inspectors and licensees.

Should the NRC adopt a hybrid inspection methodology for routine baseline inspection periods?

Spot...what can go right, what can go wrong, the consequences, and the likelihood:

- <u>Right</u>: Routine hybrid inspections are effectively and efficiently performed
 - <u>Consequences</u>: The NRC will continue to complete its mission
 - <u>Likelihood</u>: Likely provided the right tools are in place to foster success
- <u>Right</u>: Routine hybrid inspections result in regional inspectors spending more time in the regional office and at home
 - <u>Consequences</u>: Improved staff morale, job satisfaction, work life balance, and retention
 - <u>Likelihood</u>: Very high with the increase to morale dependent on the extent to which hybrid inspection is performed
- <u>Right</u>: Routine hybrid inspections result in reduced NRC travel
 - <u>Consequences</u>: Reduced travel costs and positive budget impact
 - <u>Likelihood</u>: Very high with the cost savings dependent on the extent to which hybrid inspections are performed
- <u>Right</u>: Routine hybrid inspections will require licensees to develop an infrastructure that supports the information needs of hybrid inspectors
 - <u>Consequences</u>: An increase in the ability for the NRC to conduct inspection and event response activities remotely during emergencies when site access is not possible, such as during natural disasters. Also, the availability of licensee subject matter experts will be increased since they will be able to support multiple inspections simultaneously.
 - <u>Likelihood</u>: Very high as successful adoption of hybrid inspection is require this action as a prerequisite.
- <u>Wrong</u>: Routine hybrid inspections are ineffective and fail to identify issues that would otherwise have been identified if the inspection had been performed on site.
 - <u>Consequences</u>: Unidentified and uncorrected performance deficiencies can lead to a safety significant issue.
 - <u>Likelihood</u>: Varies from Very Low to Moderate with likelihood increasing as historical licensee performance in the inspected area declines. However, likelihood decreases as the significance of the missed issue increases.
- <u>Wrong</u>: Hybrid inspections are performed inconsistently with some regions frequently performing hybrid inspections and other regions rarely performing the same hybrid inspections in identical circumstances.

- <u>Consequences</u>: The NRC Principles of Good Regulation of, reliability, clarity, and efficiency are compromised. Licensees provide negative feedback resulting in a loss of confidence in the NRC by our external stakeholders.
- <u>Likelihood</u>: Likely since experience and history for four regions and headquarters suggests that variations in mission accomplishment strategies have existed in the past.
- <u>Wrong</u>: Resident inspectors expend an excessive amount of effort to support routine hybrid inspection teams.
 - <u>Consequences</u>: Resident inspectors challenged to perform normally assigned duties resulting in inadequate and ineffective oversight.
 - <u>Likelihood</u>: Low to Moderate, considering the variation in resident inspector resource demands.
- <u>Wrong</u>: Hybrid inspections are performed without adequate and pre-planned licensee support, including corporate/licensee staff support, communications enhancements, and required technology tools.
 - <u>Consequences</u>: Ineffective and inefficient inspection effort, potentially resulting in additional resources required to complete inspection objectives or the failure to identify plant issues.
 - <u>Likelihood</u>: Moderately Likely, considering the variation in licensee technology tools and inspection support capabilities.
- <u>Wrong</u>: Reduced in-person on-site interaction between NRC inspectors and licensee staff adversely impacts inspector creditability with licensee staff.
 - <u>Consequences</u>: Licensees may become more critical and suspicious of the inspection results.
 - <u>Likelihood</u>: Moderately Likely, particularly at poor performing sites or sites where relationship and trust issues already exist.

Manage...What you can:

Action #1: Conduct a variety of pilot hybrid inspections in identified disciplines, assess effectiveness, and revise these inspections, as necessary, to further increase effectiveness and determine whether future routine hybrid inspections should be performed.

Action #2: Establish a standardized platform or information sharing methodology between licensee facilities and NRC regional inspectors that will facilitate timely document and record review and response to NRC questions. Ensure that technology tools needed to support routine hybrid inspections are in place and verified to be working properly prior to conducting a hybrid inspection.

Action #3: Restrict the use of resident inspectors in support of hybrid inspection activities. Resident inspectors should not be used in lieu of regional inspectors to perform on-site verification during hybrid inspection unless critical needs are identified and cannot otherwise be avoided.

Action #4: Confirm licensee support capability through a variety of tools, including: 1) site-specific MOUs, 2) inspection pre-planning discussions with licensees, 3) technology tool verifications including "dry-runs," and 4) previous experience and lessons learned corrective actions.

Action #5: Develop inspection manual chapter (IMC) or inspection procedure (IP) specific guidance that will establish a consistent approach to performing hybrid inspections across regions and inspection areas.

Action #6: Include the topic of hybrid inspections during routine management discussions.

Action #7: Consider overall licensee performance, relationship, and trust when deciding if a hybrid inspection is appropriate. Ensure that the resident inspectors attend the entrance and exit meetings, inspection debriefs, and other meetings in which results are being discussed. Apply more active NRC management oversight and communications with licensee management. Be mindful that the degree to which an inspection is performed in a hybrid format, a proportional risk of an ineffective inspection also exists.

Action #8: Provide prescriptive guidance in IMC 2515, "Light Water Reactor Inspection Program Operations Phase," and IMC 2201, "Security Inspection Program for Operating Commercial Nuclear Power Reactors," detailing specific parameters for conducting hybrid inspections. Examples of parameters that could be considered are permitted remote inspection activities (e.g., documentation reviews, entrance meetings, etc.), the addition of percentage thresholds of the resource estimate that could be performed remotely, and/or resources necessary to ensure adequate inspection quality.

Alternatively, provide general guidance for performing hybrid inspections in IMC 2515 and IMC 2201. The authority to determine how the guidance would be implemented (i.e., providing more prescriptive details) would be delegated down to each region to develop Regional-level instructions for the use of hybrid inspection techniques.

A third option is to provide specific guidance for performing hybrid inspections in each IP. This would be accompanied by revising all IPs to identify which items are expected to be performed remotely and which items are expected to be performed onsite. Specific guidance would also need to be developed to support consistent inspection techniques.

Act...on a decision:

The working group evaluation of the expanded use of hybrid inspection during routine inspection periods neither endorses nor rejects hybrid inspections. However, adoption of the presented risk management actions will significantly reduce the identified risks. Additionally, implementation of the pilot inspection program could identify additional risk factors that were not identified by the working group.

Appendix D: Working Group Objective Completion Cross-Reference

The table below contains the required scope for working group consideration per the "Charter for the Follow-On Review of the Lessons Learned, Best Practices, and Challenges During the COVID-19 Public Health Emergency," (ML21322A259) and how each item was addressed in the body of the report.

Scope	Discussion	Section
Engagement with internal and external stakeholders (NEI, Entergy, NextEra, UCS, international organizations (IAEA, NEA, etc.)). The charter defines the problem statement, scope and objectives, roles and responsibilities and intended outcomes regarding what we have learned from performing oversight of power reactors during the COVID-19 PHE. External engagement is essential to consider a broader and more diverse set of lessons learned.	 External stakeholders engaged during public meetings. International input provided from IAEA contacts. Conclusions and feedback similar to NRC processes during PHE. NMSS Phase B report. Concluded hybrid inspection expansion to routine periods under certain conditions. Preference for onsite inspection. 	Sections 3 and 4
Evaluation of what long-term improvements should be made to the ROP.	 ROP is sufficiently flexible to account for various methods of performing inspections. No significant changes needed. Expand guidance in IMC 2515, Appendix E to include situations that limit access to a site separate from pandemic situations (e.g., natural disasters). 	Section 9
Assessment of the various improvements of licensees sharing important safety information remotely with the NRC, an evaluation of the benefits of continuing this information sharing and the risks of losing this level of improved information sharing. Develop, if warranted, a standard set of expectations to be considered when revising already established NRC-Licensee Information Memoranda of Understanding, such as what is used for the resident offices.	 Various levels of licensee information resources were provided to resident and regional inspectors for oversight and inspection activities. All chosen methods were voluntary by the licensee. Oversight, inspection, event response, and coordination with licensee personnel was improved for resident inspectors while offsite when granted access to licensee networks from remote locations. Reversion to pre-PHE stance would negatively impact resident inspector capability but would not 	Section 8

	 prevent the NRC from performing its inspection or oversight responsibilities. Industry is not interested in standardizing the technology MOU with the NRC. Site by site solution preferred. Development of a voluntary standard that establishes criteria for timeliness of response, availability of records, inspector accessibility, and ability to interact with licensee staff would enhance inspection and oversight capability from remote locations. Engage Futures Team to develop standard NRC inspection platform that is usable by both licensees and inspectors to facilitate inspection. 	
Evaluation of the three key areas identified during the initial review: 1) information technology (IT) capability and reliability, 2) remote inspection practices, and 3) inspection guidance enhancements.	 <u>IT Capability and Reliability</u> Formalize agreements with facility licensees to ensure inspectors will have continued access to plant information and other information that is controlled by the licensee and that is required for the NRC to perform oversight activities. (Recommendation 1a*). Provide a second computer monitor to staff for home use. (Recommendation 1b*). Continue to educate staff and licensees about the capabilities and benefits of available IT tools. (Recommendation 1c*). Action be taken to improve remote access to Safeguards Information for security inspectors and designated HQ staff who support these inspection activities. (Recommendation 1d). a) Encourage voluntary standard that meets the NRC expectations. NRC limited by regulation on what can be required. All other resources are provided on licensee voluntary basis. 	ection 8; ections 6 ed 7; and ection 9

2.	b) <u>R</u> •	 Recommendation 1b, 1c, and 1d are addressed by other working groups and projects Remote Inspection Practices Expand use of remote work practices for resident inspectors. (Recommendation 2a). Evaluate the current team inspection framework to determine if changes should be made to improve efficiency and effectiveness. (Recommendation 2b). 	
	a b c) Telework guidance for resident inspectors was established and formalized in the August 17, 2021, memo to all resident inspectors (ML21229A139)) Hybrid inspection (i.e., the completion of select inspection elements by inspectors from offsite locations) is supported by the WG. It is recommended that the WG define "hybrid." It is also recommended that the WG define "hybrid." It is also recommended that the WG establish minimum criteria for licensee inspection support needed to successfully complete a hybrid inspection.) Be riskSMART analysis of hybrid inspections 	
3.	<u>Ir</u> •	Aspection Guidance Enhancements Consider revisions to inspection procedures or guidance to indicate activities and inspection requirements can be performed either fully remotely, partially remotely, or onsite. (Recommendation 3a*) Revise ROP program documents to include best practices and guidance developed since the COVID-19 PHE began. (Recommendation 3b)	

	 a) This recommendation was explored by the Comprehensive Baseline Inspection Program Review for calendar year 2021 (ML21252A154). This review did not recommend revisions to existing IPs. Instead, the recommendation from this review was to update IMC 2515, Appendix E to contain recommendations and best practices for inspection completion during periods of limited site access. This recommendation would be consistent with recommendation 3b, as well. 	
Evaluation of the use of hybrid inspections (partially remote, partially on-site) for routine and emergent use.	 Hybrid inspection (i.e., the completion of select inspection elements by inspectors from offsite locations) is neither endorsed nor rejected by the WG. Recommend NRR and NMSS develop agencywide approved definition of "hybrid" inspection. Be riskSMART analysis of hybrid inspections. 	Sections 6 and 7
Evaluation of OIG Audit Report 21-A-13, "Audit of the NRC's Pandemic Oversight of Nuclear Power Plants" and provide options to address the recommendation.	 <u>Recommendation 1</u>: Conduct an assessment that presents agency management with options for modifying inspection program documents and procedures to give staff flexibility for conducting inspections under irregular conditions. Multiple recommendations and options for implementation. Recommendations for improvements to IMC 2515, Appendix E to address irregular conditions. Comprehensive Baseline Inspection Program Review for calendar year 2021 (ML21252A154) largely performed this analysis. 	All Sections
How well was the health and safety of inspectors and licensee staff, such as control room operators, considered and protected during the planning of	Management communicated health and safety of inspection staff was primary focus consistently.	Section 5

inspections as well as when performing onsite inspection activities? What criteria was used to assess whether the inspection could be deferred, modified, or canceled?	•	Guidance from NRR was too general in many cases and should have provided additional resources for consideration and consistency.	
How was the training and qualification of the inspection staff affected by the COVID-19 PHE?	•	Availability of in-person training courses limited inspectors completing requalification Other on-the-job training opportunities support proficiency maintenance 2022 course availability will largely alleviate training concerns	Section 10