To: White House Office of Information and Regulatory Affairs
From: Northeast UAS Airspace Integration Research Alliance, Inc. (NUAIR)
EO 12866 Meeting on BVLOS NPRM – Critical Infrastructure / Utilities / Energy

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The integration of Unmanned Aerial Systems (UAS) for Beyond Visual Line of Sight (BVLOS) infrastructure inspection, particularly within projects like the one being supported by the Northeast UAS Airspace Integration Research Alliance (NUAIR), a New York based non-profit, and the New York State Thruway Authority (NYSTA), highlights the transformative potential of drone technology in modernizing infrastructure inspection processes. The economic, social, and safety benefits that can be derived from this technology are significant, and the work undertaken so far shows promising results. Achieving these benefits at scale requires the timely issuance of Part 108, the FAA's BVLOS rulemaking.

1. Economic Impact

The **$16 million in annual savings** projected for NYSTA highlights the immense cost-saving potential of using drones for infrastructure inspection, particularly with BVLOS operations. Drones can cover vast stretches of infrastructure quickly and efficiently, eliminating the need for manual inspections that often involve slow, labor-intensive processes, or costly and time-consuming lane closures. These cost savings can also help alleviate the budget pressures often faced by public agencies responsible for maintaining critical infrastructure.

Conventional inspection vs sUAS Supplemental Bridge Inspection Potential	
KPI	**Savings/Reduction (800 Bridges)**
Cost	$8,537,066.21
Carbon Emission	$4,065,993.25
Safety	$3,229,114.00
Productivity Loss	$476,146.00
Total	$16,308,319.46

2. Social and Safety Benefits

The social and safety benefits of BVLOS operations are considerable, particularly in reducing the risk factors associated with traditional infrastructure inspections:

- **Lane Closures and Traffic Congestion:** New York State annual cost of congestion exceeded $36B in 2023; $33B of that is outside of NYC.

Traditional inspections often require lane closures, which creates congestion and can cause dangerous traffic congestion. This, in turn, increases the risk of accidents, such as rear-end collisions, and puts both workers and drivers at heightened risk. Drone-based inspections can perform the same tasks without blocking traffic, significantly reducing these risks.

- **Hazards of Bucket Trucks:** Inspections that involve workers in bucket trucks pose a variety of safety concerns. Working at heights, exposure to traffic, and dealing with potential hazards like falling debris or unstable surfaces are all high-risk elements of traditional infrastructure inspection. Drones eliminate the need for workers to physically be in harm's way, performing the inspection remotely and safely from the ground.
- **Worker Safety and Morale:** The anecdote about union workers preferring drones to traditional bucket trucks for safety reasons underscores the point that workers are excited about tools that can help keep them safer. This shift in mindset can improve overall morale and safety culture within the workforce.

3. Workforce Development

The successful integration of drone technology into infrastructure inspections also supports **workforce development**. Rather than displacing workers, drones are empowering them with new tools and capabilities.

- **Upskilling and Reskilling:** As automation technology becomes more widespread, workers can gain valuable skills that are transferable to other industries and technology sectors. This can provide them with more job security and career advancement opportunities.
- **Job Creation:** The adoption of UAS technologies is likely to create new job opportunities, particularly for individuals trained in operating drones, analyzing the data they collect, and maintaining the technology.

4. Importance of Regulatory Support (Parts 108 & 146)

To fully realize these benefits, **regulatory frameworks**, such as parts 108 and 146 of the Federal Aviation Administration (FAA) regulations, are essential for enabling BVLOS operations. These rules will govern safety protocols, certification processes, and operational guidelines that ensure drones can operate safely in the national airspace system. Without these regulations, the adoption of drone technology would be hindered by safety concerns, operational restrictions, and logistical challenges.

- **Part 108** will govern the certification and operational standards for drone operators, ensuring that they meet necessary safety criteria.
- **Part 146** will enable third party service providers to support integration of BVLOS operations into the broader aviation system. This is especially

important for infrastructure inspection, where drones may need to fly beyond the line of sight of their operators.

The ongoing work by NUAIR and NYSTA illustrates the substantial societal and economic benefits of BVLOS enable UAS operations for infrastructure inspection, from safety improvements to cost savings and workforce development. By leveraging UAS technology, agencies can dramatically reduce the risks involved in traditional methods while enhancing operational efficiency.

These developments, alongside the necessary regulatory support, will continue to shape the future of infrastructure inspection, benefiting not just agencies like NYSTA, but also contributing to safer roadways, more sustainable job growth, and long-term economic savings.

We appreciate the work of the White House, OIRA and the broader interagency to move the Part 108 rulemaking forward in a timely way.