

Transportation of Dangerous Goods: Optimization of Virtual versus On Site Inspections

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MEMORANDUM TO MINISTER

A STRATEGIC RISK-BASED APPROACH FOR VIRTUAL AND ON-SITE INSPECTIONS RELATED TO THE TRANSPORTATION OF DANGEROUS GOODS

(For Decision)

DECISION SOUGHT

Given the early success of efforts during the pandemic to increase virtual inspections related to the Transportation of Dangerous Goods (TDG), your approval is requested for the planning and implementation of an approach that would double the proportion of virtual components to inspections from 10% to 20%. We will report back to you within 12 months to assess success and to recommend adjustments to virtual inspection components, as appropriate.

BACKGROUND

The TDG Program in Transport Canada (TC) develops safety standards and regulations and provides risk-based oversight through monitoring and inspections to ensure public safety in the movement of dangerous goods such as crude oil, petroleum and radioactive materials by

rail, road, ship and air. The 2019 Transportation Sector Regulatory Review Roadmap represents TC's commitment to modernize its regulatory regimes, in line with the Government of Canada's regulatory reform agenda. This commitment was premised on accelerating innovations in inspection regimes that are risk-based and less disruptive to industry while supporting public safety.

The COVID-19 pandemic required the TDG Directorate to adapt its monitoring program in order to ensure continued regulatory oversight despite travel restrictions and physical distancing requirements. Through the shift to more virtual inspections, the Directorate was able to safeguard public safety through a risk-based approach, thus fast tracking the regulatory review initiatives related to the innovation of inspection regimes. Overall, the implementation of remote inspections has yielded positive results: reducing immediate operational costs (e.g., less travel time), supporting flexible planning, and providing more time for the review and preparation of inspections, while increasing productivity. Importantly, industry also benefitted from lower costs of inspections and less disruption to their ongoing operations.

Since remote inspections have proven to be both effective and efficient, the Department proposes to implement a longer-term approach that employs the most cost-effective ratio of virtual to on-site inspections, while continuing to safeguard public safety and promote regulatory conformity, in a manner that is less disruptive to industry.

CONSIDERATIONS

Moving forward, the TDG should leverage the key learnings from the virtual inspection approach used during the COVID-19 pandemic to strengthen its oversight activities, in order to double the current proportion of activities conducted virtually, based on risk and compliance history. These oversight priorities, as outlined in *Annex A*, would lead to updates to existing policies, provide consistency and enhance the oversight program, and explore emerging technologies for the future.

The current regulatory authorities are broad and do not prescribe how an inspection must be conducted; therefore, regulatory amendments are not required implement this transition. However, a number of information gaps remain, which must be explored during the development of this approach. As the number of active TDG sites is continually increasing, in order to address data gaps and strengthen program integrity, TC is working on the development of a TDG client identification database. TC also recognizes the need to increase its risk-based monitoring capacity to account for the inherent risks of operations, safety performance and previous inspection results. Finally, as stakeholder engagement is a critical component, three separate components to this activity have been identified related to: staff, industry and public engagements. Specific lessons and strategies are outlined in *Annex B*.

NEXT STEPS

- Develop and monitor the new approach over time to ensure that the transportation of dangerous goods remains safe for the public.
- Analyze available data to determine the impact of increasing virtual inspections on compliance.
- Collaborate with international jurisdictions to gather lessons learned on conducting remote inspections and study emerging technologies.
- Develop an outreach strategy related to remote inspections, which includes roundtables and virtual discussions through social media to educate stakeholders and answer questions about remote inspections. Incorporate feedback into the approach, as appropriate, and discuss in future sessions.
- Update the Minister on the implementation of the transition to virtual inspections in 12 months and determine whether to scale back virtual inspections or to move forward with a higher proportion of virtual inspections.

RECOMMENDATIONS

It is recommended that you approve an approach that will double the proportion of virtual inspection activities from 10% to 20%, based on a risk management framework. A progress report will be presented in 12 months, including the results of stakeholder engagement sessions, in order to adjust the virtual inspection components, as appropriate.

- I approve
- Meet to discuss

Annex A – Oversight Priorities for Remote Inspections

The proposed risk assessment model is based on operational risk factors and site-level risk factors, including:

- Inherent factors: mode of transportation, nature of operations, class of hazardous materials, volume, and impact on population.
- Mitigating factors: certification, monitoring activities, and training.
- Compliance factors: inspection results, enforcement history, inspector recalls, and confirmed complaints.

The type of inspection (i.e., remote or on-site) is based on the assigned risk level. TDG proposes to integrate remote inspections into the oversight regime as follows:

- a) Virtual inspections for lower-risk sites (e.g., low volume of dangerous goods, history of compliance), for preliminary information gathering and data collection prior to conducting a full on-site inspection, and for following up on compliance issues that are administrative in nature. In some cases, and as permitted by the risk profile, the entire inspection may be conducted virtually.
- b) On-site inspections for higher-risk sites. While the initial administrative portions of the inspection may be accomplished virtually, later stages of an inspection (i.e., after initial data collection using remote practices), and follow-up on non-compliance would be done in person to ensure risk to the public is managed appropriately.

This approach will consider the following challenges associated with remote inspections:

- Difficult to fully assess compliance remotely as inspectors may not get the full picture of the inspection site;
- May be lengthy due to the time taken to obtain documentation, as companies transition from hard copies to electronic platforms;
- Some technologies may be challenging to use, especially for remote locations;
- Change may be disruptive to stakeholders and take time to adjust;
- Harder to interact and build rapport with stakeholders; and
- Potential for distractions and less focus on the inspection.

TC aims to evaluate the design and performance of its approach, the weighting of criteria and the allocation of risk annually based on evidence and feedback from industry.

Annex B – Engagement Considerations

In order to minimize the burden on industry while employing innovative approaches to improve the efficiency of inspections, the TDG proposes to engage with staff, stakeholders, and the public, through the following measures:

1. Support inspectors through continued training and enhanced technology
 - While inspectors were initially skeptical of remote inspections, they became more comfortable as the pandemic progressed and the process was operationalized.
 - The development of Standard Operating Procedures (SOPs), guidance and checklists facilitated inspectors' shift in duties from on-site inspection to remote and helped to ensure consistency across inspections. These supporting policy tools should be further refined under the revised framework in order to support inspectors through the transition to a long-term approach.
 - Training of inspectors on remote inspection practices, including the use of new digital technologies, was a major point of focus during the pandemic and should continue under the revised model.

2. Continue to support and engage industry on how to minimize their burden
 - Industry voiced their preference for the “boots on the ground” approach to inspection, due to the associated challenges during the pandemic. They have requested greater consistency in how virtual inspections are conducted and identified the need to improve technological capacity.
 - TDG will build on its efforts over the course of the pandemic to achieve greater consistency and coordination of remote inspections through stakeholder engagement throughout the development and implementation of the new approach.
 - Stakeholder guidance on remote inspections that was developed during the pandemic will be updated, through industry engagement and by leveraging lessons learned over the last two years.
 - A secure web portal is being developed to alleviate concerns with sharing protected information between TDG and regulated parties.

3. Engage the public through information and outreach sessions
 - Information sessions on remote inspections will be provided through a variety of means (i.e., in-person and virtual) in order to educate, inform and solicit feedback from the public to build confidence and trust in the use of remote inspections.
 - Maximize the use of social media tools to reach diverse populations.