Addressing product non-compliance risk in international trade

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Coordinator of the GRM
UNECE Group of Experts on Risk Management in Regulatory Systems
GRM Background

“The GRM aims at an improved management of hazards that have the potential to affect the quality of products and services, and/or cause harm or damage to people, the environment, property and immaterial assets”

“Developing and sharing best practice as regards the use of risk management tools in regulatory activities”

4 high-level recommendations on managing risks in regulatory frameworks
GRM Background

- Broad and diversified membership – 30 experts from 13 countries, 17 active experts
- Bi-monthly webinars
- Chairman – Mr. Kevin Knight

Chairperson
Kevin Knight (Chair, Technical Committee 262: Risk management, International Organization for Standardization)

Coordinators
Donald Macrae (Independent consultant)
Valentin Nikonov (Project Manager, Tochka)

Active members
1. Florentin Blanc (The World Bank Group)
2. Ronald Cormier (Fisheries and Oceans Canada, Canada)
3. Alex Dali (President, Global Institute for Risk Management Standards, G31000, France)
4. A.M. Dolan (University of Toronto, Canada)
5. Graeme Drake (Committee on conformity assessment, International Organization for Standardization ISO)
6. Paul Hopkin (Institute of Risk Management, United Kingdom)
7. Valery Hurevich, (Belarusian State Institute for Standardization and Certification (BelGISS), Belarus)
8. Markus Krebsz (Risk Reward Limited, United Kingdom)
9. Pierre Lauquin (Group for Risk Management, Nestlé)
10. Sean MacCurtain (Secretary, Committee on conformity assessment, International Organization for Standardization ISO)
11. Justin McCarthy (PRMIA)
12. Alpaslan Meneyse, Chairman, Mirror Technical Committee ISO 31000, Turkey
13. Peter Morfee (Ministry of Economic Development, New Zealand)
14. Mikhail Rogov (RusRisk, RusHydro, Russian Federation)
15. Paul Taylor (Federation of European Risk Management Associations (FERMA), United Kingdom)
16. Simon Webb (The Nicholas Group, United Kingdom)
17. Department of technical regulation and accreditation of the Eurasian Economic Commission (Eurasian Economic Commission)
GRM Recommendations – all elements of a regulatory framework

- Dangerous products must not be produced
- Non-compliant products must not be placed
- Non-compliant products must be removed

- Market surveillance
- Conformity assessment
- Regulatory requirements and standards

On which products to focus in surveillance/import compliance?
Which CA schemes are adequate for different products/companies?
Are regulatory requirements proportionate to risks they were set out to address?

Setting regulatory objectives: no absolute safety
Management of assets
Risk identification
Risk evaluation
Choosing risk treatment strategies
Contingency planning

How much risk is acceptable/tolerable? and when is a regulator liable?
Risk management in international trade

- Proportionality of regulatory requirements
- Proportionality of compliance procedures
- Systemic risk management
  - regulatory authorities should develop and maintain a risk management system for management non-compliance risks
- Principles of tolerable level of risks
  - the release of low-risk consignments "could be expedited"
- Principle of prioritizing inspections based on risk
- Principle of "uniform flexibility"
  - common customs procedures and uniform documentation requirements, but
  - not prevent Member from differentiating its requirements for goods based on risk management

“Customs related” risks ↔ Trade Facilitation Agreement
Operational risks ↔ Trade Facilitation Agreement
Product non-compliance risks ↔ TBT, SPS
Addressing the risk of product non-compliance

• Focusing on shipments/products that are:
  • Dangerous when non-compliant
  • Have a high probability of being non-compliant

• Methodology (Recommendation S)
• Operational/data exchange procedures/communication with the Customs (draft GRM recommendation)
Technical factors to evaluate how dangerous a non-compliant product can be

<table>
<thead>
<tr>
<th></th>
<th>Product 1</th>
<th>Product 2</th>
<th>...</th>
<th>Product n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product relies on safety guards</td>
<td>1</td>
<td>0</td>
<td>...</td>
<td>1</td>
</tr>
<tr>
<td>Product moved during use</td>
<td>0</td>
<td>1</td>
<td>...</td>
<td>1</td>
</tr>
<tr>
<td>Product relying on guards and barriers to prevent mechanical injury</td>
<td>1</td>
<td>1</td>
<td>...</td>
<td></td>
</tr>
<tr>
<td>Product subject to likely significant misuse</td>
<td>0</td>
<td>0</td>
<td>...</td>
<td>0</td>
</tr>
<tr>
<td>Product likely to be installed by unskilled persons or relies on adjustments by unskilled persons</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Evaluating probability of non-compliance: supply chains

- Importer
- Producer
- Product Name
- Country of import
- Port of entrance

Product
Port of entrance
Country of import
Importer
Producer

Probability of non-compliance

- Product
- Country of import
- Producer
- Importer
- Country of import history
- Producer history
- Importer history
- Product—country of import history
- All combinations...
Risk appetite of a regulator/market surveillance authority

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>TNI</td>
<td>A total number of inspections performed</td>
</tr>
<tr>
<td>TNU</td>
<td>A total number of standard inspection units used</td>
</tr>
<tr>
<td>CC</td>
<td>A number of compliant shipments that were inspected and found compliant</td>
</tr>
<tr>
<td>CNC</td>
<td>A number of compliant shipments that were inspected and found non-compliant;</td>
</tr>
<tr>
<td>NCNI</td>
<td>A number of non-compliant shipments that were not inspected</td>
</tr>
<tr>
<td>NCN</td>
<td>A number of non-compliant shipments that were inspected and found non-compliant</td>
</tr>
<tr>
<td>NCC</td>
<td>A number of non-compliant shipments that were inspected and found compliant</td>
</tr>
<tr>
<td>K</td>
<td>coefficient, representing how many inspection units are allocated to a given inspection</td>
</tr>
</tbody>
</table>

Type I error (false positive) vs Type II error (false negative)
Determining compliance rules

- Characteristics of shipments (previous years)
- Matching results with shipments characteristics
- Real inspection results (compliant/non-compliant)
- Evaluation of the probability of compliance and of the level of harm

Compliance Rules
Inspection results (history)

Process for determining compliance rules

Sources of evidence to evaluate probabilities

Regulator

Product evaluation

Risk appetite

Importer
Producer
Product Name
Country of import
Port of entrance
Check result

Importer consecutive successful checks < X = > 200% inspection
Producer consecutive successful checks > X = > 50% inspection
Product level of harm > Y = > 200%
Product level of harm < Y = > 50%
...
...
...

Compliance rules
Risk Assessment at the border

Compliance rules
- Importer consecutive successful checks < X => 200
- Supplier successful check < X => 200
- Product Name level of harm > Y

Test results $\Delta t$

Incoming shipment (t)

Shipment risk and required inspection

Compliance rules (harm and probability)

- Level of harm
- Probability: check/don’t check
- Inspection rate
Draft of the new GRM recommendation

Regulator 1 → the Customs → Regulator 2 → ...

Historic data (Regulator 1) → Compliance rules (Regulator 1) → Customs profiling system → Red light 1 → Red light N

Compliance rules (Regulator N)
Draft GRM recommendation

Information on the incoming shipment

The Customs profiling system

Compliance rules (Regulator 1)

Compliance rules (Regulator N)

Goods declaration
Cargo declaration

Probability of non-compliance
Level of harm
Red light N

Probability of non-compliance
Level of harm
Red light 1
International experience: elements of the framework present in many countries

<table>
<thead>
<tr>
<th>Product</th>
<th>Tariff code</th>
<th>Date added to CBIS</th>
<th>Qualification number</th>
<th>Risk-based inspection rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherries of the species <em>Prunus axiome</em> (fresh, from the USA only)</td>
<td>08092900</td>
<td>June 2017</td>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td>Dates (from the USA only)</td>
<td>08041000</td>
<td>July 2013</td>
<td>10</td>
<td>10%</td>
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<tr>
<td>Chilled durian segments (from Thailand and Malaysia only)</td>
<td>08106000</td>
<td>May 2017</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Permitted stone fruits including apricots, peaches, nectarines, and plums (fresh, from the USA only)</td>
<td>08091000, 08093000, 08094000</td>
<td>June 2017</td>
<td>5</td>
<td>25%</td>
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<tr>
<td>Avocado (fresh, from New Zealand only)</td>
<td>08044000</td>
<td>October 2017</td>
<td>10</td>
<td>50%</td>
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<tr>
<td>Lemons and limes (fresh, from the USA only)</td>
<td>08055000</td>
<td>November 2017</td>
<td>5</td>
<td>25%</td>
</tr>
</tbody>
</table>
International experience: elements of the framework present in many countries

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Level of confidence (%)</th>
<th>Level of infestation (%)</th>
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</thead>
<tbody>
<tr>
<td>Low-risk</td>
<td>80</td>
<td>5</td>
</tr>
<tr>
<td>Medium-risk</td>
<td>90</td>
<td>2</td>
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<tr>
<td>High-risk</td>
<td>99</td>
<td>0.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of units in lot</th>
<th>P = 95% (confidence level)</th>
<th>P = 99% (confidence level)</th>
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<tbody>
<tr>
<td></td>
<td>% level of detection × efficacy of detection</td>
<td>% level of detection × efficacy of detection</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>25 24*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>50 39*</td>
<td>48</td>
<td>-</td>
</tr>
<tr>
<td>100 45</td>
<td>78</td>
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<td>298</td>
</tr>
<tr>
<td>200 000 59</td>
<td>149</td>
<td>298</td>
</tr>
</tbody>
</table>
Many small unknown producers
No well-known brand
Compliance disincentives (cost difference between producing compliant-non-compliant product)
Compliance tests are expensive/complicated
No import checks
... 
Non-compliance growth (compared to the same period previous year)
Product mostly sold in small shops
There was a change in the standard
Seasonal demand
There is a non-compliance history abroad
A consumer is willing to compromise quality
There has been a change in the market structure

Probability factors
Risk graph

150 products

Non-compliance delta

Probability index

Must be stable when sitting on it
Put into the mouth
Releases kinetic energy
fingertraps
...
Without labelling can cause death
Conclusions

• The need to explicitly address the risk of product non-compliance in international trade
• Risk-based import compliance frameworks: trade facilitation without compromising safety
• Cooperation with Customs and efficiency of import compliance procedures
• New GRM recommendation to cover these issues
• Highly relevant subject