DISCUSSION DOCUMENT on Potential Amendments to the PCB Regulations

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Environnement et Changement climatique Canada

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1.0 Context

The *PCB Regulations* (the Regulations) were developed in 2008 to implement the Government of Canada's commitment to protect the health of Canadians and the environment by preventing the release of PCBs to the environment, and by accelerating the phasing out of these substances. Since the coming into force of the Regulations, significant progress has been made towards destroying PCBs and products containing PCBs that are subject to the Regulations. However, Environment and Climate Change Canada (the Department) is considering amending the Regulations to address issues identified through their implementation and that were not foreseen at the time of the publication of the Regulations on September 5, 2008.

Purpose

The purpose of this discussion document is to solicit comments on the potential regulatory amendments that are being considered, as well as on other aspects of the Regulations. Comments received will be considered in the development of amendments to the Regulations.

2.0 Background

Polychlorinated biphenyls (PCBs) are known to be persistent in both environmental media and in human and animal tissue; they are considered a threat to both human health and the environment, and are slated for virtual elimination. They are also toxic, and are included in Schedule 1 of the List of Toxic Substances under the *Canadian Environmental Protection Act, 1999* (CEPA 1999). Due to the environmental and health concerns associated with PCBs, the Government of Canada had adopted a number of regulations to minimize exposure to, and environmental releases of PCBs since 1977.

The current Regulations were developed under the authorities of CEPA 1999 with the objective of addressing the risks posed by the use, storage and release into the environment of PCBs, and to accelerate their destruction. The Regulations set deadlines for ending the use of PCBs in concentrations at or above 50 mg/kg in various pieces of equipment, and limit the period of time that PCBs can be stored prior to destruction. These requirements, together with the more stringent release limits, have led to a reduction of PCB releases into the environment. In addition, the labelling and reporting requirements for PCBs provide the necessary information to monitor progress towards end-of-use targets.

2.1 International Context

The Regulations were developed to enable Canada to meet its international obligations. Canada is a Party to the following international agreements:

- **Stockholm Convention on Persistent Organic Pollutants (POPs) (Stockholm Convention):** The Stockholm Convention requires Parties to the Convention to make determined efforts to identify, label and remove from use equipment that contains PCBs in various concentrations and volumes by 2025; and to ensure the environmentally sound waste management of them by 2028. Parties are also required to ensure that equipment containing PCBs is not exported or imported, except for the purposes of environmentally sound waste management.

- **Convention on Long-range Transboundary Air Pollution (LRTAP):** Canada is a Party to the Protocol on Persistent Organic Pollutants (POPs) under the Convention on LRTAP. The Protocol

severely restricts the use of PCBs and requires Parties to make determined efforts designed to lead to the elimination of use of identifiable PCBs in equipment in various concentrations and volumes.

- **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention):** The Basel Convention requires exports of equipment and products contaminated with PCBs at 50 mg/kg or more to only be exported with the written prior informed consent of the importing country and only for the purposes of environmentally sound management.

- **Rotterdam Convention on the Prior Informed Consent Procedure Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention):** The Rotterdam Convention covers hazardous chemicals in international trade that have been banned or severely restricted in other countries to protect human health or the environment. PCBs are included as an industrial chemical under Annex III of the Convention and are subject to the Prior Informed Consent procedure.

2.2 Issues

The Department is conducting a review of the Regulations to ensure that they meet the current standards associated with the health, safety and economic well-being needs of Canadians and the environment. As the Regulations came into force in 2008, a review will allow the Department to bring the regulatory regime up to date, while addressing stakeholder concerns in the process.

Existing issues related to the current *PCB Regulations* include:

- The storage and destruction of PCB-containing equipment located at nuclear facilities, where the Regulations do not take into consideration external factors associated with PCBs that are located in highly radioactive areas.
- The import of PCB-contaminated waste. The current regulatory framework applicable to the importation of PCB-contaminated waste is creating obstacles for waste importers who wish to import waste for the purposes of safe disposal.
- Preparing for the 2025 end-of-use deadline set under the Regulations. Concerns relate to logistical challenges involved in removing certain types of equipment from use, particularly in the electricity sector.

The Department acknowledges the challenges associated with these issues and continues to engage to better comprehend affiliated concerns.

2.3 Current Regulatory Requirements for PCBs

2.3.1 Prohibitions

The following prohibitions involving PCBs and products containing PCBs are specified in the Regulations:

- any release of PCBs into the environment is not allowed in concentrations or quantities above the prescribed limits[1];
- the process or use of PCBs or products containing PCBs are not allowed, except as permitted under the Regulations;

[1] Prescribed limits include the following: (a) 2 mg/kg or more for liquids containing PCBs from equipment or PCBs not in use; (b) 50 mg/kg or more for solids containing PCBs from equipment or PCBs not in use; or (c) more than one gram of PCBs into the environment from equipment in use

- the manufacture, export or import of PCBs or products containing PCBs are not allowed in concentrations of 2 mg/kg or more, except as permitted under the Regulations; and
- the sale or offer for sale of PCBs or products containing PCBs are not allowed in concentrations of 50 mg/kg or more, except as permitted under the Regulations.

Despite the prohibitions mentioned above, the use of PCBs or products containing PCBs are permitted under conditions as specified in the Regulations, for example, in laboratory analysis and research, in communication, navigation or electronic control equipment or cables of aircrafts, ships, trains and other vehicles, and in colouring pigments.

2.3.2 End-of-Use Deadlines

The key element of the Regulations remains the prescribed end-of-use deadlines for liquids containing PCBs and specified equipment-containing PCBs. The following summarizes the end-of-use deadlines.

- December 31, 2009 for:
  - liquids and equipment[2] containing PCBs in concentrations of 500 mg/kg or more; and
  - equipment[2] containing PCBs in concentrations of at least 50 mg/kg but less than 500 mg/kg that are located at prescribed locations[3].
- December 31, 2014 for:
  - liquids and equipment[2] containing PCBs in concentrations of 500 mg/kg or more for which an extension had been granted by the Minister to the end-of-use date; and
  - equipment[2] containing PCBs in concentrations of at least 50 mg/kg but less than 500 mg/kg that are located at prescribed locations[3] for which an extension had been granted by the Minister to the end-of-use date.
- December 31, 2025 for:
  - equipment[2] containing PCBs in concentrations of at least 50 mg/kg but less than 500 mg/kg (not located at prescribed locations[3]);
  - light ballasts and pole-top transformers and their auxiliary pole-top electrical equipment containing PCBs in concentrations of 50 mg/kg or more; and
  - current transformers, potential transformers, circuit breakers, reclosers, and bushings that are located at an electrical generation, transmission or distribution facility, containing PCBs in concentrations of 500 mg/kg or more.

2.3.3 PCB Storage Deadlines

Solid or liquid products containing PCBs in concentrations of 50 mg/kg or more trigger the storage requirements of the Regulations when they are no longer in use and when there are:

- 100 l or more of liquid PCB product;
- 100 kg or more of solid PCB product; or
- a quantity of solid or liquid PCB product less than above, but the product contains 1 kg or more of pure PCBs.

A maximum storage period is allowed for PCBs and PCB-related products at each of the following locations:

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[2] Electrical capacitors, electrical transformers and their auxiliary electrical equipment excluding pole-top transformers and their pole-top auxiliary electrical equipment, electromagnets that are not used in the handling of food or feed, or any other additive to food or feed, heat transfer equipment, hydraulic equipment, vapour diffusion pumps, and bridge bearings

[3] Prescribed locations include child care facilities, hospitals, senior citizens' care facilities, preschools, primary or secondary schools, drinking water treatment plants, and food or feed processing plants or on the property on which the plant or facility is located and within 100 metres of it

- one year at a PCB storage site (that is not of an authorized transfer site or destruction facility);
- one year at the PCB storage site of an authorized transfer site; and
- two years at the PCB storage site of an authorized destruction facility.

2.3.4 Import and Export Requirements

The *PCB Regulations* prohibit the export and import of PCBs in concentrations of 2 mg/kg or more, unless it is a permitted activity[4]/[5] under the Regulations. There are currently two exceptions to this prohibition, namely:

- the import of PCBs that are present in concentrations of 50 mg/kg or more and are controlled by the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHRMR); and
- the export of PCBs that are present in concentrations of 50 mg/kg or more and are controlled by the *PCB Waste Export Regulations, 1996.*

In summary, exports of PCB waste in concentrations of 2 mg/kg or more to the United States, the only country for which exports can occur, is not possible. No EIHWHRMR export permits can be issued for other countries. This is due to the fact that:

- the *PCB Waste Export Regulations, 1996* prohibit exports of PCB waste in concentrations of 50 mg/kg or more to a country other than the U.S. (only for the purposes of destruction); and
- the United-States prohibits the import of waste containing PCBs in concentrations of 2 mg/kg or more.

Imports into Canada of waste containing PCBs is permitted only when PCBs are present in concentrations of 50 mg/kg or more, and from any country, as controlled through authorization and permit conditions required by the EIHWHRMR. However, imports of PCB waste into Canada in concentrations of 2 mg/kg or more but less than 50 mg/kg is not permitted.

Since PCBs are included in Schedule 3 of CEPA 1999, their export is also controlled by the *Export of Substances on the Export Control List Regulations* (ESECLR), regardless of concentration.

The flow chart below summarizes the types of imports and exports of PCB waste that are regulated or prohibited, and the regulations that apply to each case. Note that the flow chart only applies to PCB waste and does not apply to imports or exports of PCBs that are for the purposes of conducting permitted activities under the Regulations. In addition, the flow chart represents the regulations that would apply if exports of waste containing PCBs in concentrations of 50 mg/kg or more were possible; however, since the U.S. prohibits imports of PCBs in concentrations of 2 mg/kg or more, exports in concentrations of 50 mg/kg are also not possible.

[4] Export of PCBs may be permitted under the Regulations for activities such as laboratory analysis; aircrafts, ships, trains and other vehicles that contain PCBs only in their communication, navigation, electronic control equipment or cables; and colouring pigments

[5] Import of PCBs may be permitted under the Regulations for activities such as laboratory analysis; aircrafts, ships, trains and other vehicles that contain PCBs only in their communication, navigation, electronic control equipment or cables; colouring pigments; and fusion sealed capacitors for use in relation to communication tactical equipment or electronic control tactical equipment

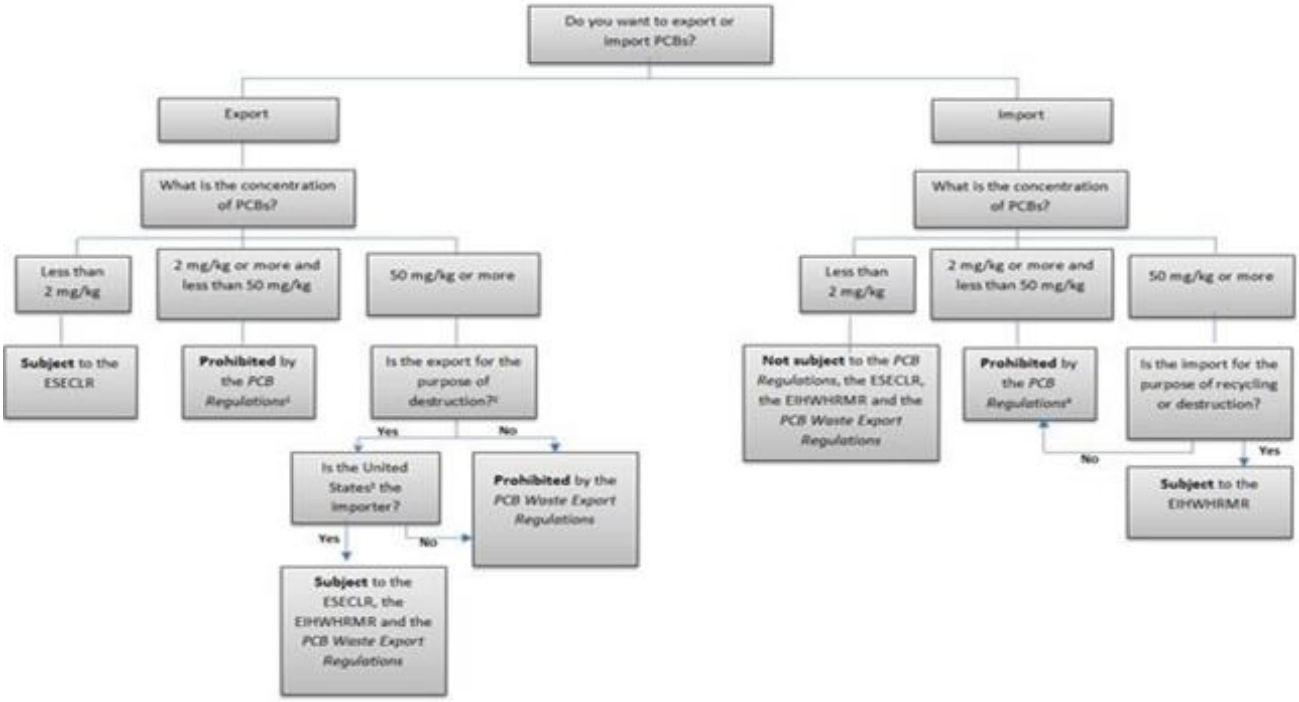

Figure 1: Flow Chart of Import/Export Requirements for PCB Waste

The control of hazardous waste and hazardous recyclable materials within Canada is a responsibility shared by the federal, provincial, territorial and municipal governments. The federal government is responsible for regulating international movements and movements between provinces and territories. Provincial and territorial governments are responsible for regulating and licensing waste generators, carriers, and disposal, recycling and treatment facilities. This means that when the Department examines imports of PCB wastes, authorization is sought from provincial and territorial governments for activities in their jurisdiction, including particular planned waste streams and volumes, transportation, and disposal locations and operations. Finally, municipal governments are responsible for establishing waste collection and disposal programs within their jurisdictions.

2.4 Effectiveness of the Regulations

Since the Regulations came into force in 2008, progress towards ending the use of PCBs continues to advance and is being monitored.

The use of PCBs in concentrations of 500 mg/kg or more in liquids and equipment must be reported under the Regulations. (Note that for high concentration PCBs in light ballasts and pole-top transformers and their auxiliary pole-top electrical equipment, reporting is only required after removal from use.) Furthermore, the use of PCBs in prescribed locations also has to be reported under the Regulations.

Figure 2 below presents the quantities of PCBs in-use in Canada at concentrations greater than 500 mg/kg in equipment subject to the Regulations since their coming-into-force, and indicates a significant decrease over time.

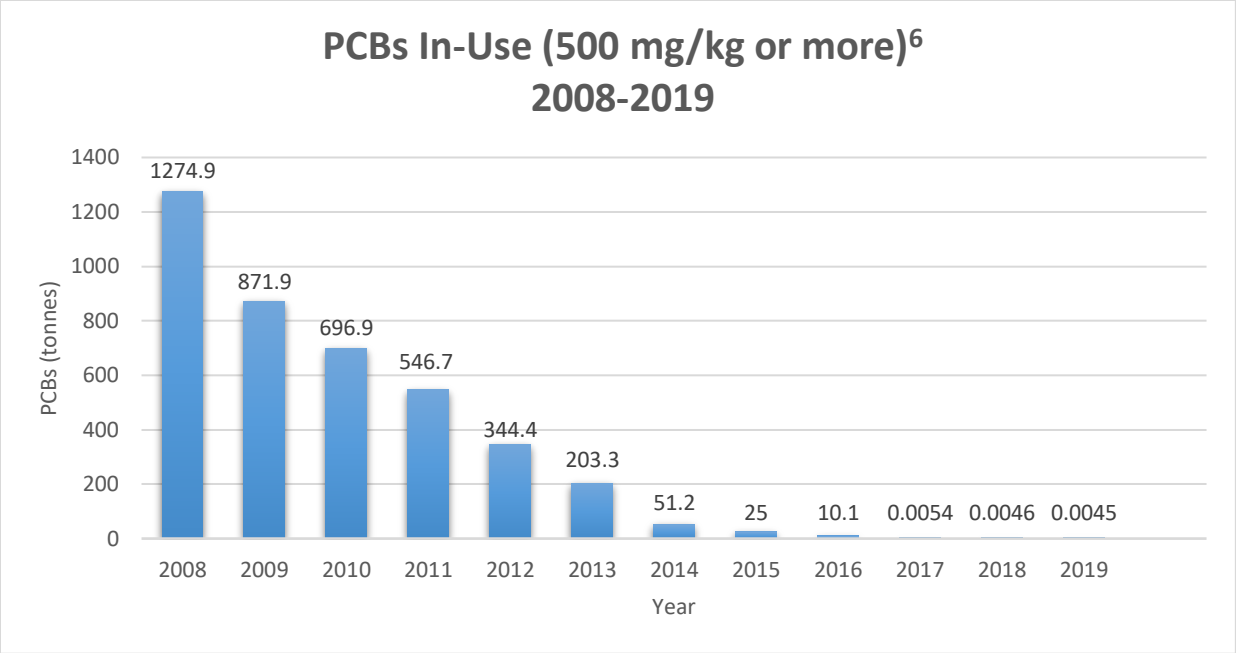

Figure 2: Quantities (tonnes) of PCBs In-Use in Canada in equipment subject to the PCB Regulations (2008-2019)

The destruction of PCBs is also reported under the Regulations. Figure 3 below provides a representation of the quantities of PCBs that have been destroyed on an annual basis since the coming-into-force of the Regulations.

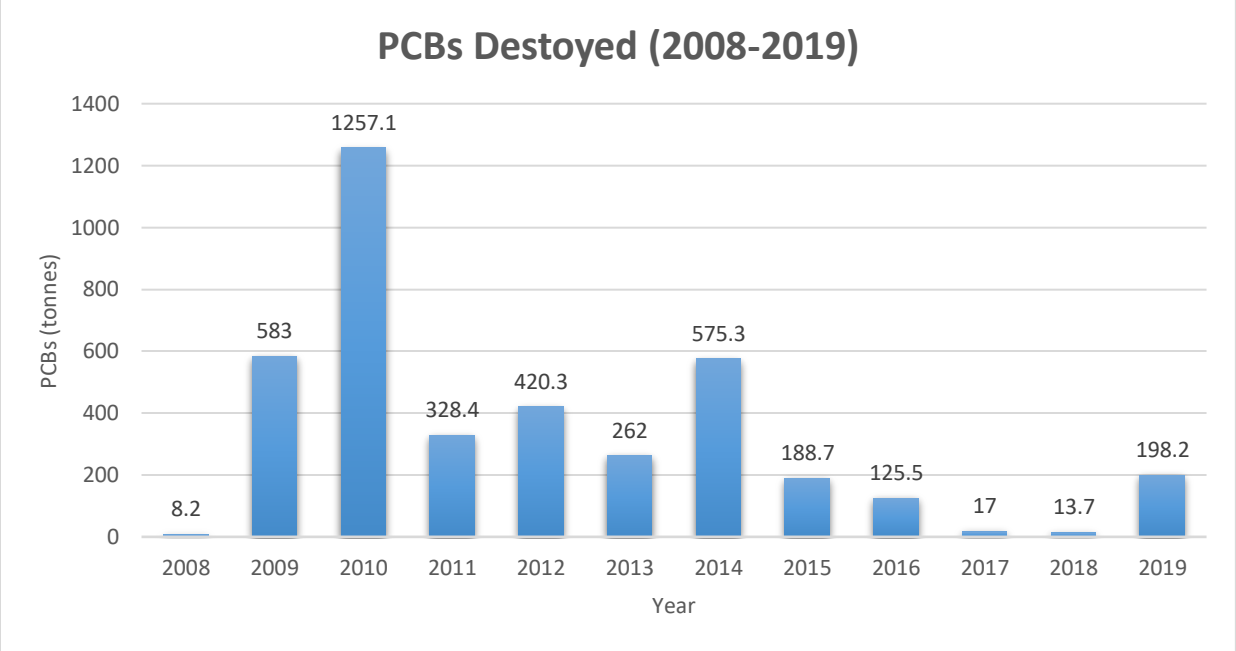

Figure 3: Quantities (tonnes) of PCBs Destroyed in Canada subject to the PCB Regulations (2008-2019)

[6] Data predominantly presents the use of PCBs in concentrations of 500 mg/kg or more (excluding PCBs in light ballasts and pole-top transformers and their auxiliary pole-top electrical equipment) with some data representing lower concentration PCBs that were located at prescribed locations

The figure above indicates that the greatest quantities of PCBs were destroyed in 2010 and then again in 2014. This likely resulted from the destruction of equipment that was removed from use prior to the end-of-use deadlines of December 31, 2009 and December 31, 2014. It is expected that there will be another peak in destruction leading up to and beyond the upcoming 2025 deadline.

3.0 Scope of the Proposed Amendments

The Department is considering amendments that would address issues related to radioactive PCBs and to the import of PCB waste. The scope of these potential amendments is outlined under Sections 3.1 and 3.2 of this document.

The Department also intends to continue to engage with stakeholders in addressing their challenges associated with the removal of (non-radioactive) PCB-containing equipment from use by the 2025 end-of-use deadline, while complying with obligations under the Stockholm Convention. The Department will seek to better comprehend these challenges, and in parallel will conduct planned compliance promotion activities to ensure that stakeholders continue to prepare for the deadline.

3.1 Radioactive PCBs

There are issues affiliated with meeting the storage and destruction timelines of the Regulations specifically for PCBs that are radioactive, given the lack of destruction capabilities in Canada for radioactive PCB waste.

There is PCB-containing equipment located in highly radioactive areas at certain nuclear facilities. These areas with high radiation fields are designed to prevent releases of radioactive material into the environment and are rarely accessed during reactor operation. The removal of such equipment from these restricted areas would risk exposure to high radiation fields and could lead to unnecessary radiation doses to employees that could affect their health and safety. In addition, there is currently no legal disposal pathway for inventories of radioactively contaminated PCB waste in Canada, as there are no facilities in Canada that can destroy such waste. There are facilities in the U.S. that can deal with radioactive PCB-contaminated waste; however, export is not possible, as currently the U.S. is not accepting imports of PCB waste in concentrations of 2 mg/kg or more (see Section 2.3.4 of this document).

The Department is considering whether additional time could be implemented for the removal of equipment located in radioactive areas, and whether the radioactive PCBs can continue to be stored on site in licensed approved containment facilities until there is a feasible, safe way to remove and destroy them. As such, the Department is considering an extension to the one-year storage deadline for the nuclear facilities that are storing radioactive PCBs. These facilities would not include authorized transfer sites or authorized destruction facilities. This extension would only be limited to radioactive PCB waste, with a requirement to destroy the waste once it is safe to do so and once there are facilities available for conducting the destruction.

3.2 Import of Non-Radioactive PCB Waste

There are issues associated with permitting the import of hazardous PCB waste in concentrations of 50 mg/kg or more, while prohibiting the import of waste containing non-hazardous PCBs in concentrations of 2 mg/kg or more but less than 50 mg/kg. The handling and transport of waste containing PCBs in concentrations of 50 mg/kg or more is controlled through the EIHWHRMR, and the *PCB Waste Export Regulations, 1996*. However, these Regulations do not control the transport of PCB waste containing concentrations below 50 mg/kg. Meanwhile, the *PCB Regulations* prohibit the import of PCB waste in concentrations of 2 mg/kg or more. This has resulted in a situation in which PCB-containing waste in concentrations between 2 mg/kg to 50 mg/kg cannot be imported in or exported out of the country.

Consequently, hazardous waste importers are unable to import such waste for the purposes of safe disposal.

The Department is considering removing the prohibition on the import of PCB waste in concentrations of 2 mg/kg or more. This would allow waste importers to import a wider range of waste, including waste that contains PCBs in concentrations of 2 mg/kg or more but less than 50 mg/kg for the purposes of safe disposal.

4.0 Contact information

The Department is seeking your views and comments on the issues and potential regulatory changes described above to inform the review process.

Stakeholders are invited to provide written comments on this discussion document during a 60-day comment period, which will end on November 23, 2020. All input will be considered in drafting proposed amendments, if warranted. The proposed amendments would be published in the Canada Gazette, Part I for an official public comment period.

Please send your comments on this discussion document to the following address.

E-mail: ec.bpc-pcb.ec@canada.ca

Please put “Consultation - Potential Amendments to the PCB Regulations” in the subject line of your message.

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