

# Preliminary Technical Study 52/2024

## 1. Basic Information

Case number: 08200.003046/2024-11

## 2. The Legal Framework

The purpose of this Preliminary Study is to acquire ammunition of various calibers for operational use and training in the interests of the various units of the Federal Police;

This analysis is guided by the guidelines set out in the Federal Constitution/1988, Law 14.133/2021, Law No. 10.826, of December 22, 2003, Decree No. 24.602, of July 6, 1934, Decree 11.615, of July 21, 2023, Decree No. 9.847, June 25, 2019, Decree No. 10.030/2019, Ordinance No. 189-EME, EB Ordinance No. 214, COLOG/C EX, EB Ordinance No. 137, COLOG/C EX and other rules attached to the body of this Preliminary Technical Study.

The adoption of the Price Registration System (SRP) rather than the traditional auction is a strategic and efficient choice for the Public Administration, especially in scenarios of recurring, variable demands or when there is a need to serve multiple units in an integrated manner. The SRP provides significant gains in terms of agility, flexibility, saving resources and reducing administrative costs. The SRP optimizes processes, avoids shortages and makes it possible to negotiate more advantageous prices. In addition, its compliance with current legislation and the recommendations of control bodies reinforce transparency and good management of resources. the use of the SRP not only modernizes and simplifies bidding processes, but also contributes to promoting more efficient, economical and results-oriented public management.

The Electronic Auction will use the **price registration system** as an auxiliary procedure, in accordance with art. 82, Law 14.133/2021, in accordance with the agency's planning, and the company must be aware of the possibility of acquiring all the items, offer a proposal for the total quantity, and that the criterion for judging the bid will be the **lowest price**. The term of validity of the price registration minutes will be one (1) year and may be extended for the same period and in the same quantities, provided that the advantageous price is proven.

The intended purpose of the future contract **is a costing activity**.

The goods referenced in this study, given their characteristics, **fall within the concept of common goods**, as defined in XIII, of art. 6, of Law 14.133/2021, since they have performance and quality standards that can be objectively defined by the public notice, through usual market specifications.

The object of this contract **does not qualify as a luxury good**, according to Decree No. 10,818 of September 27, 2021.

The aforementioned object of the tender **does not qualify as ICT goods**.

The studies are also based on the provisions of the Brazilian Army's Strategic Planning, in accordance with Ordinance -C EX No. 2.138, of December 7, 2023, which approves the table of appropriations for weapons, bulletproof vests and ammunition for the Federal Police and makes other provisions, in DG/PF Ordinance No. 18.589, DE 20/09/2023 (31541268), which approves the Table of Appropriations for Controlled Products and the Strategic Plan for Purchasing Controlled Products for the Federal Police, in accordance with process 08200.007751/2023-15.

This acquisition is provided for in the Annual Hiring Plan, according to SEI No. (35315414).

The object of this bidding process will be divided into items, allowing the bidder to participate in as many items as they wish according to the specifications contained in Annex I of the Terms of Reference - Technical Specifications and Standards:

Item 1: **12,677,882 (twelve million, six hundred and seventy-seven thousand, eight hundred and eighty-two) 9x19 mm caliber ammunition - 124 grains - training;**

Item 2: **4,063,731 (four million, sixty-three thousand, seven hundred and thirty-one) rounds of 9x19 mm caliber ammunition - 147 grains - operational;**

Item 3: 6,232,773 (six million, two hundred and thirty-two thousand, seven hundred and seventy-three) ammunition caliber 5.56X45 mm - M193

- 55 grains - training;

Item 4: 1,247,696 (one million, two hundred and forty-seven thousand, nine hundred and sixty-nine) rounds of ammunition caliber 5.56X45 mm - MK262- 77 grains - common troop operational;

Item 5: 711,000 (seven hundred and eleven thousand) rounds of ammunition caliber 5.56X45 mm - M855A1- 62 grains - operational special groups;

Item 6: 165,000 (one hundred and sixty-five thousand) rounds of 7.62X51 mm M80 NATO caliber

ammunition - operational; Item 7: 48,000 (forty-eight thousand) rounds of 7.62X51 mm M80 NATO caliber

ammunition - operational; Item 8: 60,000 (sixty thousand) rounds of 12 Gauge Rifle A;

Item 9: 40,000 (forty thousand) rounds of 12 Gauge Rifle B;

Item 10: 355,250 (three hundred and fifty-five thousand, two hundred and fifty) rounds of .308 Win ammunition;

Item 11: 83,000 (eighty-three thousand) rounds of .338 caliber Lapua Magnum ammunition.

#### the legal framework

Initially, the 1988 Federal Constitution, in its Article 144, defines Brazil's public security bodies as follows:

*"Art. 144: Public security, the duty of the State, the right and responsibility of all, shall be exercised for the preservation of public order and the safety of persons and property, through the following bodies:*

***I - federal police; (emphasis added)***

*(...)"*

Subsequently, Law No. 10.826, of December 22, 2003, dealt with the following in its Article 6:

*"Art. 6 It is forbidden to carry a firearm throughout the national territory, except for the cases provided for in specific legislation and for:*

*I - members of the Armed Forces;*

***II - the members of the bodies referred to in items I, II, III, IV and V of the caput of art. 144 of the Federal Constitution and those of the National Public Security Force (FNSP); (Redaction given by Law No. 13.500, of 2017) (Emphasis added)***

*(...)"*

Art. 23 of Law No. 10.826, of December 22, 2003, states the following:

*"Art. 23 The legal, technical and general classification, as well as the definition of firearms and other controlled products, of prohibited, restricted, permitted or obsolete use and of historical value shall be regulated by an act of the head of the Federal Executive Power, upon proposal of the Army Command.*

*§ Paragraph 1 All ammunition sold in the country must be packaged with a barcode system engraved on the box, so that the manufacturer and purchaser can be identified, among other information defined by the regulations of this Law.*

*§ Paragraph 2 - For the bodies referred to in Article 6, ammunition purchase authorizations shall only be issued with identification of the lot and the purchaser on the barrel of the projectiles, in accordance with the regulations of this Law.*

*(...)"*

Article 24 states:

*"Art. 24: Except for the attributions referred to in art. 2 of this Law, the Army Command is responsible for authorizing and supervising the production, export, import, customs clearance and trade of firearms and other controlled products, including the registration and transit of firearms for collectors, shooters and hunters."*

However, purchases of controlled products by police forces must first be authorized by the Ministry of the Army, taking into account an established allocation (of weapons, vests, ammunition and other controlled items) as a limit for the Federal Police. Thus, this table acts as a subsidy for the planning required by Art. 34

of DECREE No. 9.847, OF JUNE 25, 2019, which regulated Law No. 10.826, of December 22, 2003, to provide for the acquisition, registration, carrying and sale of firearms and ammunition and for the National Weapons System and the Military Weapons Management System, *in verbis*:

*"Art. 34: The Army Command will previously authorize the acquisition and importation of restricted-use firearms, restricted-use ammunition and other restricted-use controlled products, for the following bodies, institutions and corporations: (Edited by Decree No. 10,030 of 2019)*

*I - the Federal Police;*

*(...)*

*§ Paragraph 1 - An act by the Army Commander shall lay down the procedures for the prior notification referred to in **the heading** and the information that must be included in it.*

*(...)*

*§ Paragraph 6. The acquisition of firearms and ammunition for permitted use by the bodies, institutions and corporations referred to in the **heading** shall be reported to the Army Command. (Included by Decree No. 10.030, of 2019)*

Another regulation should be discussed: Army Command Ordinance no. 214 COLOG/C Ex of September 15, 2021. It approves the Regulatory Standards for the procedures for identifying and marking ammunition and its packaging within the scope of the Controlled Products Inspection System.

This ordinance makes it compulsory to affix a traceability code to ammunition purchased by the Federal Police:

*"Art. 2 All ammunition and ammunition supplies sold in Brazil, from domestic or imported manufacturers, must be packed until they are consumed, in packages engraved with a one-dimensional or two-dimensional code system that allows the identification of the manufacturer, trader (shopkeeper or importer), batch, traceability code, caliber and quantity.*

*[...]*

*Art. 4 **All ammunition and its supplies, destined for the bodies, institutions and entities listed below, must contain an ammunition traceability code engraved on the base of the cases, which allows the manufacturer, batch and acquiring body to be identified, in compliance with § 2 of art. 23 of Law No. 10.826, of December 22, 2003: (emphasis added)***

*[...]*

*II - Federal Police;*

*[...]*

*Art. 6 The traceable batch of ammunition acquired by the bodies referred to in art. 4 must meet the following requirements:*

*I - include only ammunition of the same caliber and type, except in the case of elated ammunition, the batch of which may contain ammunition of different types (example: links of ordinary ammunition permeated with tracer ammunition);*

*II - be marked with a unique traceability code on the body of the case; and*

*III - be marketed only to a specific body." (emphasis added)*

**References cited in the study:**

- [1] BRAZILIAN ASSOCIATION OF TECHNICAL STANDARDS. NBR 10004: Solid Waste. Rio de Janeiro, p. 2-4. 2004.
- [2] JAMES, S.W. **Chemical Analysis of Firearms, Ammunition, and Gunshot Residue**: International Forensic Science and Investigation Series, CRC Press LLC. Boca Raton, FL, 2008. 320 p.
- [3] KOONS R.D.; BUSCAGLIA J. Forensic significance of bullet lead compositions. **Journal of Forensic Science** v. 50, n. 2, p. 341-351 2005.
- [4] ROCHA, Ernesto Díaz, et al. Occupational exposure to airborne lead in Brazilian police officers. *International journal of hygiene and environmental health*, 2014, 217.6: 702-704
- [5] Weber, A.K., Bannon, D.I., Abraham, J.H., Seymour, R.B., Passman, P.H., Lilley, P.H., Parks, K.K., Braybrooke, G., Cook, N.D., & Belden, A.L. Reduction in lead exposures with lead-free ammunition in an advanced urban assault course. *Journal of Occupational and Environmental Hygiene*, 17, 598 - 610, 2020.
- [6] Schenk, Linda, et al. "Exposures to lead during urban combat training." *International Journal of Hygiene and Environmental Health* 235 , 2021.
- [7] <https://www.cdc.gov/niosh/lead/bll-reference/index.html> , of 11/04/2024.
- [8] SHUKLA, Saurabh, et al. Environment and health hazards due to military metal pollution: A review. *Environmental Nanotechnology, Monitoring & Management*, v. 20, 2023.
- [9] CORDEIRO R.; LIMA-FILHO E. C. A Inadequação dos Valores dos Limites de Tolerância Biológica para a Prevenção da Intoxicação Profissional pelo Chumbo no Brasil. **Cadernos de Saúde Pública**, v.2, n.11. p.177-186, 1995.
- [10] BRAZIL, Ministry of Labor and Employment NR 15 Unhealthy Activities and Operations.
- [11] AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH) TLVs1, Cincinnati, 2004 (Standard).
- [12] Residue deposited on the hands and clothing of someone who fires a firearm. It consists mainly of burnt and unburnt particles of the fuze, propellant - and possibly fragments of the bullet, cartridge case and firearm.
- [13] VALWAY S.; MARTYNY J., MILLER J.: COOK M.: MANGIONE E. Lead Absorption in Indoor Firing Range Users, **American Journal of Public Health**, v.79, p. 1029-1032, 1989.
- [14] TRIPATHI R.; SHERETZ P.; LLEWELYN G.: ARMSTRONG C. Lead Exposure in Outdoor Firearm Instructors. **American Journal of Public Health**, v.81, p.753-755, 1991.
- [15] SCHOBBER S.; MIREL L.; GRAUBARD B.; BRODY D., FLEGAL K. Blood Lead Levels and Death from All Causes, **Environmental Health Perspectives**, v.114, n. 10, 2006.
- [16] VIVANTE A.; HIRSHOREN N.; SHOCHAT T.: MERKEL D. Association between Acute Lead Exposure in Indoor Firing Ranges and Iron Metabolism, **Israel Medical Association Journal**, v. 10, p. 292-295. 2008.
- [17] NIOSH, [DHHS (NIOSH) Publication No. 2009-136], **Preventing Occupational Exposures to Lead and Noise at Indoor Firing Ranges**. NIOSH. 2009.
- [18] VALWAY S.; MARTYNY J., MILLER J.: COOK M.: MANGIONE E. Lead Absorption in Indoor Firing Range Users, **American Journal of Public Health**, v.79, p. 1029-1032, 1989.
- [19] LOFSTEDT H.; SELDEN A.; STOREUS L.; BODIN L. Blood lead in Swedish police officers. **American Journal of Industrial Medicine**, v. 35, p. 519-522, 1999.
- [20] Gómez-Sagasti, M. T., Anza, M., Hidalgo, J., Artetxe, U., Garbisu, C., & Becerril, J. M. Recent trends in sustainable remediation of pb-contaminated shooting range soils: Rethinking waste management within a circular economy. *Processes*, 572, 2021.
- [21] Sovari, J. *Shooting Ranges: Environmental Contamination*, Finnish Environment Institute, Elsevier, Helsinki, Finland, 2018.
- [22] For the purposes of coverage, they will be considered served when they at least contain SAAMI, CIP or NATO.

[25] According to case 08204.001531/2024-11 and 08204.001531/2024-11

[26] Data extracted on 05/08/2024

[27] Open innovation and reverse logistics: a proposal for ammunition waste management in a public security institution / Neusa Rejane Pinheiro de Carvalho Haltenburg : supervisor, Ana Clara Cândido, co-supervisor, Nathália Berger Werlang, 2024. 167 p

### 3. International tender

#### RATIONALE FOR THE USE OF INTERNATIONAL TENDERING - THE EXPANSION OF COMPETITIVENESS AND ITS EFFECTS ON THE OPTIMIZATION OF THE AGENCY'S RESOURCES

In the discipline of public tenders, the Auction ended up becoming the modality of choice for the acquisition of common goods precisely because its competitive phase, by bringing together all interested parties who were previously excluded in the qualification phase, increased the universe of competitors. During the Preliminary Study, it was observed that this expansion of the list of participants is vital for obtaining the binomial best prices/best specifications. What international bidding provides is an expanded list of competitors. It should be noted that the participation of national companies remains unchanged and their isonomy is guaranteed through the equalization of proposals.

The adoption of international bidding will bring a number of advantages:

**Obtaining better prices and conditions:** Holding an international tender can allow more competitive prices to be obtained, due to the participation of foreign companies that can offer better commercial conditions. It was found that the majority of companies in this market are in fact foreign;

**Access to advanced technologies:** Foreign companies can bring innovative and advanced technologies that are not available locally. By opting for an international tender, it is possible to attract companies with specific experience and technical knowledge for the project in question;

**Encouraging competition:** By opening up the bidding process to foreign companies, there is an increase in competition, which can result in more advantageous proposals for the public administration. As it has been pointed out that the majority of companies in this market are foreign, holding a national tender with the participation of intermediaries would greatly increase the average price of the tools in relation to the price practiced on the international market;

**Specific requirements:** This is a technological tool with technical or quality requirements that, in principle, cannot be met by national companies alone. In this sense, international tendering is the most viable option to ensure that these requirements are met;

**Economies of Scale:** International bidding can allow economies of scale to be achieved, especially when the procurement involves large volumes or when international suppliers have greater production capacity and can offer more competitive prices. In some cases, international suppliers are able to offer lower costs due to greater production capacity, logistical efficiency or tax incentives in their home countries.

**Stimulating Competitiveness in the Domestic Market:** By allowing foreign companies to participate, international bidding can generate competitive pressure on the domestic market, encouraging local suppliers to improve their offers, both in terms of price and quality, in order to compete with international proposals. This can encourage the modernization and innovation of national companies, which then compete with global players.

**Supplier Diversification:** International bidding allows the Public Administration to reduce its dependence on domestic suppliers, especially in sectors where there is market concentration or few supplier options. This helps mitigate risks related to product shortages, supply interruptions or lack of internal competitiveness.

Carrying out an international tender requires **planning** and **adapting rules**, such as providing for payment in foreign currency, adjustments to customs legislation, compliance with international requirements and delivery guarantees. According to Law 14.133/2021, international bidding allows the Public Administration to achieve benefits such as increased competitiveness, access to high quality products and services and technology, cost reduction and diversification of suppliers. This modality expands contracting options and can contribute to the development of strategic sectors by bringing in new technologies and knowledge from abroad.

According to the justifications cited in this preliminary study, for these reasons the Federal Police opted for an international tender.

## 4. Consortium and Cooperatives

### NON-ADMISSION OR NON-PARTICIPATION OF CORPORATIONS AND COOPERATIVES

#### Consortium

In order to allow or disallow the participation of companies in consortia, it is necessary to consider how the goods to be purchased will be supplied. Participation in a consortium is usually of interest to the buyer/contractor when the proposed solution is complex and does not appear as a stock item, but is a solution to be built in which the parts that make it up are supplied by different players in the market and these represent representative portions of the whole and these portions need to be received in an integrated and simultaneous manner. The technological and knowledge transfer content is also verified in the formation of consortia for the acquisition of complex police/military solutions. Another approach that recommends consortia is that of economy. Every time a company hires another company to carry out part of an object, it adds profit and taxes to the amount charged to the Administration. This is why subcontracting should normally be allowed at a reduced percentage compared to the total value of the contract.

Another reason for admitting companies in consortia is to increase competitiveness. In complex solutions, only a few companies are able to offer the solution in its entirety. In the case in question, the items to be purchased are common market goods, which is why the participation of companies in consortia will not add benefits to the same extent that their admission will add complexity to the procedure.

#### Cooperative

In order to guarantee the regularity, quality and safety of the services provided by the Public Administration, we cite some of the main reasons for prohibiting the participation of cooperatives in this tender:

**Control and accountability:** By prohibiting the participation of cooperatives, the Public Administration seeks to avoid the difficulty of control and accountability for the services provided. Cooperatives are made up of associated members, and the turnover of cooperative members can hinder the stability and continuity of services, making it complex to define responsibilities in the event of failures or problems in the execution of the contract.

**Legal certainty:** The prohibition avoids ambiguous situations and potential legal questions, since cooperatives have a peculiar nature and are subject to different rules compared to other forms of business organization. By allowing cooperatives to participate, there could be conflicts of interpretation over contractual rights and duties, affecting the legal certainty of contracts.

**Guaranteeing the quality of services:** Contracting services with exclusive dedication of labor can be sensitive, requiring the selection of qualified, stable and committed professionals. By prohibiting the participation of cooperatives, the Administration seeks to ensure that the contractors are companies incorporated as businesses, with the structure, history and capacity to offer the specialized labor required to fulfill the contract.

**Compliance with labor and social security obligations:** Cooperatives may face difficulties in ensuring full compliance with labor and social security obligations in contracts with exclusive dedication of labor. The risk of default could be transferred to the Public Administration, which is undesirable and damaging for both parties.

## 5. Quota for EPP and Microenterprise

### NO QUOTA ADMISSION FOR SMALL BUSINESSES AND MICRO ENTERPRISES

No quota will be established for EPP/ME, based on item III of art. 49 of Complementary Law no. 123/06, because the differentiated and simplified treatment for micro and small companies is not advantageous for the Public Administration because it could harm the overall complexity of the object to be contracted, and there are losses in this dynamic when different products are used, with different suppliers.

*A quota of up to 25% (twenty-five percent) of the object will not be provided for the hiring of micro and small companies, according to the premise established in Art. 48, item III of Complementary Law No. 123, of December 14, 2006, amended by Complementary Law No. 147, of August 7, 2014, received by Art. 4 of Law No. 14,133, of April 1, 2021, taking into account*

given that there are no three competitive suppliers classified as ME or EPP based locally or regionally and capable of meeting the requirements established in this call, as provided for in Art. 49, item II, of the aforementioned Complementary Law Art. 10, item I, of Decree No. 8.538, of October 6, 2015.

Item I, § 1, of Law 14.133/2021, already establishes the exception when the estimated value of the contract is higher than the maximum gross revenue allowed for the purposes of classification as a small business (R\$ 360,000 to R\$ 4.8 million), however, since it is a price register, it avoids questions with the possibility of contracting values that do not fit the legal provision.

In short, considering the amount of the contract, which far exceeds the gross revenue limit for small businesses, and in view of art. 4, § 1, inc. I, of Law No. 14.133/21, the benefits of articles 42 to 49 of Complementary Law No. 123/2006 will not be applied. There will also be no reserved quota for the preferences of art. 48, III of Complementary Law no. 123/2006, for an additional reason, which is the nature of the object and its technical complexity, in addition to the need for standardization of performance, training, technical assistance and uniformity of the items that make up this bid (art. 40, item V, paragraph "a", of Law No. 14.133/21), since the differentiated and simplified treatment could be detrimental to the whole or complex of the goods to be purchased, an exception legally provided for in art. 49, III, of Complementary Law No. 123/2006.

## 6. Description of need

The Federal Police, established by law as a permanent State body, organized and maintained by the Federal Government, and part of the basic structure of the Ministry of Justice and Public Security, is intended to exercise the powers provided for in art. 144, § 1, of the Constitution of the Federative Republic of Brazil of 1988, and other relevant legal and regulatory provisions, and is intended to:

investigate criminal offenses against the political and social order or to the detriment of the goods, services and interests of the Union or its autonomous entities and public companies, as well as other offenses whose practice has interstate or international repercussions and requires uniform repression, as provided by law;

prevent and repress illicit trafficking in narcotics and related drugs, smuggling and embezzlement, without prejudice to action by the tax authorities and other public bodies in their respective areas of competence;

carry out maritime, airport and border police duties; and exclusively carry out the

Union's judicial police duties.

In the various operations carried out by the Federal Police, officers often face situations in which they encounter criminals carrying weapons of high offensive potential, which poses a real risk of death to officers. Thus, complete, efficient and quality equipment means not only the success of the mission, but also the protection of the police officer's life. With this in mind, as well as considering the need for training, rules for use and replacement of equipment after the manufacturer's warranty, both operational police officers and special operations units should be aware of this,

The need for this acquisition is demonstrated above by the legal aspects and prerogatives of the body ( [ITEM 2] and then by infra-legal diplomas such as internal regulations, ordinances, as well as studies obtained by working groups and technical tests.

In addition to the above imposition, internally, the Federal Police has established this need for greater logistical control within the agency and in order to improve it, in 2018 it set up a working group (08200.005242/2018-82) with the following objectives.

*"3.1 The specific objectives for this WG include:*

*[...]*

*Restrict the production of batches to a tangible number so that the storage of ammunition by police officers is traceable (intended for a restricted and finite universe)."*

Despite the legal need to link the traceability code only to a security agency, the PF had already been optimizing control, maintaining a unique code for each Federation Unit, according to an excerpt from the Final Report (7055599). The ideal, highlighted by the Working Group, would be ***"a box of 50 rounds of ammunition per specific batch number"***.

However, in market research, dealt with in [ITEM 7], the forecast of a specific code for every 1,000 rounds of ammunition was maintained, a practice already carried out in recent Federal Police contracts.

The issue of using tracked ammunition, whose code links the supply to just one agency, requires a chain of custody and delicate control. To this end, a process flow on this subject was published on the intranet, duly approved by the competent authority, as shown in the Digital Library process "MANAGEMENT OF MUNITIONS".

No less important, this topic was chosen as a pilot project for risk studies at the PF, as stated in process 08200.021045/2018-19, in Information 8812129.

The ammunition management risk study generated the following products:

Worksheet 1 - SWOT Matrix - Ammunition Control (8812257)

Worksheet 2 - Process Analysis Sheet (8812276)

Worksheet 3 - Cause and Effect Diagram (8812284)

Worksheet 4 - Risk Management Worksheet (8812309)

Worksheet 5 - Communication Plan (8812323)

Worksheet 6 - Risk Treatment Plan (8812339)

Worksheet 7 - Risk Incident Report (8812365)

Finally, in addition to the Federal Police Ordinances that deal with the Controlled Products Allocation Framework, it is worth highlighting Ordinance 15.431/2021 DG/PF, which deals with the management of armaments and tactical equipment.

This ordinance fully complies with Ordinance 1,729/2019 of the Ministry of Defense, as well as Decrees 9,847/2019 and 11,173/2022, since it links the management of such equipment to the PF Appropriation Framework, as highlighted below:

*"Art. 18: The use of restricted materials for police use will follow the Federal Police's allocation table, as set out in a specific rule." **(emphasis added)***

The dimensioning of the quantity, detailed in [ITEM 9], is supported by the **Strategic Planning of the Brazilian Army, according to Ordinance -C EX No. 2.138, of December 7, 2023**, which approves the table of appropriations for weapons, bulletproof vests and ammunition for the Federal Police and makes other provisions, in DG/PF Ordinance No. 18.589, DE 20/09/2023 (31541268), which approves the Table of Allocations for Controlled Products and the Strategic Plan for Purchasing Controlled Products for the Federal Police, according to process 08200.007751/2023-15. It should also be noted that the aforementioned Ordinance is classified as confidential for the reasons set out in that process.

In addition, the demand includes the maintenance of its institutional activities, which requires the acquisition of ammunition to train new professionals, as well as continued training for Federal Police officers, in compliance with Ordinance No. 13,287-GAB/ANP/DGP/PF, which establishes the training plan for the Functional Progression Paths of Federal Police officers, where continued training (every six months) in weapons and shooting counts as academic credits to qualify the officer for class progression.

For the Federal Police to be able to fulfill its institutional missions, it is essential that it is properly staffed with trained and well-equipped human resources. Complete, efficient and quality equipment means not only the success of the mission, but also the protection of the police officer's life.

In addition, in order to improve asset management, it is necessary to: comply with Ordinance 15.431/2020, which regulates the management of armaments and tactical equipment, especially with regard to item II of Art. 15, *in verbis*:

*"Art. 15: The DLOG/PF will define a map and criteria for the distribution and redistribution of restricted materials for police use, new or not, according to the allocation table provided for in current ordinances, in approved process flows, in operational needs, in maximum and minimum stocks and in other technical requirements, and the following criteria must be followed:*

**I - minimum stock of goods, according to the local collection and staff;**

**II - replacement of expired materials;**



*III - local peculiarities, according to official Federal Police indices (IPO, Criminal Spot, etc.);*

*IV - rate of use or consumption, measured by frequency of storage for permanent goods or consumption history in the e-Log system; and*

*V - internal guidelines. Sole paragraph. Exceptional demands must be forwarded via SEI-PF process, with due justification, and will be analyzed by DLOG/PF." (emphasis added)*

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Procurement history of 9x19mm NTA ammunition for training:

In order to mitigate the exposure of police officers to heavy metals in continuous training and the contamination of open environments with waste generated by ammunition, it has been the practice of this Federal Police to purchase ammunition that has the characteristics of non-toxic ammunition (NTA), as can be seen in Contracts No. 51/2023 (33081907), No. 63/2022 (26370487), No. 36/2021 (20489905) and No. 27/2017 (5148315).

Some of the characteristics of this ammunition can be summarized as follows:

*1. Fully jacketed projectiles:*

*The NTA uses projectiles fully encapsulated in copper or another non-toxic metal, avoiding exposure to lead during firing. This reduces the risk of lead in the air and in waste, protecting the shooter's health and the environment.*

*2. Improved smokeless gunpowder:*

*NTA uses smokeless gunpowder with an optimized chemical composition to minimize the emission of toxic gases and residues during firing.*

*This improves the air quality in the shooting environment and makes it easier to clean the firearm.*

*3. Heavy Metal Free Fuzes:*

*NTA primers are free of heavy metals such as lead, barium, antimony and mercury, which are usually present in traditional primers and can release toxic gases when detonated.*

*This composition guarantees a cleaner and safer explosion.*

*4. Lower environmental impact:*

*The combination of jacketed projectiles, improved smokeless powder and heavy metal-free fuzes significantly reduces lead contamination in soil and water, minimizing the environmental impact of shooting.*

*5. Varied performance options:*

*NTA offers various projectile options in terms of weight, shape and speed, meeting the needs of different shooters and shooting disciplines, from sport shooting to hunting.*

*6. Greater safety for shooters in enclosed environments:*

*Reduced emission of toxic gases and less waste make NTA more suitable for use in shooting ranges with limited ventilation, such as indoor shooting ranges.*

This characteristic of specifying ammunition for exclusive use in training fits perfectly with the need to reduce health risks, external environmental control and the cost of decontamination, which will be listed below:

Mitigating the exposure of police officers to heavy metals in continuous firearms training:

The concept of hazardous waste, according to the ABNT, can be summarized as "those whose physical, chemical or infectious properties may pose a risk to public health and/or the environment, and may have the following characteristics: flammability, toxicity, reactivity, pathogenicity and corrosiveness" (ABNT NBR 10004, 2004)<sup>[1]</sup>.

The main waste produced in a firing is made up of particles that have morphological characteristics and chemical characteristics determined mainly by the presence of the elements antimony (Sb), barium (Ba) and lead (Pb) present in the cartridge and the fuze that contains the fulminant (JAMES, 2008<sup>[2]</sup>). Other elements found in the waste are silicon (Si), calcium (Ca), aluminum (Al), copper (Cu), iron (Fe), sulfur (S), phosphorus (P) rarely, zinc (Zn) only if copper is also present, nickel (Ni) rarely and only with copper and zinc, potassium (K) and chlorine (Cl), magnesium (Mg) and mercury (Hg) (KOONS; BUSCAGLIA, 2005<sup>[3]</sup>).

Rocha<sup>[4]</sup> *et al.* (2014) found in their study that exposure to lead during marksmanship training was a health risk for Brazilian police officers, especially those whose Blood Lead Level (BLC) increased to more than 20 µg/dL (microgram units per deciliter), observers in seven cases, including one instructor, increasing the risk of high blood pressure, adverse memory effects and kidney damage.

Shooters' exposure to lead can result in increases in blood lead levels. The studies by Weber<sup>[5]</sup> *et al.* (2020) compare the differences in blood lead measured before and after training, which on average rose from 7.2 to 20.5 µg/dL (units of micrograms per deciliter). These results argue for the continued need to implement controls to mitigate and manage metal exposures during training.

Schenk<sup>[6]</sup> *et al.* (2021) noted that the use of lead-free ammunition in training should be encouraged, and even if the legally permitted levels are not reached, since 2020 the European Chemicals Agency has adopted the biological exposure index for lead of 15 µg/dL as a **limit**, based on neurological and reproductive system toxicity.

Regarding guidance on blood lead levels, the American Institute for Occupational Safety and Health (NIOSH, 2024)<sup>[7]</sup>, based on recommendations and regulations from government agencies and non-governmental groups regarding lead exposure limits, has collected information that indicates that if a worker has a NCS above 15 µg/dL, they should only return to work after 2 tests with NCS results below 15 µg/dL.

In a wide-ranging review by Shukla<sup>[8]</sup> *et al.* (2023) that addresses the environmental and health hazards caused by metal pollution due to military activities, covering various sources of metal emissions, including lead, notes that exposure to hazardous metals has been associated with diseases such as cancer, metabolic, neurological, systemic health effects, kidney disorders and other harmful health risks.

According to a doctoral thesis by the Nuclear and Energy Research Institute of the University of São Paulo (USP), which deals with Analysis of toxicological and environmental risks in occupational exposure to firearm residues (GSR/firing ranges), it was observed that, in addition to the effects of increased toxicological risk generated by the elements contained in the ammunition: lead, barium and antimony, the constant noise caused by firing is capable of generating alterations in perception.

Below are some excerpts from the study:

*"On June 8, 1936, Brazil signed the "Convention on Occupational Diseases (Revised), 1934™ of the International Labor Organization (ILO), in this Convention, the disease resulting from exposure to lead was the first to be described, referring to intoxication produced by lead, its alloys or its compounds (CORDEIRO et al., 1995)<sup>[9]</sup>. However, it was not until 1997 that occupational health regulations in Brazil regarding activities involving exposure to lead and other toxic metals were defined in Regulatory Standard No. 15 (NR-15), which deals with Unhealthy Activities and Operations (BRASIL, 1977<sup>[10]</sup>).*

*The standard sets the tolerance limit (TL) for lead at 100 µg/m³ in the air, for 48 hours per week of occupational exposure. This value is based on publications by the American Conference of Governmental Industrial Hygienists (ACGIH) in the 1970s and is now out of date, as the limit recommended for lead by the same organization has been halved to 50 µg/m³ (ACGIH, 2004)<sup>[11]</sup>.*

[...]

*Exposures to GSR (gunshot residue<sup>[12]</sup>) occur mainly in the closed or open environments of ballistics forensics laboratories, shooting ranges (Firing Ranges) of a sporting or professional nature, shooting ranges of the instruction and training centers of the Civil and Military Police of the States and the Federal, Highway and Railway Police, as well as the Armed Forces (Army, Navy and Air Force). In these environments, various tests and training courses are carried out on a daily basis using firearms. During firing, in addition to the projectile, various solid residues are expelled (from the friction of the projectile with the barrel of the gun, the detonation of the fulminant and gunpowder mixture) and gaseous products*

(carbon monoxide and dioxide, water vapor, nitrogen oxides and others). **Part of this solid waste remains inside the barrel, around the barrel and the percussion chamber of the gun itself, but the rest is projected outwards, hitting the hands, arms, hair and clothing of the person firing.**

[...]

Occupational hazards related to firearms shooting activities have been investigated mainly with regard to lead exposure (NOVOTNY et al., 1987; VALWAY et al. 1989<sup>[13]</sup>; TRIPATHI et al., 1991<sup>[14]</sup>; BARSAN et al., 1996) and show that exposure to GSR is related to increased blood pressure and anemia (SCHÖBER et al.

<sup>[15]</sup>, 2006; VIVANTE et al., 2008<sup>[16]</sup>), and the noise produced during firing can cause hearing loss (NIOSH, 2009<sup>[17]</sup>

). The US National Institute of Occupational Safety and Health (NIOSH) has carried out numerous health risk assessments in shooting ranges and documented the dangers of exposure to lead (without evaluating other metals), not only for the people who engage in the activity of shooting firearms, but also for the security and cleaning staff in these places. In 1975, NIOSH published a technical document called "Lead exposure and design considerations for indoor firing ranges." (Lead exposure and design considerations for indoor firing ranges), which sets out recommendations for reducing or eliminating hazards associated with lead exposure in these places (NIOSH, 1975).

[...]

In 1985, the Colorado Department of Health began an Epidemiological Surveillance Program, monitoring exposure to toxic metals and other environmental exposures in places where shooting competitions are held. **It was observed that the people who carried out this activity and those who frequented the shooting ranges showed symptoms of intoxication** such as high blood pressure, which led to the need to study the levels of lead in the air and blood of the people who frequently used the shooting ranges. **The results showed that the level of lead in the air was above 2000 µg/m<sup>3</sup>, i.e. more than 40 times the OSHA standard of 50 µg/m<sup>3</sup>.** In addition, it was observed that the lead level of those exposed increased eightfold during the period they were shooting (VALWAY et al., 1989<sup>[18]</sup>) [...]"

Some of the study's conclusions are:

**Environmental levels of GSR in closed racks can reach levels that are dangerous to health,** which is why safe working practices in the rack and taking care to change clothes and shoes worn during training are important to avoid contamination outside the rack, in police officers' homes and exposure of susceptible people to GSR. It is very important to periodically reinforce education for instructors about the risks of exposure to this waste.

**The group of shooting instructors had higher levels of lead in their blood than unexposed police officers, which indicates a health risk for these professionals, especially given the accumulative nature of this metal in the body and the potential long-term effects.**

In addition, a study of police officers in Sweden found **a positive correlation between blood lead (Pb) levels and the number of shots fired during the year** (LOFSTEDT et al., 1999<sup>[19]</sup>).

Regulatory Standard No. 15 (NR-15), which deals with Unhealthy Activities and Operations, sets out in Table 1 of Annex 13 the exposure limits for up to 48 hours (in parts per million - ppm) or in mg/m<sup>3</sup> of each agent. Considering only lead (Pb), the NR sets a limit of 0.1 mg/m<sup>3</sup> for 48 hours a week. According to the scientific studies cited above, the results showed that the level of lead in the air was above 2000 µg/m<sup>3</sup>. Converted to mg/m<sup>3</sup>, this is approximately 2 mg/m<sup>3</sup>.

The need to maintain the use of this type of ammunition for the following benefits is clear:

**Shooter safety:** Reduced exposure to lead: The main toxic component of traditional ammunition is lead, present in primers and projectiles. NTA eliminates the lead in these components, minimizing lead inhalation and ingestion by shooters, especially in closed environments or with inadequate ventilation. This can reduce the risk of long-term health problems, such as neurological, kidney and reproductive damage.

**Fewer toxic gases:** NTA uses primers and gunpowder free of lead and other heavy metals, which significantly reduces the emission of toxic gases during firing. This makes the shooting environment safer and more pleasant, especially for frequent shooters and people with respiratory sensitivities.

Environmental protection: Reducing lead contamination: Lead from traditional ammunition can accumulate in soil and water, contaminating the environment and harming wildlife. By eliminating lead, NTA helps reduce soil and water contamination, protecting ecosystems and public health.

Less toxic waste: The NTA produces less toxic waste at the shooting range, making it easier to collect and dispose of properly, reducing the environmental impact of shooting.

#### Mitigating soil contamination at shooting ranges - The ANP case

Environmental monitoring studies already report on soil contamination from shooting ranges and the soil, water and plants will absorb the lead and thus pose a high risk of migration to humans through metal-soil-culture interactions, as the adverse effects on the soil can remain for centuries (Gómez-Sagasti, 2021)<sup>[20]</sup>.

The decontamination of soil from shooting ranges was the subject of a technical opinion from the Federal District's Institute for the Environment and Water Resources - IBRAM (SEI doc. 11272743), which issued an opinion evaluating the Plan for the Removal of Solid Waste from Shooting Ranges at the National Police Academy - ANP, located on Highway DF 001, Km 02 - Taquari Housing Sector, Lago Norte - Brasília/DF, including actions for the removal, storage, transportation and final disposal of contaminated waste. In addition to the removal of heavy metals from the surface layer of the booth area and their chemical stabilization, measures were needed to prevent the contamination of groundwater by heavy metals from the shooting waste.

Considering IBRAM/DF's recommendations, the Federal Public Prosecutor's Office monitored the adoption of the measures pointed out and progress, recorded in case 08204.001791/2017-67, including the completion of the Water and Soil Control and Monitoring Program. In order to comply with part of the recommendations, a contract was signed to modernize and decontaminate the stands, for a total amount of R\$784,000.00 (case 08204.002011/2019-68).

In addition to correcting the contamination scenario, the storage of collected hazardous waste, as a temporary form of waiting for recycling, recovery, treatment and/or final disposal, must be packaged in a container compatible with hazardous material, under the terms of Standard NBR 12235:1992.

According to Sovari (2018)<sup>[21]</sup>, a preferable way to avoid future contamination is to use alternative, non-toxic materials in ammunition, which are already available on the market. All alternative ammunition materials have environmental advantages, but other factors, for example price, the problem of ricochet and gun abrasion, low availability in supply and uncertainty about overall adverse environmental effects, may hinder their use on a large scale (Sovari, 2018).

In addition to the requirements set out above, it is necessary to maintain the need listed in previous purchases, in terms of specification. It is also worth discussing compliance with the National Solid Waste Policy, which establishes that the generator of the waste is responsible for its final destination until it is correctly disposed of (Law 12.305/2010), as well as CONAMA Resolution 420/2009, which deals with soil quality.

#### Ammunition for Operational Use - Study on Bonded Ammunition

Bonded ammunition, also known as bonded projectile ammunition, is a type of ammunition that uses a special manufacturing process to bond the lead projectile to its metal jacket. This bonding, usually done by chemical welding, ensures that the projectile remains intact during impact, even in challenging situations such as firing at hard targets or at different angles.

In 2018, a study was carried out, according to process 08200.017573/2018-65, to find out about the application of this type of ammunition within the casuistry of the Federal Police. As part of this study, the following excerpts were taken from the Report 10572651:

[...]

*The configuration of our 9x19mm ammunition is made up of a light and extremely fast projectile, which at the end of a calculation, produces a great deal of energy, but still maintains the controllability that is so sought after. However, with this*

configuration, we have received several reports from colleagues involved in confrontations that what we call "energy delivery" was unsatisfactory. These reports indicate that the small 9 millimeter projectile, despite hitting the target, did not incapacitate it. This phenomenon of terminal ballistics may be related to the low weight of the projectile, which ends up having its trajectory interrupted prematurely due to its small mass. Other reports received from colleagues tell of difficulties in transfixing intermediate barriers, such as car windows, car doors, cement bricks and others, without the projectile fragmenting completely. It is known that the fragmentation of a projectile eventually leads to the formation of secondary projectiles, which, if they are capable of continuing on their own trajectories and causing damage, are interesting. However, this does not happen with low-velocity projectiles, and the secondary projectiles, with a much lower mass and velocity than their predecessor, end up having their trajectories interrupted, without causing the desired effects.

In the search for a solution to these two undesirable characteristics for a caliber so suitable for operational use, comparative tests were carried out with ammunition with the desired configuration, namely ammunition with 147-grain tips, hollow-point expanders and BONDED technology.

[...]

With the characteristics of greater projectile weight and an expansive, hollow tip, the "delivery" of the energy would give much better incapacitation capabilities, since the mass that would hit the target, although slower, would be much greater, and still retain the characteristics of expanding, traumatizing a larger area than just its diameter.

With regard to BONDED technology, this would solve the problem of premature fragmentation when the projectile passes through intermediate barriers, partly as a result of the separation of the lead core from the copper jacket. These new projectiles receive a layer of industrial adhesive, so jacket and core are glued together, hence the name BONDED, preventing separation and fragmentation.

[...]

Another very important feature that we found had been retained in the new ammunition was the expansion of the projectile. When firing directly at plasticine, the results were satisfactory and within expectations.

[...]

Finally, it was observed in some confrontational situations that the 115 gr +P+ ammunition showed a high degree of fragmentation when it passed through intermediate barriers, especially car doors and windows. With this accentuated fragmentation, the secondary projectiles, being much lighter and slower than the original projectile, were unable to incapacitate the intended targets. We therefore carried out tests on the 147 gr BONDED ammunition to see if this phenomenon was still occurring. In addition to glass and car doors, cement bricks were used to check the transfixation capacity while maintaining a mass close to the original.

The results of the tests indicated that in the most drastic cases of mass loss, after the transfixation of intermediate barriers, the projectiles still maintained approximately 92% (ninety-two percent) of their original mass.

[...]

After analyzing all the manufacturer's information, measurements and tests, we have concluded that the 147 gr +P Bonded ammunition is suitable for use in the Federal Police's standard weapons, and has been recommended by the members of this committee as the **standard ammunition to be purchased and distributed to personnel, given its characteristics of greater projectile weight, adequate velocity, ability to maintain trajectory and low fragmentation.** (emphasis added)

Based on the background presented above, as well as the demands made, the ammunition to be purchased in this tender will be:

Item	Type	Caliber	Projectile	Features
				These are cartridges for use in police training. They are less costly and wear out weapons less.

1	Ammunition for semi-automatic pistols and submachine guns - Training	9mm Luger (9×19mm)	Total full metal jacket, 124 grains	They emit fewer polluting gases due to the construction of the fully obturated projectile and heavy metal-free fuze, preserving the environment and the health of instructors and users.  Examples: Nontoxic ammunition - NTA, Ecoline, Grendene Pro, SK Clean
2	Ammunition for semi-automatic pistols and submachine guns - Operational	9mm Luger (9×19mm)	Hollow point, expansive, 147 grains	These are cartridges developed especially for operational use by police officers. A projectile with adequate velocity, trajectory and mass maintenance capacity and bonded or similar technology that allows the core to be joined to the jacket.
3	Ammunition for carbines and rifles Training	5.56 NATO (5.56 x45mm)	55 grains, Common, Ball, M193, Training,	These cartridges are used in police training and are less expensive.
4	Ammunition for carbines and rifles Operational Regular troops	5.56 NATO (5.56 x45mm)	MK262, 77 grains	These are cartridges for use by ordinary troops, with terminal ballistic performance suitable for use in Federal Police weapons, when used in weapons with smaller barrels.
5	Ammunition for carbines and rifles Operational Special Groups	5.56 NATO (5.56 x45mm)	M855A1, 62 grains	These are cartridges for use in special groups, with adequate terminal ballistic performance and greater transfixation potential on hard targets.
6	Ammunition for carbines and rifles Operational	7.62 NATO (7,62 x 51 mm)	M80 NATO Ball	These are cartridges with terminal ballistic performance suitable for use in Federal Police weapons.
7	Ammunition for carbines and rifles Elada Operational	7.62 NATO ELADA (7,62 x 51 mm)	M80 NATO Ball	These are cartridges with terminal ballistic performance suitable for use in Federal Police weapons.
8	Rifle ammunition A	12 Gauge	70mm (2-3 /4"), SG and weight 32 grams	These are cartridges with greater range and terminal ballistic performance, as they have more mass and penetration, in the context of rifles, which are necessary conditions for use by police personnel.

9	Ammunition for B rifles	12 Gauge	70mm (2-3 /4"), Singular Foster (RIFLED SLUG) 28 grams	These are cartridges that provide greater range and transfixing potential on hard targets.
10	Ammunition for carbines/precision rifles	.308 Win	175 grains	These are cartridges used for operation and training. High-precision ammunition with range, speed and energy.  They have high energy and a better ballistic coefficient for accurate shooting at medium distances.
11	Ammunition for carbines/precision rifles	.338 Lapua Magnum	250 a 300 grains - HPBT	These are cartridges used for operation and training. High-precision ammunition with range, speed and energy. They have high energy and are less influenced by external factors, with precision and accuracy over long distances.

## 7. Requesting area

AreaRequester	Responsible
Directorate ofLogistics	LUCIANRICARDO GUEDES FIDELIS
Logistics	EDUARDOHOFMANN
Directorate ofLogistics	DE ALBUQUERQUE
Directorate ofTeaching	EMANUELPIMENTEL DANTAS
Board of DirectorsExecutive	FERNANDOALMEIDA CORNÉLIUS

## 8. Description of Hiring Requirements

As *lato sensu* requirements, the acquisition must include the following:

The Contractor is obliged to adopt the criteria and practices of SLTI/MPOG Normative Instruction No. 01, of January 19, 2010, as applicable.

The requirements for contracting in the strict sense will be duly listed in the Public Tender, the Terms of Reference and other annexes to the Public Tender.

Compliance with the rules pertaining to the appropriate bidding method for the specific case;

Strict compliance with the formalities necessary for the procedural instruction, both in the internal and external phases of the bidding process.

Correctly sizing the quantity of each item of less lethal ammunition and the estimated value of the acquisition so that the solution is as efficient as possible with the least possible expenditure of resources;

The process must be carried out as quickly as possible in order to meet the needs of the Federal Police units in a timely manner.

Comply with current regulations (or equivalent in the case of foreign or domestic companies selling imported products), especially the following<sup>[22]</sup> :

Law No. 10.826, of December 22, 2003, which provides for the registration, possession and sale of firearms and ammunition;

Decree No. 24.602, of July 6, 1934, which provides for the installation and supervision of factories and trade in arms, ammunition, explosives, aggressive chemical products and related materials - of the then provisional government, received as Law by the Federal Constitution of 1934;

Decree 11.615, of July 21, 2023, which regulates Law No. 10.826, of December 22, 2003, to establish rules and procedures for the acquisition, registration, possession, carrying, registration and national sale of firearms, ammunition and accessories, to regulate the activities of exceptional hunting, subsistence hunting, sport shooting and collecting of firearms, ammunition and accessories, to regulate the functioning of sport shooting entities and to provide for the structuring of the National Weapons System - Sinarm.

Decree No. 9,847, June 25, 2019, which regulates Law No. 10,826/2003, and provides for the acquisition, registration, carrying and sale of firearms and ammunition and for the National Weapons System and the Military Weapons Management System;

Decree No. 10.030/2019, which gives new wording to the Controlled Products Regulation, revoking Decree No. 3.665, of November 20, 2000, formerly R-105;

Ordinance No. 189-EME, approves the Regulatory Standards for the Evaluation Processes of Products Controlled by the Army; and

EB Ordinance No. 214, COLOG/C EX - Approves the Regulatory Standards for the procedures for identifying and marking ammunition and its packaging within the scope of the Controlled Products Inspection System;

EB Ordinance n°137, COLOG/C EX - Approves the Regulatory Instructions for Class V Supply Management (Ammunition) - Stock Management

MJSP Ordinance No. 104/2020, which provides for the National Program for Standardization and Certification of Public Security Products - Pró-Segurança.

INTERNATIONAL MUNITION TECHNICAL GUIDELINES - IATG 01.40 - Glossary of terms, definitions and abbreviations;

INTERNATIONAL MUNITION TECHNICAL GUIDELINES - IATG 03.20 - Requirements for ammunition lots; INTERNATIONAL

MUNITION TECHNICAL GUIDELINES - IATG 03.50 - Ammunition tracking;

INTERNATIONAL TECHNICAL STANDARDS ON MUNITION - IATG 08.10 - Transportation of ammunition;

SAAMI - Z 299.3-2022 - Voluntary Industry Performance Standards for Pressure and Velocity of Centerfire Pistol and Revolver Ammunition for the Use of Commercial Manufacturers

SAAMI Z299.2-2019 - Voluntary Industry Performance Standards for Pressure and Velocity of Shotshell Ammunition for Use by Commercial Manufacturers. Pressure and Velocity of Shotshell Ammunition for the Use of Commercial Manufacturers)

SAAMI - Z 299.4-2015 - Voluntary Industry Performance Standards for Pressure and Velocity of Centerfire Rifle Ammunition for the Use of Commercial Manufacturers;

STANAG 4090, of the North Atlantic Treaty Organization - Agreement on the standardization and interchangeability of NATO 9 x 19 mm caliber ammunition;

STANAG 4170;

STANAG 4172 Ed. 2;

NATO STANAG 2310, of the North Atlantic Treaty Organization - specifies the technical and operational requirements for 7.62x51mm NATO ammunition, guaranteeing interoperability between NATO member countries;

NATO STANAG 4757; of the North Atlantic Treaty Organization - specifies the technical and operational requirements for ammunition, including .338 Lapua Magnum, guaranteeing interoperability between NATO member countries (Safety and Suitability for Service (s3) Assessment Testing for Shoulder Launched Munitions);

NATO AEP-97, of the North Atlantic Treaty Organization - Manual for the testing and inspection of multi-caliber ammunition;



NATO AOP-48, of the North Atlantic Treaty Organization - Test procedure for nitrocellulose-based propellants;

NATO STANDARD AQAP-2110, North Atlantic Treaty Organization - NATO quality assurance requirements for design, development and production;

NATO STANDARD AAS3P-22: set of S3 (safety and suitability for service) evaluation tests for NATO ammunition under 20 mm;

C.I.P. - "Commission Internationale Permanente pour l'épreuve des Armes à Feu Portatives."

IMDG CODE INTERNATIONAL STANDARD - Transportation of ammunition by sea; IATA-

DGR INTERNATIONAL STANDARD - Transportation of ammunition by air; ADR

INTERNATIONAL STANDARD - Transportation of ammunition by land;

MIL STD 1168C: provides for the numbering and classification of lots of ammunition;

MIL-STD-636 - Visual Aspects Standards for Small Arms Ammunition Through Caliber .50.

MIL-A-48078A - Ammunition, Standard Quality Assurance Provisions, General Specifications for all types of nuclear and non-nuclear ammunition, including all components, propellants, explosives, pyrotechnics and other supplies used;

MIL-STD - AMCR 715-505 Vol 3.

MIL-C-9963F.

FBI Penetration Protocol - terminal ballistics test script for police ammunition; German standard - Technische

Richtlinie - Patrone 9 x 19 mm, schadstoffreduziert;

NEB-1 PR-018, of 1979: classification, gauging and use of test pieces for light weapons ammunition; NEB/T E-199A;

ANTT RESOLUTION 5.232, of December 14, 2016;

Brazilian Civil Aviation Regulation No. 90 - Requirements for Special Public Aviation Operations; Brazilian

Civil Aviation Regulation No. 175 - Transportation of Dangerous Articles in Civil Aircraft; NT-SENASP No.

001/2020 - 9 x 19 mm and .40 S&W caliber pistols;

ABNT NBR ISO/IEC 17067:2015 - Conformity assessment - Fundamentals for product certification and scheme guidelines for product certification;

ABNT ISO/IEC 17000 - specifies general terms and definitions relating to conformity assessment;

ABNT NBR ISO/IEC 17025:2017 - General requirements for the competence of testing and calibration laboratories;

ABNT NBR 5426:1985 - Sampling plans and procedures in inspection by attributes;

ABNT NBR 12235:1992 - Storage of hazardous solid waste - Procedure; As *stricto sensu*

requirements, the Contractor must include the following:

Fully comply with the provisions of this Preliminary Technical Study, the Terms of Reference and their annexes;

In the case of imports, where applicable, it will be necessary to obtain an International Import Certificate - CII and Import License - LI from the Brazilian Army, in full compliance with Ordinance No. 189-EME of 18/08/2020, or legislation that may replace it;

Deliver the goods, free and clear to the location specified in the Order for the Supply of Goods, in Brasília-DF, taking into account the International Trade Terms - INCOTERMS 2010 - **DPU - Delivered At Place Unloaded** - with the contractor bearing all direct and indirect costs of import, international transport insurance, packaging, various insurances, transport, taxes, labor and social security charges arising from the supply, transport insurance, etc.

international, international freight, motor freight, postal correspondence, assembly, warranty, technical assistance, ~~and~~ responsibility, technical delivery, national transport and freight, taxes, fiscal contributions, parafiscal contributions, fees (Siscomex, airline, RADAR, import license, customs clearance, customs warehousing, capatazia, airport expenses and others that may be necessary), cargo handling costs, third-party services or labor, due in the country of origin or in Brazil;

Obtain the import license, pay for insurance, transport, deposit the equipment, clearance costs and all the costs (expenses) of customs formalities payable on import. The Federal Police will be responsible for providing the contractor with all the documentation it needs to carry out customs formalities, with the aim of obtaining tax exemption, in accordance with legal provisions (Federal Law No. 8.032/90);

Present a certificate of conformity in accordance with Ordinance No. 189-EME of 18/08/2020;

Pass the tests set out in the Terms of Reference contained in this process;

Provide a certificate of technical capacity (or equivalent document in the case of imports, such as an Invoice, etc.) of at least 10% of the total quantity of the compatible object as defined in the Terms of Reference.

## 9. Environmental sustainability

The Contractor must comply, where applicable, with the following environmental sustainability criteria, under the terms of Normative Instruction No. 1 of January 19, 2010:

That the goods are made up, in whole or in part, of recycled, non-toxic, biodegradable material, in accordance with ABNT NBR - 15448-1 and 15448- or equivalent;

That the environmental requirements for obtaining certification from the National Institute of Metrology, Standardization and Industrial Quality (INMETRO) as sustainable products or products with a lower environmental impact in relation to their similar products are observed;

That the goods should preferably be packed in suitable individual packaging, with the smallest possible volume, using recyclable materials, in order to guarantee maximum protection during transportation and storage; and

That the goods do not contain hazardous substances in concentrations above those recommended in the RoHS (**Restriction of Certain Hazardous Substances**) directive, such as mercury (Hg), lead (Pb), hexavalent chromium (Cr(VI)), cadmium (Cd), polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs).

Sustainability criteria are those provided for in the specifications of the object and/or obligations of the contractor and/or in the public notice as a requirement provided for by special law, and in compliance with the National Guide to Sustainable Bidding, prepared by the National Sustainability Chamber - CNS/DECOR/CGU/AGU, 4th edition, August/2021).

The following forms of destination or final disposal of solid waste or tailings are prohibited: Throwing

on beaches, into the sea or into any water bodies;

Open-air dumping, with the exception of mining waste;

Burning in the open or in containers, installations and equipment not licensed for this purpose; Other forms prohibited by public authorities.

The technical area certifies that it followed the guidelines of the National Sustainable Bidding Guide, 6th edition, September/2023.

The sustainability criteria must be in line with items 11.18. and 11.21. as this is an international tender.

### Proposed ammunition waste management in a public security institution

Haltenburg<sup>[23]</sup>, in his doctoral work, carried out a detailed study on the treatment to be given to waste ammunition. The following conclusions and recommendations were drawn from this work conducted for the Federal Police:

"[...]

*Open innovation as a tool for reverse logistics in this object of study corroborates efforts to solve environmental issues. Innovating through the proposed roadmap, with a possible reverse flow and requirements that are independent of the manufacturer's actions, are initiatives that include sustainable behavior on the part of the buyer (ISP).*

[...]

*One of the important aspects of the reverse logistics process is the role of the customer, in terms of knowing how they can obtain resources through their waste return process (Hazen; Hall; Hanna, 2012). The consumer of ammunition, in this case police institutions, can and should take on the role of coordinating a study project aimed at systematizing waste management in order to bring together collaborators (actors) so that each one takes on the part that is aligned with their strategic objectives. According to Moya-Fernández and Seclen-Luna (2023), managers must consider the proper management of the company's external relations in order to profit from them.*

[...]

*According to the literature search and the information gathering process, it is necessary to connect the concepts and get to know the following aspects of the reverse logistics process:*

*a) about the material - it is necessary to know the nature and composition of the material, as it is important to reduce the removal of these metals from nature due to their scarcity. By applying LR, fewer natural resources (which are finite, precious and expensive to extract) will be used in the production process of new metals;*

*b) about recycling - it is necessary to know the consumer market, the classification of waste, as well as trends and technological developments in the recycling of non-ferrous metals in particular, to understand the technical conditions and specifications, environmental licensing and the possibility of requiring ISO 14.001 certification of the recycling company so that the process of recovering ammunition waste does not also result in other damage to the environment, thus enabling the waste disposal certificate to be obtained in an environmentally appropriate manner;*

*c) on the economic effects - recognizing the benefits of recycling in the economy (secondary market generates jobs and income) with financial gains from the sale of the cases, reduction of logistics costs for delivery or collection, identified in this study (possible reverse cycle), using the London Metal Exchange's copper and zinc price as the reference price for the waste, since the true economic value must be ascertained to ensure that the real sale price is obtained;*

*d) on the effects on the environment - understanding the toxicity and environmental danger of indiscriminate disposal of metal waste, care with environmentally appropriate disposal plus awareness of preservation with a view to reducing the impact and risks to the environment of shooting training activities, which inevitably raises the public image of the corporation and its members as green consumers;*

*e) On the subject of public security institutions, depending on the maturity identified in different regions of Brazil, the points for improvement in the related themes should be strengthened (5.4.1 Maturity result by theme) and the barriers identified for implementing reverse logistics for ammunition should be minimized. Having analyzed the obstacles listed, it can be seen that the internal obstacles are related to the structure and strategic vision of the institution; and*

*f) As with the regulation of sectoral agreements for items such as electronics, government control can also be exercised through a sectoral agreement for ammunition, making it possible for each party involved to monitor the procedures established, to the extent of their responsibility. In addition, the obstacles listed (Table 18), in relation to external obstacles, are also related to the actions of the government, which can innovate by using new means to reduce pollution and, consequently, reduce environmental policy costs."*

## 10. Market research

The purchase of lethal ammunition by the Federal Police has so far been carried out through an unenforceable bidding process, since there was proof of supplier exclusivity, as stipulated by the extinct legal provision at the time, contained in Law 8,666 /1993, in verbis:

Art. 25: *Bidding is unenforceable when competition is unfeasible, in particular:*

*I - for the acquisition of materials, equipment or goods that can only be supplied by an exclusive producer, company or commercial representative, with brand preference being prohibited, and proof of exclusivity must be provided by means of a certificate issued by the trade registration body of the place where the bidding or the work or service would take place, by the Employers' Union, Federation or Confederation, or by equivalent entities;*

In addition to the aforementioned exclusivity, through the Declaration of Exclusivity issued by the National Union of Defense Materials Industries - SIMDE, there was no interest from companies manufacturing ammunition outside the country, since it is necessary to comply with the provisions of EB Ordinance No. 214, COLOG/C EX, which approves the Regulatory Standards for the procedures for identification, marking of ammunition and its packaging within the scope of the Controlled Products Inspection System.

Contracts no. 51/2023 (33081907), no. 63/2022 (26370487), no. 36/2021 (20489905), no. 27/2017 (5148315), which were carried out using this bidding method, stand out.

However, this scenario has shown variations, with the entry of international markets that are interested in contracting with public bodies in the country, as can be seen in a PF prospecting report on the **LAAD Defence & Security 2023** fair, held at the Riocentro Convention Center, located at Av. Salvador Allende, 6.555 - Barra da Tijuca, in the city of Rio de Janeiro - RJ, from April 11 to 14, 2023, as determined by Mission Orders no. and no. 17.016/2023, through process 08200.006043/2023-59, and the Final Visit and Prospecting Report - LAAD/2023 (28731317).

Confirming this trend, the Military Police of the State of São Paulo, through the Military Material Center - UGE 180.340, published CMB's PUBLIC TENDER NOTICE No. 340/0046/23, CMB PROCESS No. 20231310276 SEI PROCESS No. 057.00174244/2023-59.

In this tender, the companies Companhia Brasileira de Cartucho (CBC), Aguila Ammunition and MFS Ammunition participated, demonstrating the full competitiveness of the object in question.

This also includes the recent BIDDING NOTICE, INTERNATIONAL ELECTRONIC TENDER SRP No. 01 /2024/CCL/CAL, Modality: Electronic Auction nº 01/2024, Administrative Process: nº 65/2023, Judging Criteria: Lowest price per Lot, Object: Price registration for the future and eventual acquisition of ammunition to meet the needs of the police forces of the member states of the Legal Amazon Consortium - Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima and Tocantins, in the conditions, quantity, specifications and requirements established in this Public Notice and its annexes.

In the discipline of public tenders, the Auction ended up becoming the modality of choice for the acquisition of common goods precisely because its competitive phase, by bringing together all interested parties who were previously excluded in the qualification phase, increased the universe of competitors. During the Preliminary Study, it was observed that this expansion of the list of participants is vital for obtaining the binomial best prices/best specifications. What international bidding provides is an expanded list of competitors. It should be noted that the participation of national companies remains unchanged and their isonomy is guaranteed through the equalization of proposals.

The adoption of international bidding will bring a series of advantages:

Possibility of acquiring equipment with advanced technology without excluding national companies that meet the specifications and certifications required according to doctrine and technical criteria;

Reduction in the value of the goods to be purchased directly from abroad;

Increased competitiveness, due to the possibility of foreign companies participating, which does not exclude the participation of national companies.

Savings for the public purse, especially for the Federal Police budget, will allow more equipment to be purchased with the same budget in the case of items not produced or made available by national companies.

With regard to the electronic form, it should be noted that the prior qualifications and registrations required, as well as the electronic bidding process, are a major advance in the federal government's procurement system. This reality applies to domestic suppliers. This is because the electronic form requires the company to register on the Federal Government's procurement website and the key to this is the CNPJ (National Register of Legal Entities), which restricts the participation of international companies in their own name. The alternative is for these companies to participate through a national representative qualified to do so. Another problem concerns the placing of bids and the equalization of bids, since bids in foreign currency are not accepted on the Federal Government's government procurement website. There is also no functionality for equalizing bids, leaving it up to the bidders to find out about the system of taxes that encumber the goods being bid on, which can lead to misunderstandings that hinder the smooth running of the session.

As mentioned above, for these reasons the Federal Police has used the in-person bidding method for international tenders in previous processes. However, other agencies have been using the electronic form, which is why the electronic form, which is the one of choice, will be used at the moment.

According to research on the National Public Procurement Portal and the Price Bank, it was found that almost all of the ammunition supply contracts currently carried out nationwide are direct contracts, due to the small number of domestic suppliers. Thus, in order to seek efficiency (art. 37 of the Federal Constitution), increase competitiveness (art. 5 of Law 14.133/21), since the market in this case is inverted, since there are a significant number of manufacturers abroad, and it is necessary to make market considerations in the contract planning phase (art. 18 of Law 14.133/21), in addition to the need to encourage the supply of more suitable ammunition that surpasses the limited quality seen in national purchases, for these reasons we seek to increase competition in order to raise the quality level of purchases.

In this regard, other companies have been asked about their interest in contracting with the Federal Police, always presenting the minimum requirements contained in national standards such as compliance with those mentioned in [ITEM 2], especially those that give rise to possible disinterest, such as EB Ordinance No. 214, COLOG/C EX and Ordinance No. 189-EME of 18/08/2020.

Considering that the current scenario is attractive to competitors, and that at least three of them, after negotiations, meet the above requirements, the planning team for contracting by Electronic Auction will use the **price registration system** as an auxiliary procedure, according to art. 82, Law 14.133/2021, in accordance with the organization's planning, with an international scope, as provided for in Art. 52 of Law 14.133/2021.

## 11. Estimated quantities to be contracted

*[Sensitive Content / Justification: Contains sensitive Federal Police data]*

## 12. Description of the solution as a whole

This contract is in line with the **Strategic Planning of the Brazilian Army, in accordance with Ordinance -C EX No. 2.138**, of December 7, 2023, which approves the table of appropriations for weapons, bulletproof vests and ammunition for the Federal Police and makes other provisions, in DG/PF Ordinance No. 18.589, DE 20/09/2023 (31541268), which approves the Table of Appropriations for Controlled Products and the Strategic Plan for Purchasing Controlled Products for the Federal Police, in accordance with process 08200.007751/2023-15.

The procurement rules are inline with the above regulations and are within the limits set out in Annex I - special operations appropriation table (14274487), Annex II - teaching unit appropriation table (14274503) and Annex III - general operating appropriation table (14274523).

The following specifications were drawn up after hearing the technical areas of the Federal Police. These specifications will form an integral part of the Terms of Reference.

All ammunition must comply with the dictates of the regulations mentioned below, in all respects, for the purposes of qualification, importation, issuing the Statement of Receipt and/or for the purposes of maintaining the product warranty, as set out in the body of the Terms of Reference to which this annex forms part.

Item	Type	Caliber	Projectile	Features
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1	Ammunition for pistols semi-automatic and submachine guns - Training	9mm Luger (9×19mm)	Total full metal jacket, 124 grains	These are cartridges for use in police training. They are less costly and wear out weapons less. They emit fewer polluting gases due to the construction of the fully obtured projectile and fuze free of heavy metals, preserving the environment and the health of instructors and users.  Examples: Nontoxic ammunition - NTA, Ecoline, Grendene Pro, SK Clean
2	Ammunition for pistols semi-automatic and submachine guns - Operational	9mm Luger (9×19mm)	Hollow point, expansive, 147 grains	These are cartridges developed especially for operational use by police officers. Projectile with adequate velocity, ability to maintain trajectory and mass and with bonded or similar technology that allows the core to be joined to the jacket.
3	Ammunition for carbines and rifles Training	5.56 NATO (5.56 x45mm)	55 grains, Common, Ball, M193, Training,	These cartridges are used in police training and are less expensive.
4	Ammunition for carbines and rifles Troop Operational commo n	5.56 NATO (5.56 x45mm)	MK262, 77 grains	These are cartridges for use by ordinary troops, with terminal ballistic performance suitable for use in Federal Police weapons, when used in weapons with smaller barrels.

5	Ammunition for carbines and rifles Operational Special Groups	5.56 NATO (5.56 x45mm)	M855A1, 62 grains	These are cartridges for use in special groups, with adequate terminal ballistic performance and greater transfixation potential on hard targets.
6	Ammunition for carbines and rifles Operational	7.62 NATO (7,62 x 51 mm)	M80 NATO Ball	These are cartridges with terminal ballistic performance suitable for use in Federal Police weapons.
7	Ammunition for carbines and rifles Operational Elada	7.62 NATO ELADA (7,62 x 51 mm)	M80 NATO Ball	These are cartridges with terminal ballistic performance suitable for use in Federal Police weapons.
8	Rifle ammunition A	12 Gauge	70mm (2-3/4"), SG and weight 32 grams	These are cartridges with greater range and terminal ballistic performance, as they have more mass and penetration, in the context of rifles, which are necessary conditions for use by police personnel.
9	Ammunition for B rifles	12 Gauge	70mm (2-3/4"), Singular Foster (RIFLED SLUG) 28 grams	These are cartridges that provide greater range and transfixing potential on hard targets.
10	Ammunition for rifle/shotgun precision	.308 Win	175 grains	These are cartridges used for operation and training. High-precision ammunition with range, speed and energy.  They have high energy and a better ballistic coefficient for accurate shooting at medium distances.

11	Ammunition for rifle/shotgun precision	.338 Lapua Magnum	250 to 300 grains - HPBT	These are cartridges used for operation and training. High-precision ammunition with range, speed and energy. They have high energy and are less influenced by external factors, with precision and accuracy over long distances
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### **GENERAL CHARACTERISTICS OF MUNITIONS for Pistols and Rifles/Carbines**

The ammunition to be supplied must have a RETEX issued by the Ministry of Defense - Brazilian Army, through CAEx (Marambaia Proving Ground - RJ) and a Registration Certificate or Registration Title for the product apostilled, or a certificate of conformity issued by a Product Certification Body issued by the contractor, in accordance with Ordinance No. 189-EME;

In the case of foreign production, documentation proving permission to produce issued by the official body of the country of origin will be required;

Cartridges must be packed in packaging that clearly identifies the manufacturer, nominal caliber, type of projectile, batch number and year of manufacture;

The cartridges must be clean and free of any cracks, deformations, dents, burrs, perforations, corrosion or any other defect that compromises their safety or use.

The cartridges must be manufactured in accordance with the dimensional standards established by SAAMI, NATO or CIP; as well as generate chamber pressure within the limits stipulated by the aforementioned institutions;

Cartridges must be assembled in accordance with the manufacturer's descriptive memorial and technical drawings, and specific drawings for each type of ammunition, in accordance with the standards contained in [ITEM 1] and [ITEM 2];

The cartridges must be suitable for use in any firearm in the calibers being purchased.

The cartridge must be of the central fire type, circular fire cartridges are prohibited;

The fuze must be non-mercury, non-corrosive, of the boxer type, from batches no more than one year old.

The propellant must have a nitrocellulose base and can be single or double base;

The cartridges must have a chemically stable projectile charge, complying with the requirements of STANAG 4170, or another that does not alter the ballistic characteristics of the cartridge, and the projectile charge must be organized with a batch of gunpowder no older than two years between manufacture and use in the batch of ammunition under inspection;



**general characteristics of rifle ammunition**

The ammunition to be supplied must have a RETEX issued by the Ministry of Defense - Brazilian Army, through CAEx (Marambaia Proving Ground - RJ) and a Registration Certificate or Registration Title for the product apostilled, or a certificate of conformity issued by a Product Certification Body issued by the contractor, in accordance with Ordinance No. 189-EME;

In the case of foreign production, documentation proving permission to produce issued by the official body of the country of origin will be required;

Cartridges must be packed in packaging that clearly identifies the manufacturer, nominal caliber, type of projectile, batch number and year of manufacture;

The cartridges must be clean and free of any cracks, deformations, dents, burrs, perforations, corrosion or any other defect that compromises their safety or use.

The cartridges must be manufactured in accordance with the dimensional standards established by SAAMI, NATO or CIP; as well as generate chamber pressure within the limits stipulated by the aforementioned institutions;

Cartridges must be assembled in accordance with the manufacturer's descriptive memorial and technical drawings, and specific drawings for each type of ammunition, in accordance with the standards contained in [ITEM 1] and [ITEM 2];

The cartridges must be suitable for use in any firearm in the calibers being purchased.

The cartridge must have a 25mm nickel-plated metal body made of SAE-1010 alloy steel and a plastic case;

The fuze must be of the battery type, from batches no older than one year;

The propellant must have a nitrocellulose base and can be single or double base;

The cartridges must have a chemically stable projectile charge, and the projectile charge must be organized with a batch of gunpowder no more than two years old between manufacture and use in the batch of ammunition under inspection;

**SPECIFIC CHARACTERISTICS OF ITEM 1 - 9X19 MM AMMUNITION - 124 GRAINS - TRAINING**

The case may be constructed primarily of steel or aluminum alloys, provided they are resistant to oxidation; the projectiles must be ogival, fully jacketed ("total full metal jacket"), with a mass of 124 grains; the fuze must be free of heavy metals;

Cartridges intended for training must use a fuze with a heavy metal initiating mixture and fully jacketed projectiles, with full obturation, so that the lead core does not come into contact with the gases and flames generated by the combustion of the propellant;

The cartridges must comply with the tests contained in Annex II - A - Tests for Provisional Receipt, with the exception of the Test for Leakproofness and Terminal Ballistics.

**SPECIFIC CHARACTERISTICS of ITEM 2 - MUNITIONS 9x19 mm - 147 grains  
- operational**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a demonstrably superior solution

The projectile must be jacketed lead, of the hollow point type, with a mass of 147 grains,

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

The projectile must be built with technology that joins the jacket to the lead core, at a molecular or mechanical level, in order to guarantee the maintenance of mass in the context of Terminal Ballistics;

Comply with the tests contained in Annex II-A - Tests for Provisional Receipt.

### **SPECIFIC CHARACTERISTICS of ITEM 3 - MUNITIONS 5.56x45 mm - M193 - 55 grains training**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a proven superior solution; The projectile must be of the M193 type, weighing 55 grains;

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

The cartridges must comply with the tests contained in Annex II-B - Tests for Provisional Receipt.

### **Specific CHARACTERISTICS of ITEM 4 - MUNITIONS 5.56x45 mm - MK262- 77 grains operational Common troop**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a proven superior solution; The projectile must be of the MK262 type, weighing 77 grains;

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

The cartridges must meet the tests contained in Annex - B - Tests for Provisional Receipt.

### **Specific CHARACTERISTICS of ITEM 5 - MUNITIONS 5.56x45 mm - M855A1- 62 grains operational special groups**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a proven superior solution; The projectile must be type M855A1, 62 grains;

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

The cartridges must meet the tests contained in Annex II - B - Tests for Provisional Receipt.

### **Specific CHARACTERISTICS of ITEM 6 - MUNITIONS 7.62x51 mm M80 NATO - operational**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a demonstrably superior solution; The projectile must be of the M80 Ball type, with a projectile weight;

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

Comply with the tests contained in Annex II-B - Tests for Provisional Receipt.

### **SPECIFIC CHARACTERISTICS of ITEM 7 - MUNITIONS 7.62x51 mmM80 NATO - operational**

The case may not be constructed primarily of steel or aluminum alloys; be joined between the cases by links.

The case must be made of brass alloy (70% copper and 30% zinc) or a demonstrably superior solution; The projectile must be of the M80 Ball type, with a projectile weight;

To avoid loss of reliability of cartridges intended for operational use, the fuze housing and the internal contact face of the case mouth with the projectile must be waterproofed using a chemical sealant which does not release residues and which prevents contamination by the weather, including when submerged for any reason or in any type of liquid or oily medium.

Comply with the tests contained in Annex II-B - Tests for Provisional Receipt.

### **ITEM 8 - MUNITION SPECIFIC CHARACTERISTICS 12 Gauge Rifle a**

It must have 9 (nine) berries, be of excellent quality, clean and free from cracks, deformations, dents, burrs, perforations and corrosion in any of its parts or components;

Each berry has an approximate diameter of 8.4mm (eight point four millimeters), with a weight (of all the berries together) of 32g (thirty-two grams), with a tolerance of +4% and - 7%;

Conventional ammunition must be made from a material that offers good performance and the ideal speed to do its job.

The conventional ammunition to be supplied must be suitable for use in any 12 Gauge 70mm (2¾) shotgun type firearm

Comply with the tests contained in Annex II-C - Tests for Provisional Receipt.

### **ITEM 9 - MUNITION SPECIFIC CHARACTERISTICS 12 Gauge Rifle b**

It must have a single projectile, Foster pattern (*Rifled Slug*) and a weight of 28g (twenty-eight grams) with a tolerance of +4% and - 7%;

Conventional ammunition must be made from a material that offers good performance and the ideal speed to do its job.

The conventional ammunition to be supplied must be suitable for use in any 12 Gauge 70mm (2¾) shotgun type firearm

Comply with the tests contained in Annex II-C - Tests for Provisional Receipt.

#### **caRACTERISTICS Specific to ITEM 10 - .308 win precision MUNITIONS**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a proven superior solution;

The projectile must be of the jacketed type, 175 grains (specific ammunition cartridge for precision shooting);

The cartridges must comply with the tests contained in Annex II - D - Tests for Provisional Receipt, except for Terminal Ballistics.

#### **caRACTERISTICS Specific to ITEM 11 - .338 LM precision MUNITIONS**

The case may not be constructed primarily of steel or aluminum alloys;

The case must be made of brass alloy (70% copper and 30% zinc) or a proven superior solution;

The projectile must be of the jacketed type, "hollow point boat tail - HPBT", 250 grains or 300 grains (specific ammunition cartridge for precision shooting);

The cartridges must comply with the tests contained in Annex II - D - Tests for Provisional Receipt, except for Terminal Ballistics.

#### **LEGAL REQUIREMENTS ON TRACEABILITY BATCH, MANUFACTURING BATCH AND PACKAGING**

Ammunition must comply with the regulations on the marking of ammunition packages and cartridges laid down in national legislation, in addition to those contained in the following regulations:

Art. 23 of LAW No. 10.826, OF DECEMBER 22, 2003:

*"Paragraph 1 All ammunition sold in the country must be packaged with a barcode system engraved on the box, so that the manufacturer and purchaser can be identified, among other information defined by the regulations of this Law.*

*§ Paragraph 2. For the bodies referred to in Article 6, ammunition purchase authorizations shall only be issued with **identification of the lot and the purchaser on the barrel of the projectiles**, in accordance with the regulations of this Law. **(emphasis added)**"*

Brazilian Army Ordinance No. 214, COLOG/C EX.

TRACEABILITY BATCH:

Brazilian Army Ordinance No. 214, COLOG/C EX states that:

*"Art. 3 Ammunition manufactured in the country or imported must have at least the following markings on the base of the case:*

*I - manufacturer's name or brand;*

*and II - nominal caliber.*

*Art. 4 All ammunition and its supplies, destined for the bodies, institutions and entities listed below, must contain an ammunition traceability code engraved on the base of the cases, which allows the manufacturer, batch and acquiring body to be identified, in compliance with the provisions of § 2 of art. 23 of Law No. 10.826, of December 22, 2003:*

*[...]*

*II - Federal Police;*

*[...]*

*§Paragraph 1 - Marking on the body of the case is allowed when it is impossible to mark as provided for in the caput.*

*§Paragraph 2 does not apply to heavy weapons ammunition as defined in Ordinance No. 118 -COLOG, of 2019, which lists the Products Controlled by the Army. Art. 5 The traceable batch of ammunition may not exceed 10,000 (ten thousand) units, marked with the same ammunition traceability code.*

*Art. 5 The traceable batch of ammunition may not exceed 10,000 (ten thousand) units, marked with the same ammunition traceability code.*

*Art. 6 The traceable batch of ammunition acquired by the bodies referred to in art. 4 must meet the following requirements:*

*I - include only ammunition of the same caliber and type, except in the case of elated ammunition, the batch of which may contain ammunition of different types (example: links of ordinary ammunition permeated with tracer ammunition);*

*II - be marked with a unique traceability code on the body of the case; and*

*III - be marketed only to a specific body.*

*§1º Marking on the body of the case is allowed when it is impossible to mark as provided for in item II. §2º Manufacturers or legal entities importing ammunition must insert,*

*monthly, the traceable batch data in the Personalized Ammunition Identification System (SIP)."*

Pursuant to Article 5 of Brazilian Army Ordinance No. 214, COLOG/C EX, and in accordance with the proposal described in the Preliminary Technical Study, the provision of **a specific code for every 1,000 rounds of operational ammunition** will be maintained, a practice already carried out in recent Federal Police contracts, as detailed below:

The Traceability Lot must be up to 10,000 (one thousand) rounds of ammunition, which may be reduced to 1,000 (one thousand) rounds, as previously established in the contract, supply order or term of reference, and must contain a unique traceability code engraved on the cases, which allows the manufacturer, the lot and the acquiring body or entity to be identified, and the traceability lot must be of the same caliber and type for 9x19mm ammunition.

The Traceability Lot must be up to 10,000 (one thousand) rounds of ammunition, which may be reduced to 2,000 (two thousand) rounds, as previously established in the contract, supply order or term of reference, and must contain a unique traceability code engraved on the cases, which allows the manufacturer, the lot and the acquiring body or entity to be identified, and the traceability lot must be of the same caliber and type for 5.56x45 mm and 7.62x51 mm ammunition.

The Traceability Lot must be up to 10,000 (one thousand) rounds, which may be reduced to 1,000 (one thousand) rounds, as previously established in the contract, supply order or term of reference, and must contain a unique traceability code engraved on the cases, which allows the manufacturer, the lot and the acquiring body or entity to be identified, and the traceability lot must be of the same caliber and type for 12 GA ammunition.

The Traceability Lot must be up to 1,000 (one thousand) rounds, and must contain a unique traceability code engraved on the cases, which identifies the manufacturer, the lot and the acquiring body or entity, and the traceability lot must be of the same caliber and type for .308 WIN ammunition;

The Traceability Lot must be up to 1,000 (one thousand) rounds, and must contain a unique traceability code engraved on the cases, which allows the manufacturer, the lot and the acquiring body or entity to be identified, and the traceability lot must be of the same caliber and type for .338 LM ammunition.

The unique traceability code must be engraved on the cases, enabling the manufacturer, batch and purchasing body or entity to be identified, and the traceability batch must be of the same caliber and type (type means each item in the tender).

The Traceability Lot must be engraved with an alpha-numeric sequence on the case of each round of ammunition, as follows: 03 (three) letters and 02 (two) numbers, (XXX99).

The invoice must include details of all the traceability codes of the ammunition contained in the shipment.

The Contractor must declare the exclusivity of the traceability code provided, and may not sell or donate ammunition with the same numbering to other units of the Federal Police or other public security forces.

#### MANUFACTURING BATCH:

The quantity of ammunition in the manufacturing batch is defined by the manufacturer, provided that the ammunition is loaded with fuzes belonging to a single batch and with gunpowder also belonging to a single batch.

A digital file must accompany the delivery of the first batch, containing all the codes of the batch purchased, and delivered to the Receiving and Inspection Commission. The list of linked traceability batches must also be included.

With the lot, the winning bidder must provide the number of additional samples of the material purchased, at no cost to the treasury, corresponding, for each item, to the value stipulated in the sampling standard, for testing purposes.

The tests on the samples will be carried out in accordance with Annex II of the Terms of Reference.

If samples fail in any respect during Provisional Receipt, the entire batch must be rejected.

#### FROM THE PACKAGE:

Article 2 of Brazilian Army Ordinance No. 214, COLOG/C EX, states:

*"Art. 2 All ammunition and ammunition supplies sold in Brazil, from domestic or imported manufacturers, must be packed until they are consumed, in packages engraved with a one-dimensional or two-dimensional code system that allows the identification of the manufacturer, trader (shopkeeper or importer), batch, traceability code, caliber and quantity."*

*§Paragraph 1 - Ammunition cases reused for reloading may not be packed in their engraved packaging in accordance with the caput.*

*§Paragraph 2 - Imported ammunition and ammunition supplies that do not have factory identification on their packaging may use added moisture-resistant and durable labels or tags containing the information listed in the heading.*

*§Paragraph 3 - The one-dimensional or two-dimensional code referred to in the heading must comply with the specifications of the SisFPC tracking standards, and also allow the information to be retrieved from the manufacturer's or retailer's own database, which will record the purchaser's qualification information.*

*§Paragraph 4 - Manufacturers or legal entities importing ammunition and its inputs must enter the identification data of the packages in the Ammunition Packaging Tracking System (SIREM).*

*§Paragraph 5 - Entering the data referred to in the previous paragraph will be mandatory once the corresponding SIREM module has been made available on SisGCorp."*

The 9x19 mm ammunition must be packed in hive-type packaging so that they are separated from each other, in quantities of 50 (fifty) units where the hive will be packed inside a cardboard box, and these packed in a cardboard box with a maximum limit of 20 (twenty) hives, thus totaling 1,000 (one thousand) units of ammunition or a demonstrably superior solution approved by the Federal Police's technical committee;

The 5.56x45 mm and 7.62x51 mm ammunition must be packed in sturdy cardboard boxes, which will be packed inside a wooden box that holds up to 2,000 (two thousand) units of ammunition, packed in 40 boxes with 50 (fifty) units each or a demonstrably superior solution approved by the Federal Police's technical committee;

The 12 GA ammunition must be packed in sturdy cardboard boxes, which will be packed inside a cardboard box that accommodates 250 (two hundred and fifty) units of ammunition, packed in 10 boxes with 25 (twenty-five) units each or a demonstrably superior solution approved by the Federal Police's technical committee;

The precision ammunition (.308 WIN and .338 LM) must be packed in beehive-type packaging so that they are separated from each other, in quantities of 20 (twenty) units where the beehive will be packed inside a cardboard box, and



These are packed in a metal hive with a rubber seal, pressure lock and hand strap, with a maximum limit of 10 (ten) hives or a demonstrably superior solution approved by the Federal Police's technical committee.

The ammunition must be packed in master packaging, according to the batch provided for in the items above, in order to meet the conditions for certifying the transportation of ammunition.

Each box must contain information about the traceability code, storage, stacking and conservation of the ammunition, in the national language.

Each box must have a barcode that allows it to be traced, using a two-dimensional code containing the IUP (Unique Product Identification), engraved on the box, which allows the manufacturer, product and batch to be unequivocally determined.

Each package must also contain a manual or card with information on the use, conservation and limits of the material, in the national language, made of quality, resistant paper or a demonstrably superior solution approved by the Federal Police's technical committee;

Other forms of packaging will be accepted, as long as they are demonstrably superior to those mentioned above.

### **Sample requirement**

During the bidding process, the bidder provisionally classified in first place must submit a sample, which will have its date, place and time announced by message on the system, the presence of which will be made available to all interested parties, including other interested suppliers. The examination of samples will take place at the factory of the bidder ranked first, the analysis of samples will take place during business hours, at the bidder's factory, informed in a message in the chat, and all expenses for airfare, lodging and meals of the evaluation commission to be appointed for evaluation, will be borne by the Federal Police, while the sample examinations last.

The evaluation committee for analyzing the samples will be defined in the tender judging phase, in which the Procurement Planning team will take part, and it will be up to the Planning and Control Division to choose trained staff in addition to those who make up the EPC.

## **13. Estimated Contract Value**

**Amount (R\$):** 182.351.867,37

The price survey is based on art. 23 of Law 14.133/2021, as shown in Comprasnet Price Research - Post IRP (37806287), Proposal 1 - CBC - Post IRP (37806364), Proposal 2 - Aguila Ammunition - Post IRP (37918252), Proposal 3 - MFS (37872736), Proposal 4 - Elbit Systems Brasil (37894912) - no values, Post IRP Price Comparison Map (37943780), Post IRP Technical Note (37894932) and Post IRP lethal ammunition calculation memory (37894718) (37943799).

In the case of proposals from national and foreign companies, there will be "tax equalization" based on § 4, art. 51 of Law 14.133/2021, contained in Annex III - Model Proposals (36065948) in order to preserve competition and isonomy in the bidding, to be defined in the public notice.

The total estimated cost of hiring ammunition from the managing body is R\$68,600,080.79 (sixty-eight million, six hundred thousand, eighty reais and seventy-nine cents).

The total estimated cost of contracting ammunition for the participating bodies is R\$113,751,786.58 (one hundred and thirteen million, seven hundred and fifty-one thousand, seven hundred and eighty-six reais and fifty-eight cents).

The total estimated contract is **R\$ 182,351,867.37 (one hundred and eighty-two million, three hundred and fifty-one thousand, eight hundred and sixty-seven reais and thirty-seven cents)**, as shown in the table below:

MANAGING BODY AND PARTICIPANTS				
Item	Description/Specification	Total Quantity	Unit Value	Total Estimated Value
1	Ammunition for semi-automatic pistols and submachine guns - Training 9mm Luger (9×19mm) Full metal jacket, 124 grains	12.677.882	R\$ 3,81	R\$ 48.361.243,72
2	Ammunition for semi-automatic pistols and submachine guns - Operational 9mm Luger (9×19mm) Hollow point, expanding, 147 grains	4.063.731	R\$ 10,01	R\$ 40.664.401,54
3	Ammunition for carbines and rifles Training 5.56 NATO (5.56x45mm) 55 grains, Common, Ball, M193, Training	6.232.773	R\$ 7,71	R\$ 48.078.652,03
4	Ammunition for 5.56 NATO (5.56 x45mm) rifles and carbines MK262, 77 grains	1.247.969	R\$ 13,23	R\$ 16.509.192,21
5	Ammunition for carbines and rifles Operational Special Groups 5.56 NATO (5.56 x45mm) M855A1, 62 grains	711.000	R\$ 14,19	R\$ 10.086.728,34
6	Ammunition for carbines and rifles Operational 7.62 NATO (7.62 x 51 mm) M80 NATO Ball	165.000	R\$ 8,61	R\$ 1.419.825,00
7	Ammunition for carbines and rifles Operational Elada 7.62 NATO ELADA (7.62 x 51 mm) M80 NATO Ball	48.000	R\$ 10,92	R\$ 524.064,00
8	Ammunition for A 12 Gauge shotguns 70mm (2-3/4"), SG 32 grams	60.000	R\$ 7,12	R\$ 427.320,00
9	Ammunition for B 12 Gauge shotguns 70mm (2-3/4"), Singular Foster (RIFLED SLUG) 28 grams	40.000	R\$ 8,75	R\$ 350.100,00
10	.308 Win 175 grain precision rifle ammunition	355.250	R\$ 21,97	R\$ 7.804.424,73

11	Ammunition for .338 Lapua Magnum precision rifle 250 to 300 grains - HPBT	83.000	R\$ 97,90	R\$ 8.125.915,80
Total Value				R\$ 182.351.867,37

MANAGING BODY - PF				
Item	Description/Specification	Total Quantity	Unit Value	Total Estimated Value
1	Ammunition for semi-automatic pistols and submachine guns - Training 9mm Luger (9×19mm) Full metal jacket, 124 grains	12.677.882	R\$ 3,81	R\$ 22.887.692,31
2	Ammunition for semi-automatic pistols and submachine guns - Operational 9mm Luger (9×19mm) Hollow point, expandable, 147 grains	4.063.731	R\$ 10,01	R\$ 25.016.666,67
3	Ammunition for carbines and rifles Training 5.56 NATO (5.56x45mm) 55 grains, Common, Ball, M193, Training	6.232.773	R\$ 7,71	R\$ 2.028.741,54
4	Ammunition for 5.56 NATO (5.56 x45mm) rifles and carbines MK262, 77 grains	1.247.969	R\$ 13,23	R\$ 4.299.375,60
5	Ammunition for carbines and rifles Operational Special Groups 5.56 NATO (5.56 x45mm) M855A1, 62 grains	711.000	R\$ 14,19	R\$ 8.015.473,30
6	Ammunition for carbines and rifles Operational 7.62 NATO (7.62 x 51 mm) M80 NATO Ball	165.000	R\$ 8,61	R\$ 1.333.775,00
7	Ammunition for carbines and rifles Operational Elada 7.62 NATO ELADA (7.62 x 51 mm) M80 NATO Ball	48.000	R\$ 10,92	R\$ 524.064,00
8	Ammunition for A 12 Gauge shotguns 70mm (2-3/4"), SG 32 grams	60.000	R\$ 7,12	R\$ 284.880,00
9	Ammunition for B 12 Gauge shotguns 70mm (2-3/4"), Singular Foster (RIFLED SLUG) 28 grams	40.000	R\$ 8,75	R\$ 350.100,00
10	.308 Win 175 grain precision rifle ammunition	355.250	R\$ 21,97	R\$ 1.999.162,98
11	Ammunition for .338 Lapua Magnum precision rifle 250 to 300 grains - HPBT	83.000	R\$ 97,90	R\$ 1.860.149,40

Total Value	R\$ 68.600.080,79
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PARTICIPATING BODY PRF				
Item	Description/Specification	Total Quantity	Unit Value	Total Estimated Value
1	Ammunition for semi-automatic pistols and submachine guns - Training 9mm Luger (9×19mm) Full metal jacket, 124 grains	12.677.882	R\$ 3,81	R\$ 23.184.782,18
2	Ammunition for semi-automatic pistols and submachine guns - Operational 9mm Luger (9×19mm) Hollow point, expanding, 147 grains	4.063.731	R\$ 10,01	R\$ 9.643.734,87
3	Ammunition for carbines and rifles Training 5.56 NATO (5.56x45mm) 55 grains, Common, Ball, M193, Training	6.232.773	R\$ 7,71	R\$ 44.121.448,96
4	Ammunition for 5.56 NATO (5.56x45mm) MK262 carbines and rifles, 77 grains	1.247.969	R\$ 13,23	R\$ 11.208.392,82
5	Ammunition for carbines and rifles Operational Special Groups 5.56 NATO (5.56 x45mm) M855A1, 62 grains	711.000	R\$ 14,19	R\$ 0,00
6	Ammunition for carbines and rifles Operational 7.62 NATO (7.62 x 51 mm) M80 NATO Ball	165.000	R\$ 8,61	R\$ 0,00
7	Ammunition for carbines and rifles Operational Elada 7.62 NATO ELADA (7.62 x 51 mm) M80 NATO Ball	48.000	R\$ 10,92	R\$ 0,00
8	Ammunition for A 12 Gauge shotguns 70mm (2-3/4"), SG 32 grams	60.000	R\$ 7,12	R\$ 0,00
9	Ammunition for B 12 Gauge shotguns 70mm (2-3/4"), Singular Foster (RIFLED SLUG) 28 grams	40.000	R\$ 8,75	R\$ 0,00
10	.308 Win 175 grain precision rifle ammunition	355.250	R\$ 21,97	R\$ 3.806.098,76
11	Ammunition for .338 Lapua Magnum precision rifle 250 to 300 grains - HPBT	83.000	R\$ 97,90	R\$ 4.405.617,00
Total Value				R\$ 96.370.074,59

PARTICIPATING BODY PMDF					
Item	Description/Specification	Total Quantity	Unit Value	Total Estimated Value	
1	Ammunition for semi-automatic pistols and submachine guns - Training 9mm Luger (9×19mm) Full metal jacket, 124 grains	12.677.882	R\$ 3,81	R\$ 2.288.769,23	
2	Ammunition for semi-automatic pistols and submachine guns - Operational 9mm Luger (9×19mm) Hollow point, expandable, 147 grains	4.063.731	R\$ 10,01	R\$ 6.004.000,00	
3	Ammunition for carbines and rifles Training 5.56 NATO (5.56x45mm) 55 grains, Common, Ball, M193, Training	6.232.773	R\$ 7,71	R\$ 1.928.461,54	
4	Ammunition for 5.56 NATO (5.56x45mm) MK262 carbines and rifles, 77 grains	1.247.969	R\$ 13,23	R\$ 1.001.423,79	
5	Ammunition for carbines and rifles Operational Special Groups 5.56 NATO (5.56 x45mm) M855A1, 62 grains	711.000	R\$ 14,19	R\$ 2.071.255,05	
6	Ammunition for carbines and rifles Operational 7.62 NATO (7.62 x 51 mm) M80 NATO Ball	165.000	R\$ 8,61	R\$ 86.050,00	
7	Ammunition for carbines and rifles Operational Elada 7.62 NATO ELADA (7.62 x 51 mm) M80 NATO Ball	48.000	R\$ 10,92	R\$ 0,00	
8	Ammunition for A 12 Gauge shotguns 70mm (2-3/4"), SG 32 grams	60.000	R\$ 7,12	R\$ 142.440,00	
9	Ammunition for B 12 Gauge shotguns 70mm (2-3/4"), Singular Foster (RIFLED SLUG) 28 grams	40.000	R\$ 8,75	R\$ 0,00	
10	.308 Win 175 grain precision rifle ammunition	355.250	R\$ 21,97	R\$ 1.999.162,98	
11	Ammunition for .338 Lapua Magnum precision rifle 250 to 300 grains - HPBT	83.000	R\$ 97,90	R\$ 1.860.149,40	
Total Value				R\$ 17.381.711,99	
Item	Description/Specification	Measure	Quantity	Value Unit	Total Value Dear
1	Ammunition for semi-automatic pistols and submachine guns - Training 9mm Luger (9×19mm) Full metal jacket, 124 grains	unit	6.000.000	R\$ 3,77	R\$ 22.645.725,00
2	Ammunition for semi-automatic pistols and submachine guns - Operational 9mm Luger (9×19mm) Hollow point, expanding, 147 grains	unit	2.500.000	R\$ 9,82	R\$ 24.553.571,43
3	Ammunition for carbines and rifles Training 5.56 NATO (5.56x45mm) 55 grains, Common, Ball, M193, Training	unit	263.000	R\$ 7,61	R\$ 2.000.772,50

4	Ammunition for carbines and rifles Operational Troop Common 5.56 NATO (5.56 x45mm) MK262, 77 grains	unit	325.000	R\$ 13,67	R\$ 4.441.125,00
5	Ammunition for carbines and rifles Operational Special Groups 5.56 NATO (5.56x45mm) M855A1, 62 grains	unit	565.000	R\$ 14,79	R\$ 8.358.587,40
6	Ammunition for carbines and rifles Operational 7.62 NATO (7.62 x 51 mm) M80 NATO Ball	unit	155.000	R\$ 13,02	R\$ 2.018.844,00
7	Ammunition for carbines and rifles Operational Elada 7.62 NATO ELADA (7.62 x 51 mm) M80 NATO Ball	unit	48.000	R\$ 10,62	R\$ 509.856,00
8	Ammunition for A 12 Gauge shotguns 70mm (2-3/4"), SG 32 grams	unit	40.000	R\$ 7,10	R\$ 283.840,00
9	Ammunition for B 12 Gauge 70mm (2-3/4") shotguns, Singular Foster (RIFLED SLUG) 28 grams	unit	40.000	R\$ 8,78	R\$ 351.288,80
10	.308 Win 175 grain precision rifle ammunition	unit	91.000	R\$ 22,06	R\$ 2.007.786,08
11	.338 Lapua Magnum 250 to 300 precision rifle ammunition grains - HPBT	unit	19.000	R\$ 89,07	R\$ 1.692.396,50
Total Value					R\$ 68.863.792,7

## 14. Estimated Contract Value

### JUSTIFICATION FOR SPLITTING THE SOLUTION OR NOT

Installments allow the public body to adjust its expenses over time, according to budget availability, without compromising the performance of the contract. Tranching facilitates the execution of the contract in phases, allowing the Public Administration to allocate resources gradually, according to the availability of budget credit in different fiscal years.

Public bodies often face limitations in their annual budgets. By dividing the execution of the tendered object, it is possible to program the execution in stages, adjusting to the flow of financial resources and ensuring that payments are made within the financial capacity of the body.

Splitting the execution of the object can avoid large disbursements all at once, spreading the expenses over time. This can be crucial for the administration, especially in times of fiscal restrictions or budget constraints.

By parceling out the project, the public body can prioritize certain parts of the project according to urgency or need, postponing less-priority parts to future times when more resources are available.

The installment plan makes it easier to make contracts compatible with the Multi-Year Plan (PPA) and the Budget Guidelines Law (LDO), allowing larger contracts to be executed in accordance with the budget forecast for subsequent years.

In the event of budget constraints, the installment plan allows only part of the project or contract to be executed, adjusting the financial outlay without the need to cancel or completely paralyze the project.

Installment payments are a strategy that can not only guarantee more efficient execution of the contract, but also more responsible budget management, in line with the financial reality of the public body.

The rule to be observed by the Administration in tenders is that of the parceling out of the object, as provided for in Art. 40 of Law No. 14.133, of April 1, 2021.

In this case, dividing the object into items is technically feasible and does not represent a loss of economy of scale (TCU Precedent 247), as well as being aimed at increasing competition and making the contract more economical.

## 15. Related and/or Interdependent Contracts

Correlated and/or interdependent contracting refers to the need to acquire different items or services that are related to each other or that depend on each other to achieve a common goal. Here are some considerations about these contracts:

**Related contracts:** These are those involving products or services that, although they can be used independently, have a link that justifies their joint acquisition in order to optimize processes and results.

**Interdependent Contracts:** Refers to items or services whose execution depends directly on the realization of others. For example, the acquisition of hardware and software that needs to be installed and configured simultaneously.

In practice, the identification of related and interdependent contracts should be based on a careful analysis of the project's needs, considering both technical and budgetary aspects. Law 14.133/2021 allows this approach to promote efficiency and economy in public procurement.

In other words, it is not necessary to carry out related and/or interdependent contracts in order to achieve the objective of this contract. Nor was it appropriate at the time to participate in any ongoing IRP.

The purchase of ammunition is autonomous and does not require related or interdependent contracts.

## 16. Alignment between Contracting and Planning

The intended acquisition is in line with the guidelines set out in the Federal Police's 2024/2027 Strategic Plan, helping to achieve the following critical success factors and relating to the following guidelines:

- Motivated staff: To have staff who are motivated to carry out their duties and fulfill the institutional mission; Effective logistical
- support: To have a logistics system that allows all its units to function fully, especially in adverse situations; and
- Maintained credibility: High levels of acceptance and credibility in Brazilian society and the international community.

The Federal Police's strategic objectives related to this plan are: Strengthen the

- fight against crime.
- Promoting actions for the benefit of citizens.
- Make the use of resources effective.

The strategies are:

- Strengthen crime prevention and repression actions with the help of new technological means. Decapitalize criminal
- organizations and arrest their leaders.
- Strengthen police action in border areas. Protect human rights.
- 

## 17. Benefits to be gained from hiring

As has already been explained in this study, the aim is to meet the need for ammunition to be used in training for Federal Police personnel and to cover the shortage of ammunition for operational use, which is directly linked to the Agency's core business, including:

- Compliance with the powers assigned to the Federal Police;
- Modernization and management of the institution's assets and material resources, improving their use and utilization; Renewal
- and maintenance of federal police equipment, with replacement of old ammunition to ensure that ammunition is in proper working condition and reliable; Regular training and continuous qualification of federal police personnel;
- Maintaining operational readiness to respond to emergency situations and fulfilling the responsibilities of maintaining order and public safety;
- Carry out activities safely and reliably during police missions, safeguarding and guaranteeing the physical integrity of all those involved in the action;

- Maintaining a standard of quality and conditions for meeting society's demands in terms of public security and dealing with crime.

## 18. Measures to be taken

This is a periodic acquisition according to the consumption presented by the Federal Police units;

This acquisition requires the Authority to adjust its own allocation, in accordance with current legislation on the subject;

That studies be continued to improve the Federal Police's allocation of controlled products, revising the institution's strategic planning for controlled products;

Since this is an international tender and the ammunition is destined for a single delivery location, unlike previous contracts where delivery took place in each state, it is necessary to check the storage capacity of the existing warehouses in Brasília - DF before making commitments and contracts under the Price Registration Act;

In addition, it is necessary to continue the process of treating the waste generated at shooting ranges, as proposed by Haltenburg<sup>[27]</sup>, who in his doctoral work carried out a detailed study on the treatment to be given to ammunition waste:

*"The reverse logistics of ammunition can generate the necessary knowledge for institutions to use in a continuous learning journey, integrating theoretical and practical aspects of implementation, via a learning path to be developed. Research arising from scientific investigation, with the effective reuse of waste by the ammunition industry, will allow the government to analyze, in a social context, possible public policy actions. Another topic for study is to validate, in the scientific field, whether the production of ammunition can only be made from virgin raw materials (UNS C26000 alloy), i.e. to ensure that it is not viable to use recycled raw materials to produce new cases. Future research could also assess the economic results and effects for the manufacturer or secondary market, as well as evaluating the gains and costs of ammunition control (traceability) and waste management, complementing and expanding the subject presented here."*

It is also necessary to maintain quality control of the ammunition purchased and its correct use in light of Ordinance 15.431 /2021 DG/PF, including the management of Federal Police stocks, with the exchange of ammunition between units where ammunition is in short supply.

Full compliance with Ordinance No. 189-EME of 18/08/2020, or legislation that may replace it.

Training of police officers who are responsible for the stock of ammunition in the correct use of the E-log and launching of any withdrawal, with the corresponding personal precaution.

There is a need to control police training, with periodic entries in E-Log, with the aim of confirming this system as the official ammunition control system.

## 19. 'Possible environmental impacts

Following the National Solid Waste Policy establishes the generator of the waste as responsible for the final destination, until its correct disposal (Law 12.305/2010), as well as CONAMA Resolution 420/2009 - soil quality.

In addition, implementing the disposal of deflagrated cartridges, along the lines proposed by the study *"Open innovation and reverse logistics: a proposal for ammunition waste management in a public security institution / Neusa Rejane Pinheiro de Carvalho Haltenburg : supervisor, Ana Clara Cândido, co-supervisor, Nathália Berger Werlang, 2024. 167 p".*

## 20. Declaration of Viability

This planning team declares this contract viable on the basis of this Preliminary Technical Study.



## 21. Access to information

Under the terms of Law No. 12,527, of November 18, 2011, this Planning Team understands that:

The information contained in this Preliminary Study **SHALL BE MADE AVAILABLE** to any interested party participating in the tender.

## 22. Declaration of Viability

This planning team declares this contract **viable**.

### 22.1 Justification of feasibility

This plan was drawn up in harmony with Normative Instruction No. 58/2022, and in compliance with the ETP model available on the [compras.gov.br](http://compras.gov.br) website, as well as in accordance with the technical requirements necessary to fulfill the needs and the object of the contract, as well as duly meeting the business demands formulated.

In addition, the intended benefits are adequate; the expected costs are compatible and characterize economy; the risks involved are manageable and the requesting area will prioritize the provision of all the elements listed here that are necessary to achieve the intended benefits.

For all the above reasons, contracting the event is not only feasible, but essential for a good result and performance by the Federal Police.

This justifies the need to acquire this material by means of a BIDDING procedure, in the form of an ELECTRONIC BIDDING, through the Price Registration System - SRP, with the adoption of the LOWEST PRICE judgment criterion.

In view of the above, **we declare the viability of the contract and recommend the proposed solution.**

## 23. Responsible

All electronic signatures follow official Brasilia time and are based on §3 of Art. 4 of [Decree No. 10,543 of November 13, 2020](#).

**LUCIAN RICARDO GUEDES FIDELIS**

Hiring agent

**EDUARDO HOFMANN**

Hiring agent

**EMANUEL PIMENTEL DANTAS**

Hiring agent

**FERNANDO ALMEIDA CORNELIUS**

Hiring agent

## List of Annexes

Please note: Only files in the ".pdf", ".txt", ".jpg", ".jpeg", ".gif" and ".png" formats listed below can be attached directly to this document.

- Annex I - Acceptance\_Confirmation\_of\_participants\_in\_IRP.pdf (1.11 MB)