Treasury Board of Canada Secretariat
Secrétariat du Conseil du Trésor du Canada

TBS GUIDE TO MANAGEMENT OF MATERIEL

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Canada

1 Materiel management overview

1.1 Introduction

The Treasury Board *Directive on Management of Materiel* defines materiel as "all movable assets, excluding money and records, acquired by Her Majesty in right of Canada." Movable assets include a broad range of goods, such as equipment (e.g., office, information technology, telecommunications, scientific), furniture and furnishings, and larger goods (e.g., vehicles, aircraft, vessels/ships). This guide relates to the *Directive on Management of Materiel* (the directive).

1.2 Background

1.2.1 Ministers are accountable for the management of materiel to support the delivery of programs according to their departmental mandates. Deputy heads are accountable to their respective ministers and to the Treasury Board for the sound stewardship of the materiel entrusted to them or used by their respective organizations.

1.2.2 The structure of this guide is framed by the principles set out in the directive and the *Policy on the Planning and Management of Investments*. The directive is to be read in the context of related Treasury Board policy instruments, especially those governing investment planning, contracting, and project management. In fulfilling these responsibilities, it is important that managers adhere to the *Values and Ethics Code for the Public Sector*.

1.3 Purpose

1.3.1 The purpose of this guide is to assist materiel management practitioners in the federal government in implementing the Treasury Board's policy instruments related to materiel management.

1.4 Principles of materiel management

Principles are fundamental norms, rules or values that represent what is desirable and positive for the federal government. Principles are more basic than policies and objectives and are meant to govern both. The materiel management principles in this guide are set out below.

1.4.1 Good governance

1.4.1.1 Departments and agencies are responsible for ensuring that their materiel management policy instruments are current and encompass all materiel assets administered by the organization. The instruments should also set out clear accountabilities and administrative requirements.

1.4.1.2 Departmental policy provides public servants who are responsible for materiel management with formal direction that imposes specific responsibilities and accountabilities within the department or agency. Departments and agencies are responsible for establishing and maintaining a management framework that has:

a) appropriate accountability and decision-making structures
b) clearly communicated authorities
c) clearly defined segregated responsibilities
d) appropriate policies and practices
e) appropriate management, financial and materiel information systems that support informed decision-making and allow for adequate performance monitoring
f) elements that contribute to the departmental planning functions

1.4.2 Sound decision-making

1.4.2.1 Departments and agencies are responsible for ensuring comprehensive decision-making that factors in information from multiple areas of interest, based on the *Policy on the Planning and Management of Investments*. These decisions can include procure versus lease, life extension versus replacement, repurpose versus divestiture (disposal), or build your own versus lease/loan.

1.4.2.2 Departments and agencies are responsible for ensuring that decisions with respect to the management of materiel:

a) are consistent with government priorities and departmental mandates
b) enable program outcomes
c) address critical risks
d) comply with legislation, regulations and policies
e) demonstrate public service values and ethics
f) rigorously assess health and safety
g) actively promote environmental stewardship
h) contribute to broader government objectives
i) ensure access, service quality, privacy and security
j) encourage innovation by considering the full range of options available to best meet program needs
k) are informed by adequate performance management, benchmarks and risk management practices
l) are fair, transparent and accessible to serve Parliament's appropriation and oversight role and the Treasury Board's management role
m) where possible, are to be data-driven
n) consider full life-cycle costs
o) take environmental considerations into account, including but not limited to greenhouse gas emissions, biodiversity risks, material waste, and water usage in production and operation

1.4.3 Value for money

1.4.3.1 Departments and agencies are responsible for ensuring value for public money when acquiring and managing materiel. This responsibility can include forecasting and planning programs to ensure that only the right amount of materiel required to meet program requirements is obtained, stored and distributed. Fulfilling this responsibility will:

a) limit over-procurements
b) limit excess warehousing
c) reduce the resources required to exercise sound stewardship
d) improve right-sizing of inventory for location, condition, price and quantity to meet operational requirements
e) expedite processes for identifying and divestiture of materiel that is surplus to requirements or has reached its end of life

1.4.4 Sound stewardship

1.4.4.1 Departments and agencies are responsible for safeguarding public materiel. This responsibility includes implementing measures to protect materiel assets and detect losses. As well, departments and agencies are to support the national interest and the Government of Canada's program

objectives by safeguarding employees and materiel assets and assuring the continued delivery of services.

1.4.4.2 Departments and agencies should also ensure that any materiel assets identified for heritage purposes demonstrate a valuable contribution to the preservation of heritage and improvement of education equal to or more than the resources necessary to preserve, place, store and maintain those assets.

1.4.4.3 Sound stewardship is demonstrated through:

a) stock-taking and materiel discrepancy management
b) security audits
c) regulated access to controlled goods
d) environmental and hazardous materiel management
e) materiel accountability frameworks to ensure that proper oversight, authorities and accountabilities are in place

2 Life-cycle management

2.1 Life-cycle materiel management

Life-cycle management is the effective and efficient management of materiel from the identification of requirements through to divestiture. Materiel management strategies should consider the full life-cycle costs and benefits of the options for meeting program requirements.

2.2 Life-cycle costing techniques

By using life-cycle costing techniques, departments and agencies can evaluate the total costs to the Crown of reusing, repurposing, owning or leasing materiel before it is acquired. This evaluation considers factors such as the current cost of the future operation, maintenance and divestiture, as well as initial and ongoing capital costs. Estimating life-cycle costs creates standards by which costs can be monitored and controlled after acquisition. By adopting this approach, departments and agencies can ensure that their materiel management and asset management decisions are financially prudent and represent the best value to the Crown.

2.3 The four process areas of life-cycle materiel management

a) assessing and planning materiel requirements
b) acquiring materiel resources
c) operating and maintaining materiel
d) divesting of materiel

3 Assessment and planning

3.1 Objective

3.1.1 The objective of the Assessment and Planning phase is to ensure that materiel obtained by departments or agencies is the best fit to support their programs at the best overall value and at the right time.

3.1.2 Assessment is the process whereby the department or agency determines the materiel requirements essential to meet its program mandate.

3.1.3 Planning is the process whereby the department or agency prepares to set in motion the alignment of financial allocations, acquisition activities, available storage and warehousing space, and distribution methods to be able to obtain and position the necessary materiel.

3.1.4 The departmental planning phase, which includes planning, capability and budgeting, is the initial process that determines a department's or agency's priorities and strategic program objectives. The materiel life-cycle management process is based on these priorities and objectives. As part of the Assessment and Planning phase, departments and agencies should, at a minimum, review and analyze the following:

a) program requirements, including operational and service delivery needs
b) support requirements for the materiel associated with the program
c) environmental considerations
d) government-wide initiatives that may influence requirements or options
e) materiel forecasts
f) total life-cycle cost from acquisition to divestiture
g) investment planning and available resources
h) options analysis
i) process review

3.2 Program requirements

3.2.1 The Assessment and Planning phase is a high-level needs assessment to gather the materiel requirements necessary to meet program objectives and the technological, performance and capability requirements necessary to support the delivery of a departmental mandate.

3.2.2 Departments and agencies should take care to avoid predetermining a solution or gearing the process toward a desired materiel outcome before the requirements are properly gathered.

3.2.3 The following eight elements are to be considered as part of each department's or agency's assessment and planning activities. This list is not exhaustive, and departments and agencies should add additional factors as applicable to their program requirements. The outcomes of the Assessment and Planning phase should be holistic, sustainable, implementable and defendable. Departments and agencies should consider the following:

a) capabilities or specifications of the required materiel
b) length of time the materiel will be required
c) conditions of use such as weather, temperature, frequency and environment
d) date the materiel will be available for use
e) potential for repair or refurbishment

f) number of similar items that are required
g) technological influences, requirements or limitations
h) options for acquiring the necessary materiel, which can include the following:
    i. purchasing
    ii. leasing
    i. repurposing or reusing existing or surplus materiel
    ii. building or manufacturing in-house
    iii. inward loans to the department or agency from an external source
    iv. transferring in from another department or agency
    v. renting

3.3 Materiel support

Consideration should be given to all the secondary requirements necessary to operate and sustain the required materiel, including the following:

a) requirements for additional staff to operate or support the materiel
b) training requirements for staff to use the new materiel
c) infrastructure suitability or new infrastructure requirements to support the new materiel
d) storage and warehousing requirements
e) additional considerations for the following

    i. health and safety
    ii. security
    iii. limitations on access to materiel
    iv. accessibility
    v. accountability
    vi. controlled goods or other controlled substances

3.4 Environmental considerations

3.4.1 The *Greening Government Strategy* is a Cabinet-approved directive outlining the greening commitments for departments and agencies related to overall greenhouse gas emissions reductions and real property, fleet, procurement and climate resiliency. Environmental implications are an essential part of the Assessment and Planning phase and may influence the viability or options available to satisfy the requirement.

3.4.2 Environmental considerations may include but are not limited to the following:

a) contemplating whether the requirement can be satisfied by alternative methods and assessing whether the purchase is necessary at all
b) assessing the environmental impacts throughout the materiel's life cycle
c) contemplating use of cleaner production and technology
d) using sustainable materials and considering substitutes, where possible
e) reducing the amount of material involved in production and packaging
f) reducing the amount of material involved in production and packaging, and ensuring that packaging meets the plastics commitments of the *Greening Government Strategy*
g) examining environmental elements for incorporation into procurement evaluation plans and scoring methodology

3.4.3 Expected results in consideration of the environment[1] could include the following:

a) reducing greenhouse gas emissions
b) reducing ozone-depleting substances and/or air contaminants
c) reducing waste through supporting reuse and recycling
d) reducing hazardous waste, chemicals, toxic substances and water use
e) reducing the use of natural resources

3.5 Other government-wide strategic plans, priorities and initiatives

3.5.1 The government routinely updates its strategic plans, priorities and initiatives to meet changing requirements, improve benefits to Canadians as a whole, and meet global and domestic requirements. As such, these ongoing improvements and changes may influence the viability or options available to satisfy materiel requirements. During the Planning and Assessing phase, departments and agencies should consider current government strategic plans, priorities, initiatives and upcoming changes.

3.5.2 Government-wide strategic plans, priorities and initiatives may include, but are not limited to, the following:

a) socio-economic initiatives (e.g., anti-poverty strategies)
b) Indigenous programs
c) *Industrial and Technological Benefits Policy* requirements, which support specific industries
d) obtaining computer equipment that can be used by the Computers for Schools Plus (CFS+) program, when possible (e.g., hard drives that can be wiped to Communications Security Establishment Canada (CSEC) specifications)
e) accessibility or duty to accommodate policies
f) gender-based analysis plus tool
g) other acts or legislation that may influence decision-making

3.6 Materiel forecasts

3.6.1 Materiel forecasting is the process whereby departments and agencies determine what quantities and types of materiel are required to meet their operational readiness requirements. This forecasting involves gathering data from a variety of sources and conducting the necessary analysis to determine how much will be required to meet upcoming requirements.

3.6.2 Departments and agencies should consider the following:

a) program, operational or training schedules or requirements
b) maintenance demands
c) upcoming renewal activities
d) available stock on hand
e) materiel on order, but not yet received
f) materiel shelf life or expiration
g) lead time for delivery or procurement
h) availability of items in the market
i) availability of funds
j) controlled technology

3.7 Total life-cycle costs

3.7.1 During the assessment process, departments and agencies should assess and plan for all costs associated with the acquisition, operations and maintenance, and divestiture of materiel. A life-cycle cost estimate should be developed for each acquisition option (procurement, transfer-in, in-house build, etc.) in order to properly compare alternatives for informed decision-making.

3.7.2 When determining total life-cycle costs, departments and agencies should consider the following:

a) the total life-cycle cost of this materiel:
    i. acquisition or purchase cost
    ii. anticipated attrition
    iii. storage and warehousing
    iv. modifications and refits
    v. usage rates for consumable items
    vi. repairs and sustainment
    vii. supplemental materiel, such as peripherals
    viii. divestiture
    ix. other operating costs
b) any technical risks such as obsolescence, where the life times for materiel assets are shortened by obsolescence but the assets are still in good condition
c) environmental requirements and implications, such as greenhouse gas emissions; for example, in some cases, departments and agencies may be required to use a shadow carbon price in their life-cycle analysis (consult the *Greening Government Strategy* for more information)
d) the cost estimate structure or method of estimating that best suits the project; a standardized model will ease comparisons
e) listing the assumptions used in developing the life-cycle cost estimate; the assumptions should be clearly stated to inform any reviewers of assumptions used so that these assumptions can be challenged if in error
f) unique terms, conditions or requirements that should be explained or spelled out in order to assist in the assessment

3.8 Investment planning and available resources

3.8.1 The Assessment and Planning phase is an activity interlinked with investment planning, budgets and financial management. Departments and agencies should use the information gathered in the total life-cycle costs to plan financial requirements for current year and future years to meet their materiel needs.

3.8.2 Departments and agencies should consider the following in their investment planning:

a) available space in the investment plan for procurements of capital assets
b) the life expectancy and associated depreciation schedules for any capital assets (see Appendix A of this guide for a life expectancy table)
c) consequences and likelihood of any procurement slippage
d) initial acquisition funding (if appropriate)
e) maintenance and sustainment funding throughout the life cycle
f) divestiture costs, as appropriate

g) environmental commitments and requirements, as appropriate

3.9 Options analysis

3.9.1 Options analysis is the process whereby departments and agencies:

a) provide various options to meet program requirements
b) evaluate the options provided
c) recommend an option

3.9.2 Departments and agencies should consider the following:

a) good governance
b) sound decision-making
c) value for money
d) sound stewardship

3.9.3 Key elements of options analysis are:

a) accurate and complete data
b) broad spectrum of analysis
c) expert analysis

3.10 Process review

3.10.1 As part of the management of materiel, departments and agencies are responsible for developing and executing robust assessment and planning processes. These processes enhance informed decision-making, which in turn maximizes value for money and program delivery. Using the total life-cycle costs as part of the assessment allows departments and agencies to plan for the long term and improves the availability and alignment of resources.

3.10.2 Departments and agencies should continually review, with an aim to improve, their assessment and planning processes to ensure optimal materiel solutions to meet program requirements. The review process allows departments and agencies to remain up to date with changes in business and industry practices as well as financial and accounting procedures.

3.10.3 Departments and agencies should consider the following for the review process:

a) determination of post-performance highlights, from the quality and availability of information provided at each interval, to which areas of departmental assessment and planning require further development
b) a clear articulation of the following:
    i. risks undertaken in the Assessment and Planning phase
    ii. assumptions used in the Assessment and Planning phase
    iii. limitations imposed from internal or external directions that affected options
c) the use or development of data and business analytics to determine areas of development and strengths

[1] Environmental performance – the four Rs (reduce, reuse, recycle, recover) – should be the guiding principle to achieve all asset management goals. Right-sizing and optimizing the deployment and use of assets to only what is required has to be the number one strategy that reduces environmental footprints that does not depend on the specific characteristics, design, materials, construction and distribution of assets.

4 Acquisition

4.1 Overview

4.1.1 Acquisition is the process that begins with certification under section 32 of the *Financial Administration Act* (FAA) and ends with the delivery of and payment for a good or service, at which time the invoice can be certified in accordance with section 34 of the FAA and sent for payment. It should be noted that as this is a guide to materiel management, this section refers only to the acquisition of goods.

4.1.2 Acquired materiel is based on an assessment of requirements and performance specifications from the Assessment and Planning phase. Acquisition includes the procurement, transfer or donation of materiel into the department or agency where ownership changes hands.

a) Procurement is the act of obtaining or buying goods. The process includes preparing and processing a demand, as well as the end receipt and approval for payment.
b) Transfers are the conveyance or removal of assets from one department or agency to another.
c) Inward donations are the provision of goods to a department or agency from a source outside the federal domain and without payment.

4.1.3 When considering the acquisition of new assets, departments and agencies should consider all the phases of the asset's life cycle. The objective is to determine the total cost of each option that is being evaluated to meet the need that has been identified and to minimize the life-cycle materiel management cost. While this step is normally performed or initiated at the Assessment and Planning phase, it is often executed or validated during the acquisition process.

4.1.4 As part of the acquisition process, departments and agencies, at a minimum, should review and analyze the following:

a) value for money and alternatives to purchase
b) acquisition processes
c) environmental considerations and other government-wide initiatives
d) quality management
e) materiel management information system data management

4.1.5 The consideration given to obtaining good value for money and whether there are any alternatives to purchase should normally be performed during the Assessment and Planning phase. However, several factors may result in this evaluation being done as an early step in the Acquisition phase, especially for less complicated procurements or procurements of lower value. At a minimum, there should be a vetting and confirmation of the decisions made during the Assessment and Planning phase.

4.1.6 Departments and agencies should consider the following questions during the Acquisition phase:

a) Does the proposed solution adhere to government policies and procedures?
b) Are there any additional viable alternatives that have not been explored that could or should now be considered?

4.2 Types of acquisitions

4.2.1 Procurement begins when a federal department or agency sends a requisition to Public Services and Procurement Canada (PSPC) or their department's or agency's internal procurement directorates. In keeping with the *Government Contracts Regulations*, procurement is done through either of the following:

a) a competitive procurement process whenever possible
b) a non-competitive procurement process (used only in certain special circumstances)

4.2.2 Transfers encourage the reuse of assets within the federal government across departments and agencies and are considered as value for money.

4.2.3 Inward donations respect fairness and transparency throughout the transaction only when the donating body has no obligations, ties or expectations from the receiving department or agency, or the Government of Canada.

4.2.4 Build your own – department or agency constructs its own assets for own use

4.2.5 Loans – the lending of materiel assets[2] from outside the organization

4.3 Acquisition process

4.3.1 The acquisition process consists of the procurement or transfer of the selected materiel based on an assessment of requirements and performance specifications. As part of the acquisition process, for procurements, departments and agencies should consider the following:

a) All delegated authorities (sections 32, 33 and 34 of the FAA) are applied at the appropriate level. Refer to the departmental delegation of authority documents to confirm.
b) Common service providers are departments or agencies, including a special operating agency designated as a central supplier to the federal government of particular services to support the requirements of departments or agencies. Special operating agencies provide government departments or agencies with a centralized source for procurements. Examples include Shared Services Canada, the Canada School of Public Service, Global Affairs Canada, Employment and Social Development Canada, the Department of Justice Canada, PSPC, Statistics Canada and the Treasury Board of Canada Secretariat.
c) Policy and regulatory requirements are to be applied and are applicable clauses in the solicitation and contract. Such requirements can include:
    i. comprehensive land claim agreements
    ii. official languages
    iii. trade agreements
    iv. government's integrity regime
    v. controlled goods
d) There are 10 mandatory commodities, the procurement of which require the use of a PSPC Mandatory Standing Offer. If it is not a mandatory commodity, a pre-competed instrument may exist and can be reviewed to leverage the pre-competed pricing. Consult PSPC's list of mandatory standing offer commodities.
e) The following questions should be asked when tendering methods and thresholds and establishing timelines:

i. Have the applicable timelines been discussed with the client and have any relevant trade agreements been considered when wait times were established?
ii. Have the requisite wait times for translations and posting for open bidding been considered?
iii. Have the appropriate solicitation tools and method been followed (e.g., Request for Quotation, Request for Proposal)?

f) Statement of requirement readiness and bid evaluation criteria: Before proceeding with bid solicitation, the contract authority should ensure that several options have been considered, and that relevant and appropriate information has been included in the bid solicitation document. Depending on the complexity of the requirement, more or fewer aspects may apply, including the following:
   i. Statement of Work and requirements: Define the work to be done or the products to be acquired in clear and concise terms. If a requirement cannot be clearly defined, indicate the objectives and performance criteria to be met and the evaluation criteria to be used.
   ii. Technical requirements: Ensure that adequate technical and/or performance specifications (or purchase description), industrial standards, or measures to quantify or evaluate fit to quality/performance requirements are included, and that mandatory requirements are clearly defined.
   iii. Trade references: a description of "brand name or equal" type of purchase should not be used unless no other specification is available.
   iv. Evaluation criteria: Evaluation criteria, and their relative weighting or importance, should be clear, and the evaluation process defined. Indicate whether, and under what conditions, alternatives will be considered.
   v. Contractor selection: Determine the basis on which a contractor will be selected. If the intent is to award the contract based on best value, the criteria and the methods that will be used to determine the best value need to be stated.
   vi. Industrial security requirements (staff or organization): Ensure that industrial security requirements have been defined adequately and reviewed.
   vii. Pricing factors: Determine all factors that will affect price (e.g., duties, taxes, transportation and installation costs). Identify potential exchange rate issues.
   viii. Standard and special clauses: Use standard and supplemental clauses that have been approved for use by the department or agency or clauses from the PSPC *Standard Acquisition Clauses and Conditions (SACC) Manual*. If a situation arises for which a standard clause does not exist or an existing clause requires changes, consult your organization's legal services unit. Do not add, remove or modify any approved or standard clause without an opinion from the legal services unit.
   ix. Innovation, Science and Economic Development Canada administers the *Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts*. The objective of this policy is to enhance Canada's economic growth by increasing commercialization of intellectual property (IP). To this end, the contractor is to own the rights to foreground IP created as a result of a Crown procurement contract. This default position is subject to exceptions, and exemptions should be noted if exercised.
   x. Basis of payment and method of payment: Determine the most appropriate basis and method of payment.

xi. Delivery: Specify delivery requirements. Avoid statements such as "as soon as possible," which could cause unjust rejection of bids for unsatisfactory proposed delivery.

xii. FOB point: Specify the Free on Board (FOB), Delivered Duty Paid (DDP), or Free Alongside Ship (FAS) point, as applicable. International commercial terms (Incoterms) deal with the delivery of the products from the seller to the buyer. "Delivery" includes the carriage of products, export and import clearance responsibilities, determining who pays for what, and determining who carries the risk for the condition of the products at different locations within the transport process. Incoterms are always used with a geographical location and do not deal with transfer of title.

xiii. Quality assurance: Include the government quality assurance required, such as inspection, process control or acceptance criteria.

xiv. Preparation instructions: Determine the desired format and any special instructions for the presentation of bids. The evaluation process will be simplified if bids are presented using a standard format. Specify that the technical bid and the cost bid are to be placed in separate envelopes.

xv. Bid validity period: Ensure that the proposed bid validity period allows sufficient time for the bid evaluation process and the contract approval process.

xvi. Bidders' conference or site visit: The need and requirement for potential bidders to attend a bidders' conference or site visit should be established. Make these optional (as opposed to mandatory) whenever possible.

xvii. Clearly indicate the closing date and time, as well as the place of closing.

xviii. Order of precedence: In the event of conflicts or inconsistencies among the documents referenced in the bid solicitation and any resultant contract, the order of precedence should be stated.

4.3.2 Government-wide initiatives[3]: There are several government-wide initiatives that may apply to a purchase. Departments and agencies should consider the following initiatives:

a) greening government, including requirements to reduce greenhouse gas emissions, reduce waste, promote the procurement of sustainable plastic products and reduce plastic packaging waste
b) accessibility (procurement)
c) support for Indigenous peoples (voluntary Procurement Strategy for Indigenous Business set-asides)
d) support to small and medium enterprises
e) socio-economic considerations
f) gender-based analysis plus
g) duty to accommodate

4.3.3 Quality management: After contract award, there is still a requirement to manage the contract and address any deficiencies or issues. Departments and agencies should consider the following practices:

a) Follow up on the delivery of materiel and inspect goods on delivery to ensure that they meet contract specifications.
b) Ensure appropriate quality assurance and testing of materiel.

c) Complete vendor performance documentation, as appropriate.
d) Document contractor deficiencies.
e) Recoup value to the Crown if goods are not to contract or standard.
f) Take into account lessons learned for future procurements.

4.4 General guidance for acquisition

4.4.1 Accessibility: Materiel assets are acquired through acquisition, transfer or inward donation to meet the accessibility needs of an employee.

4.4.2 Materiel management information system data management: Departments and agencies are mandated to have a materiel management information system, according to the *Directive on Management of Materiel*. The key data elements for goods in the System of Record are often developed at the Acquisition phase. It is imperative that departments and agencies have internal direction to ensure data integrity and standardization. Departments and agencies should consider the following practices:

a) identification of types of materiel being procured: tangible capital assets, asset pooled inventory, inventory, consumable or inventory, or materiel in use
b) financial coding and expenditure alignment in order to maintain both materiel records and public accounts
c) Materiel Master Record information is developed and validated to enable proper receipt of materiel
d) for departments and agencies with Enterprise Resource Planning system, purchase orders should be raised within the System of Record to enable maximum data alignment and minimize error

4.5 Acquisition summary

As part of materiel management, departments and agencies are responsible for developing and executing compliant and efficient acquisition processes. Such processes should respect the values of fairness, transparency and value for money.

[2] Tagging animals, fish and wildlife places them under the administration of the department or agency, to be administered as requirements of the department or agency.

[3] To ensure compliance with any existing government-wide initiatives, departments and agencies should refer to their internal departmental processes.

5 Operations and maintenance

5.1 Overview

5.1.1 The Operations and Maintenance phase is where the materiel that had been previously planned for and then acquired is received and used by the department or agency in order to meet the program mandate for which it is intended. Included in this phase of the life cycle are all the activities associated with receipting and receiving, warehousing, maintenance and repair, distribution, and deployment of the goods.

5.1.2 The objective is to ensure that materiel is used for the purposes for which it is intended and is properly sustained, and that departments and agencies can demonstrate sound stewardship of the resources entrusted to them.

5.1.3 At a minimum, departments and agencies should review and analyze the following practices as part of the Operations and Maintenance phase:

a) receipt and receiving
b) warehousing and storage
c) stock-taking
d) maintenance
e) warranty management
f) distribution (having the materiel where it is needed)
g) deployment and return (when the materiel is used)
h) ownership and custody management (one or the other, or a mix of both)
i) performance measurement or monitoring and reporting
j) training

5.1.4 Further to subsection 5.1.3, the elements listed should be considered as part of each department's or agency's materiel operations and maintenance activities. This list is not exhaustive, and departments and agencies should add additional factors as applicable to their program requirements.

5.2 Receipt and receiving of materiel

5.2.1 Receiving materiel is the process whereby the materiel that has been acquired has physically arrived, has been inspected and accepted by the department or agency, and section 34 of the FAA has been completed. Materiel can be receipted into the department's or agency's custody or into the custody of another organization according to the terms and conditions of a negotiated agreement. Asset/inventory records should be created at this point. Under certain conditions, materiel can be receipted at source and the department or agency assumes the liability for transportation. Departments and agencies should consider the following on receipt of materiel and goods:

a) Price: The price for the goods on the receipt should match that of the invoice and of the contract. If not, then a discrepancy action should take place to ensure that the materiel meets the terms and conditions of the contract.
b) Quantity: The correct quantity should arrive according to the invoice and the contract.
c) Condition: The materiel should arrive in the condition for which it has been acquired. Condition can be assessed through the following:

i. identification of the materiel: all markings, such as serial number, unique identifiers and shelf life, are properly applied and verified
ii. verification of serviceability: the materiel meets the serviceability requirements as stated in the contract or agreement
iii. inspection of packaging: the materiel is packaged for storage or for further distribution or shipping, as applicable

d) Exercising appropriate financial delegations: Sections 32, 33 and 34 of the FAA have been applied to ensure that only the materiel that was acquired is accepted and paid
e) Quality control: Having quality control processes in place to:
   i. conduct necessary inspections of the materiel
   ii. quarantine any materiel that is suspect, counterfeit, below acceptable standards or not in line with the contract
   iii. return invalid or unacceptable materiel to the vendor or use another method to dispose of unacceptable materiel
   iv. release for use any quarantined materiel that has been investigated and certified as acceptable for use
f) Vendor performance: Provide feedback information for the vendor performance analysis

5.3 Warehousing and storage

5.3.1 Warehousing and storage are the processes of properly storing and handling materiel that is not in use or is waiting to be shipped to various locations, i.e., furniture, heritage assets, maintenance supplies. Operationally, warehousing covers areas such as receiving, distribution, organization and order fulfillment. Departments and agencies should consider the following for warehousing and storage:

a) Security: Ensure that storage facilities meet all departmental security requirements, i.e., alarms, security cameras and access control
b) Accessibility control: Only specific and designated employees have full access to the warehouse
c) Warehouse and materiel-handling equipment: Ensure that warehouse equipment is fully operational, safe and properly maintained
d) Hazardous, controlled and dangerous goods, and other considerations: Ensure that proper storage areas are designed to store specific goods in accordance with current environmental regulations
e) Materiel that goes directly to the end user: Ensure that when there is a direct delivery to users from manufacturers or vendors, there is an auditable paper trail that details a clear process between the procurement group and receiving unit
f) Right-sizing for an organization's needs: A space requirement analysis should be conducted in accordance with the facility management office to ensure that warehouse and storage facilities are wisely selected to meet program needs and mandate
g) Live animal management: Ensure that appropriate space, ventilation and safety considerations are in place for the protection and humane treatment of live animals
h) Packaging for storage: Ensure that materiel is properly packaged to facilitate safe storage and identification for retrieval and issuance
i) Packaging for shipping: Ensure that materiel that is being held for cross-docking, furtherance or shipping is properly packaged and labelled for transport

j) Temperature and humidity levels that will not damage the materiel assets, depending on the materiel stored

5.4 Stock-taking

5.4.1 Through regular stock-taking activities, departments and agencies are able to proactively validate whether their physical holdings match their departmental records. Stock-taking will also inform decision-making on accountabilities, controls, deployment, usage and security. This is one of the prime activities that demonstrates control of government resources, sound stewardship and fiscal responsibility.

5.4.2 Departmental stock-taking programs should be developed to allow for both annual and multi-year cyclical stock-taking based on a risk management approach. A risk-based stock-taking schedule should take the following into consideration:

a) valuation of the asset, which consists of assessing the condition, and the book and market value of the asset
b) risk of loss or theft (e.g., attractive items)
c) negative effect on the organization's ability to meet its program if materiel were unable to be accounted (e.g., key equipment components without which the equipment will not function)
d) effect on safety of the organization or public if materiel were unable to be accounted (e.g., weapons or medical supplies)
e) identification and consideration of storage costs on low-value items
f) shelf life of materiel and ensuring that expiry dates are not exceeded
g) warranty expiry risks
h) external or regulatory obligations (e.g., controlled goods and the *International Traffic in Arms Regulations*)

5.4.3 When discrepancies are detected during the stock-taking process, departments and agencies need to take appropriate action to update the records in their materiel management information systems and the associated financial records (if not the same system) as soon as possible. Discrepancies include both overages of materiel (physically having more of an item than on record) and shortages of materiel (physically having less of an item than on record).

5.4.4 When a discrepancy is based on a loss, departments and agencies should investigate to determine the cause of the loss. Losses can be caused by documentation problems, misplacement, theft, destruction, damage or abandonment. Loss is an unplanned activity and is not to be confused with divestiture. Departments and agencies should take necessary action to prevent any recurrence of losses, which could include actions such as the following:

a) improving security
b) limiting access to warehouse
c) increasing frequency of stock-taking
d) changing risk levels in risk-based stock-taking for some materiel
e) improving internal processes and records management
f) conducting criminal investigations

5.4.5 Stock-taking is also an opportunity to review materiel usage and requirements, including the following:

a) identifying any materiel that has expired or is expiring and take appropriate action to either utilize or commence appropriate disposal processes
b) identifying materiel that is, or should be, classified as surplus to requirements and commencing appropriate divesting or disposal processes
c) identifying materiel that is damaged, worn out, or beyond economical repair and commencing end-of-life or disposal processes

5.4.6 The development and use of stock-taking reports will enable departments and agencies to monitor their inventory management performance and find areas for improvement, and help management determine the best allocation of resources and support. Resources and support may include improved technology, investment in Enterprise Resource Planning systems or Systems of Record, advanced or developmental training, and staffing.

5.5 Maintenance

5.5.1 Maintenance includes all the activities necessary to keep materiel in the state to perform the functions for which it was designed in order to meet program mandates. Departments and agencies should consider the following for maintenance:

a) Preventive maintenance: The primary goal of preventive maintenance is to prevent the failure of equipment before it occurs. Preventive maintenance is designed to preserve and enhance equipment reliability by replacing worn components before they fail. The ideal preventive maintenance program would prevent all asset failures before they occur. Departments and agencies should consider the following good practices:

    i. Use preventive maintenance when and where it is appropriate.
    ii. Undertake a cost-benefit analysis before making strategic repairs to assets.
    iii. Incorporate the information gleaned into the decision-making processes for asset divestiture.

b) Repair and overhaul: These are actions that help maintain the functionality of an asset, such as machining or restoring an item to its working condition.
c) Monitoring for warranties, recalls[4] and other safety issues: Tracking of warranties is important. Upon the acquisition of any asset, a file should be created for that asset with information pertaining to the asset's warranty, recall information from the manufacturer, and any reported safety issues pertaining to that asset. Prior to performing repair work on an asset, departments and agencies should undertake the following:

    i. review whether the warranty covers repair work for the asset
    ii. review recalls on the asset and whether a recall covers the repair work

5.6 Betterments and technological improvements

5.6.1 Betterments are expenditures relating to the alteration or modernization of an asset that will appreciably prolong the asset's period of usefulness or improve its functionality.

5.6.2 Technological improvements[5] to an asset consist of replacing components within the asset (e.g., computer chip, GPS module) in order to make it more current or more compatible with today's technology.

5.6.3 Departments and agencies should have integrated processes between maintenance, materiel management, and financial management in order to properly identify and capture improvements and betterments to capital assets in both the materiel management and financial management information systems (if not the same) so that materiel can be appropriately revalued and depreciated accordingly.

5.7 Distribution

5.7.1 For the distribution of materiel, departments and agencies should consider the following:

a) Location: Materiel should be in the location when and where it is needed and recorded.
b) Positioning: The placing of materiel where it is expected to be required is a fundamental aspect of materiel forecasting and planning in order to have vendors ship the materiel to the desired location. Such planning saves departments and agencies from receipting materiel in one location and having to pay again to have it shipped to another location.
c) Redistribution: Redistribution is the movement of materiel from one departmental storage location to another location for either storage or use. Materiel should be properly packaged, tracked and receipted in the new location within the materiel management information system.
d) Insurance: The Government of Canada is typically self-underwritten, including the shipping of materiel. When shipping in jurisdictions outside Canada, departments and agencies should investigate whether private insurance is required by local laws or regulations.
e) Meeting customs requirements: Such requirements include customs requirements of Canada and any foreign country to which materiel is moved to support deployment and operations.
f) Carrier considerations: For sensitive materiel, departments and agencies should select the types of carriers that are cleared to carry the type of materiel being shipped (infectious diseases, food, remains, etc.).
g) In-transit visibility: Some materiel or shipments should be tracked for safety, security or other operational reasons to monitor their locations and ensure that they arrive at their destinations. In-transit visibility (ITV) is the process whereby materiel is tracked during shipment and can include simple options, such as tracking numbers provided by a courier, or more complex methods, such as the use of active or passive tracking tags (radio-frequency identification or GPS). Departments and agencies should determine when ITV is necessary and which methods are best for the type of materiel being shipped.

5.8 International commercial terms

5.8.1 International commercial terms (Incoterms): Incoterms are 13 three-letter predefined commercial terms. They identify the level of responsibility during a transaction between the seller (shipper) and the buyer (department or agency) and are especially useful during international

purchases. In general, three Incoterms can apply to the government: EXW, DAP and DDP. Others can also work, but some are for ocean shipments only.

5.8.2 EX WORKS (EXW): This identification indicates that the consignee or department or agency has all the responsibilities both as Exporter of Record in a foreign country, and Importer of Record in Canada. It is formerly referred or known as the FOB Plant. It is **not** recommended for the following reasons:

a) The departmental representative (e.g., materiel manager, procurement officer) should know and comply with the exporting laws in a foreign country. Since most departments or agencies do not have an address or an office in that country, such export is a difficult task. It could also imply export licences, restrictions or more regulations.
b) The department or agency takes all the risks for damages, liabilities and lost packages.

5.8.3 Delivered at Place (DAP): This identification indicates that the shipper is paying for transport using door-to-door service, except for the customs-clearing process. Such shipping is the most recommended method for the following reasons:

a) The shipper[6] remains responsible for damages during transport.
b) The department or agency is not the owner of the goods until the delivery is completed.
c) The duties, taxes and brokerage fees are handled by a customs broker or a branch of the carrier.

5.8.4 Delivered Duty Paid (DDP): This identification indicates that the shipper is paying for all shipping costs. It was formerly referred to as the FOB Destination. This method is **not** recommended for several reasons:

a) The shipment could be held in customs, causing delays since the shipper is not a recognized Importer of Record.
b) Both the Canada Revenue Agency and Canada Border Services Agency require the shipper to have a business number in order to clear the merchandise at the border and pay GST to the government.
c) The shipper may not know whether duty exemptions apply.
d) There are usually higher costs during the clearing process.
e) Delays could have a negative impact on the delivery date of the goods, particularly at the end of the fiscal year or during an urgent repair.
f) Storage fees could apply during delays.

5.8.5 For both DAP and DDP, departments and agencies should ensure that they are not paying GST twice (i.e., during the clearing process and to the supplier).

5.9 Deployment and return

5.9.1 Deployment is the act of putting the materiel to use for its intended purpose. Materiel is deployed in support of the department's or agency's mandate for any length of time and should be properly accounted for throughout its full life cycle.

5.9.2 Deployment: While materiel is deployed, departments and agencies should consider the following:

a) tracking the mobility of the asset while it is deployed

b) adhering to maintenance schedules
c) determining the materiel's shelf life
d) tracking and storing warranty information
e) insurance, where required, when in use

5.9.3 Return: Materiel returning from deployment should be handled with great care to mitigate risks related to contamination, quality control and maintenance requirements and, ultimately, to determine whether the materiel can continue to fulfill the department's or agency's mandate. While materiel is returning from deployment, departments or agencies should consider the following:

a) Materiel is used only for the purposes for which it was intended, and there are safety and security protocols in place, as required.
b) Materiel in use has a maintenance schedule for best performance.
c) Non-consumable materiel remains accountable and traceable while in use.
d) Departments and agencies should determine when materiel in use will be consumed[7] or reached its end of useful life and removed from financial records.

5.10 Ownership and custody management

5.10.1 There is a distinction between ownership and custody in materiel management. Departments and agencies should clearly identify during the acquisition phase when materiel ownership or legal title has changed from the vendor to the department or agency. Materiel owned by the department or agency can be in the department's or agency's custody, a contractor's custody, or in the custody of another department, agency or user.

5.10.2 Materiel is owned by the person or organization that has legal title to the materiel and retains full economic benefits. In simple terms, the organization that has legal title has the right to store, transport, sell, exchange, donate, transfer, dispose or repurpose the materiel in whatever manner best suits the organization's purposes. Materiel owned by the Government of Canada, through any department or agency, is subject to the same laws, regulations and policies, regardless of who has custody.

5.10.3 The person or organization that has physical control of the materiel has materiel custody. Organizations that have custody are responsible for the sound stewardship of the materiel and for protecting or safeguarding it from loss, damage or theft. The organization may generally inspect condition, effect repairs, transport, transact in a System of Record, or store the materiel on behalf of the owner, normally according to conditions within an existing contract. Departments and agencies that have custodial responsibilities for materiel that they do not own are to meet the materiel management responsibilities for sound stewardship of the department or agency loaning the assets, according to the terms and conditions of any agreement or contract, to the standard of the owning department or agency.

5.11 Lending materiel

5.11.1 Loans of materiel can be either outward or inward. Outward loans are the lending of federal materiel to an external source outside the originating department or agency. Ministers of the Crown (or managers with delegated authority), departments, agencies and all corporations included

under Schedule 2 of the FAA have the authority to enter into a loan agreement. Inward loans occur when departments or agencies are lent materiel from an external source.

5.11.2 All loans of materiel assets will be administered according to the *Public Property Loan Regulations*.

5.11.3 When lending outward to other federal government departments and agencies, lending departments or agencies should consider the following:

a) ensuring that the custodian manager has been delegated the authority to enter into the agreement
b) ensuring that the inventory management system documents the loan
c) ensuring that any cost arising from the loan is borne by the borrower
d) seeking appropriate ministerial delegation to facilitate loan agreements
e) requesting that an asset loan agreement contains, when applicable, the following information (seek legal guidance in creating the loan agreement):
    i. a complete description of the materiel being lent
    ii. the quantity of the materiel and its inventoried value
    iii. the purpose of the loan and how the materiel on loan can be used
    iv. who has responsibility for the care and custody of the equipment on loan
    v. the place of pickup and return of materiel
    vi. the requirements for packing and transportation and who is responsible for fulfilling these requirements
    vii. whether the agreement in question is the sole agreement or whether it has a relationship with or precedence to other agreements, assignments or other restrictions
    viii. a statement that the lending authority may, at any reasonable time, inspect the public property and view its state of repair
    ix. the term of the loan
    x. a complete description of the consideration for the loan
    xi. any security arrangements that the lending authority requires

5.11.4 When lending materiel to other levels of government such as provincial governments[8], municipalities and Indigenous communities, lending departments or agencies should consider the following:

a) developing a written contract or memorandum of understanding (MOU) for the two parties
b) stock-taking the materiel and noting its condition
c) photographing the materiel and noting any imperfections, such as scratches and dents upon delivery, where possible
d) adjusting the department's or agency's inventory records, if required
e) developing a written MOU factoring in the considerations outlined in subsection 5.11.3

5.11.5 When lending outward to non-governmental organizations, departments and agencies should ensure the following:

a) the loan of a materiel asset is made only if it will assist in the achievement of a program objective
b) the inventory management system documents the loan
c) the custodian manager has been delegated the authority to enter into the agreement

d) the use of departmental equipment off premises is monitored and aligned with program goals
e) any cost arising from the loan is borne by the borrower
f) asset loan agreements contain, when applicable, the following information (seek legal guidance in creating a loan agreement):
    i. a complete description of the materiel being lent
    ii. the quantity of the materiel and its inventoried value
    iii. the purpose of the loan and how the materiel on loan can be used
    iv. who has responsibility for the care and custody of equipment on loan
    v. insurance requirements
    vi. the place of pickup and return of materiel
    vii. who has responsibility and the requirements for packing and transportation
    viii. whether the agreement in question is the sole agreement or whether it has a relationship with or precedence to other agreements, assignments or other restrictions
    ix. a statement of undertaking that the borrower will indemnify Her Majesty for and save Her Majesty harmless from all losses and claims of any kind in respect of the borrower's use of or possession of the public property
    x. a statement that the lending authority may, at any reasonable time, inspect the public property and view its state of repair
    xii. the term of the loan
    xiii. a complete description of the consideration for the loan
    xiv. any security arrangements that the lending authority requires

5.11.6 When lending inward from the private sector to government organizations, departments and agencies should consider the following:

a) developing a written contract (loan agreement) or MOU for the two parties
b) stock-taking of the asset and noting its condition
c) photographing the asset, noting any imperfections such as scratches and dents upon delivery, where possible
d) adjusting the department's or agency's inventory records, if required (e.g., location)

5.11.7 When lending materiel assets to government employees, departments and agencies should consider the following:

a) developing a written contract (loan agreement) or MOU for the two parties
b) stock-taking of the asset and noting its condition
c) photographing the asset, noting any imperfections such as scratches and dents upon delivery, where possible
d) adjusting the department's or agency's inventory records, if required (e.g., location)

5.12 Materiel used when teleworking

5.12.1 Materiel requirements for any telework arrangement[9] shall be discussed and agreed upon by the employer and the employee prior to undertaking a telework situation. The agreement should outline roles and responsibilities for use of materiel off-premises and should include, at a minimum, requirements related to liability, usage, maintenance and repair, lost or stolen equipment, and termination of employment. At the request of either party, this agreement will be documented. Employees are responsible for proper care of teleworking equipment. The hiring manager is

responsible for Government of Canada teleworking equipment used by consultants, volunteers and other non-governmental employees.

5.12.2 Where no surplus materiel is available within the department or agency and where feasible, managers should consult GCTransfer as a first option to source furniture, equipment and other materiel for off-premises use.

5.13 Personal use of assets

5.13.1 The department or agency will determine whether it will allow personal use of its assets and under what circumstances. Personal use of assets is defined as the use of an asset owned by the Government of Canada for personal use by an employee for reasons other than its intended program. Teleworking does not qualify as personal use. If the department or agency does allow personal use of assets, then the department or agency will need a policy instrument in its materiel asset framework that details roles and responsibilities for personal use of federal assets by its employees.

5.14 Special considerations for seized, forfeited and abandoned goods

5.14.1 PSPC's Seized Property Management Directorate (SPMD) is authorized by the minister to provide consultative and other services to any person employed in the federal public administration or in a provincial or municipal government to manage property that was seized[10], restrained or forfeited under any act of Parliament or of the legislature of a province and to dispose of property when it is forfeited to Her Majesty in right of Canada and, with the consent of the province, when it is forfeited to Her Majesty in right of the province.

5.14.2 SPMD can take possession and control of a seized asset in accordance with any court order or departmental or agency direction. SPMD will arrange for the transportation, storage, maintenance and disposal of the asset. For more information, email the SPMD at SPMD.Registration@tpsgc-pwgsc.gc.ca or call 1-833-381-SPMD (7763).

5.15 Performance measurement, monitoring and reporting

5.15.1 An effective performance management system supports decision-making, accountability and transparency. Performance expectations are to be established to ensure that the department's or agency's programs and services benefit program and operational requirements. The overall extent to which materiel meets program requirements is measured by an ongoing and systematic assessment of the physical condition, functionality, use and financial performance of materiel against established targets, based on appropriate benchmarks.

5.15.2 Departments and agencies should consider the materiel's performance in meeting the program's requirements by using the following criteria:

a) The allocation, distribution, installation or commissioning, and scheduled use of materiel are based on program needs and a requirements assessment, and reallocations are made in cases of underutilization.
b) Materiel consumption, rates of use, productivity and availability standards are monitored and reviewed.
c) Records are maintained, using information systems where practical and cost-effective, in order to track inventory and monitor costs and utilization, including the level of materiel turnover, losses and equipment performance.

d) Consideration of all cost decision-making (e.g., inventory carrying costs, warehousing costs, resource costs, operating costs, training costs, distribution costs).
e) Equipment is kept in good working condition by planning and scheduling equipment inspection, testing and maintenance, and by retaining maintenance records.
f) Materiel assets that contain hazardous material are adequately safeguarded against damage, loss and theft.
g) Materiel assets that contain protected information are adequately safeguarded from unauthorized access.

5.15.3 Key performance indicator (KPI) targets should focus on how the department or agency can undertake the following:

a) improve labour efficiency (i.e., improve reporting mechanisms)
b) reduce costly downtime (repairs and maintenance)
c) minimize their inventory investments (focus on "just-in-time" acquisition or better planning through yearly or quarterly forecasting)
d) lower the total cost of replacing or maintaining and repairing the item (consolidated contract volume reduces maintenance costs, etc.)

5.15.4 Departments and agencies should have internally developed KPIs to demonstrate value for money, program delivery and sound stewardship from a business performance perspective using the following criteria:

a) cost-effective planning, acquiring, operating and divesting of their materiel in a manner that protects the environment and supports sustainable objectives
b) innovation, leadership and sharing of knowledge and expertise with other departments and agencies and contributing to the growth of the materiel assets
c) capturing risk management in the planning stage of the life cycle, especially when there is a potential risk of liability to the Crown; doing so will lead to fewer unanticipated problems and crises that may undermine confidence and trust
d) development of processes or procedures for managing the materiel life-cycle activities
e) development of an integrated, accurate and cost-effective information system that can improve data service quality and provide more timely information for all levels

5.15.5 KPI targets for business performance should focus on the following at a minimum:

a) on-time delivery and client satisfaction for goods received:
    i. quality and effectiveness of items that were procured and used (right fit)
    ii. lead time for delivering the items at the agreed-upon date
    iii. quality management
    iv. vendor performance
b) order fulfillment to meet departmental customer or user requirements
c) stock-taking results
d) distribution costs and management
e) compliance of processes or procedures through discussions and assessments with the individuals who are responsible for life-cycle activities
f) contingency plans and risk mitigation

g) data extracted from the materiel management information system are reliable and used to make informed decisions

5.16 Benchmarks

5.16.1 When developing departmental benchmarks, departments and agencies should consider the following:

a) physical condition:
   i. The department's or agency's past average condition ratings for the materiel rated as serviceable, repairable or beyond economic repair
   ii. The physical age and average age of the materiel category
b) functionality:
   i. percentage of materiel that meets program requirements
   ii. past client or end-user materiel satisfaction, as defined by commodity
c) use:
   i. life expectancy of materiel
   ii. full-time use as defined by department or agency or commodity and subject to availability of data
d) financial performance:
   i. in line with the department's or agency's past average total life-cycle costs for the materiel (includes assessment and planning, acquisition, operations and maintenance, attrition costs, and net disposal cost or revenue)

5.17 Training

5.17.1 Materiel management is a knowledge-based area. Employees in these roles are required to take on the roles of strategic advisors. Specific skills and knowledge are required to function effectively and efficiently. Human resources are key to material management in supporting the departments and agencies in the delivery of their programs.

5.17.2 The Treasury Board's Professional Development and Certification Program, through the Acquired Services and Assets Sector Communities Management Office (ASAS CMO), was developed to ensure that the employees have the skills, knowledge and competencies to implement various policies and efficiently manage the Crown's materiel.

5.17.3 The Canada School of Public Service offers online and in-person courses to employees who have a role or a responsibility function in materiel management.

5.17.4 Internal departmental training is encouraged to support training, learning and development through the following:

a) developing and deploying training guides
b) facilitating learning opportunities such as:
   i. participation and engagement: federal government or departmental initiatives and changes
   ii. participating in external industry or other institution conferences, symposiums, workshops and other training programs, e.g., Canadian Institute for Procurement and Materiel Management (CIPMM)
   iii. Participating in interdepartmental working groups

iv. Participating in the CIPMM's Procurement and Materiel Management Mentorship Program

c) allocating resources appropriately based on knowledge, skills and ability for job-shadowing opportunities under various materiel management functional areas, including system enhancements

5.17.5 Departments and agencies should consider the following regarding training:

a) awareness of departmental code of conduct:
   i. demonstration of honesty, fairness, integrity and respect expected of any person, regardless of job title, role or responsibility
   ii. demonstration of due diligence: obligation to take all reasonable care to protect the health and safety of employees and materiel
   iii. fostering an open culture to share knowledge, ideas and experiences
b) professional development:
   i. e-learning
   ii. job-shadowing or on-the-job training
   iii. instructor-led development
   iv. mentoring and coaching

5.18 Cannibalization

Cannibalization is the removal of vital components or parts from valuable materiel that has not been declared surplus. Such a practice should be discouraged and should be restricted to materiel where replacement parts or components may not be procured using normal practices. Examples are when the parts of materiel are obsolete or no longer manufactured.

5.19 Repurposing

Repurposing is the reassignment of assets from one program purpose to another. Departments and agencies are encouraged to use this practice whenever practicable as it has financial and environmental benefits.

5.20 Transportation and packaging

5.20.1 When transporting materiel[11], departments and agencies are to ensure that proper packaging methods are used. Proper stacking and wrapping of pallets and correctly filling boxes protects against shifting during transport, environmental damage, breakage, opportunities for theft, and the risk of injury caused by falling items. Materiel that is properly packaged is easy to identify, move and load, and is unlikely to be refused by transporters. Recyclable, reusable, and compostable packaging should be the preferred options where possible, taking into account *Greening Government Strategy* targets on diverting waste and reducing single-use plastic.

a) Packaging items of similar type, size and condition makes it easier to construct stable and well-balanced pallets and boxes that are going to the same location. To package properly, departments and agencies should ensure that the necessary packaging materials are readily available, such as wooden pallets, and Gaylord or triple-wall or smaller boxes.

b) Materiel handing equipment such as forklifts, pallet jacks, pump trucks, pallet balancers and shrink-wrap rollers are other useful tools in the packaging process.

c) At the same time, consideration should be made of the *Greening Government Strategy* commitments related to reducing plastic packaging waste, including using more sustainable alternatives.

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[4] Departments and agencies should document any recall work performed on the asset.

[5] Technological improvements can be, but are not necessarily, examples of betterments.

[6] It should be noted that the shipper is not usually a recognized Importer of Record in Canada; therefore, it is a best practice for the consignee to proceed with the customs clearing, since most shippers in a foreign country do not want to pay for duties, taxes and brokerage fees.

[7] Consumable items are considered to be expended during use and do not have any recoverable value except as scrap.

[8] Note regarding emergency situations:

> *(1) Where, in the opinion of the lending department or agency, an emergency exists, a loan of public property may be made on obtaining a written acknowledgement of receipt of materiel assets noting asset specifications, count and condition thereof from the borrower according to subsection 3(2) of the Public Property Loan Regulations.*
>
> *(2) Where a loan is made pursuant to an emergency, the lending department or agency shall enter into a written contract for the loan in the form described in subsection (1), as soon as practicable thereafter the emergency.*
>
> *(3) The authority of this loan agreement would be that delegated to them by the deputy minister in the department's or agency's delegation instrument for the administration of their materiel assets.*

[9] All lent government-owned furniture and equipment located outside the department's or agency's work office is to be tracked annually.

When Crown materiel is no longer required to be used outside the department's or agency's work office to support operational requirements, managers are responsible for ensuring that it is managed in accordance with internal material management policy, programs and processes.

[10] The department or agency with seized assets needs to be aware that they need to have an arrangement with SPMD for these services and that there are costs associated with the provision of this service.

[11] Care should be taken to ensure that security and safety requirements related to the transportation of items containing sensitive information or toxic and hazardous materiel are met. Materiel packaged for transport should be labelled, and transportation records should be kept on file for auditing purposes. Efforts should be taken to reduce single-use plastics where there are alternatives.

6 Divestiture

6.1 Introduction

Divestiture is the removal of materiel from departments and agencies, both physically and in the materiel management information system. It is to be done only after all efforts to refit, repurpose or reuse the materiel within the department or agency have been explored. Divestiture includes authorized trade-in, transfer, sale, donation, recycling or conversion to waste. Divestiture normally, but not necessarily, occurs when materiel has reached or exceeded its life expectancy.

6.2 Objective

The objective of divestiture is to ensure that materiel that is deemed surplus to departmental requirements is divested in a manner that is open, transparent and fair, and results in the best value or, if appropriate, the optimal balance of overall benefits to the Crown.

6.3 Divestiture strategies

6.3.1 Departments and agencies should develop divestiture strategies based on the findings of ongoing and systematic performance assessments of their assets. Such strategies should include economic and program analysis that considers the full life-cycle costs and benefits of alternative solutions to meeting program needs through the use of materiel.

6.4 Elements of divestiture

The following are elements to be considered as part of each department's or agency's divestiture activities. This list is not exhaustive, and departments and agencies should add additional factors as applicable to their program requirements:

a) divestiture planning
b) declaring materiel surplus
c) determining method of divestiture
d) executing divestiture activities to physically remove the materiel from the department or agency and from the departmental records
e) documenting for audit purposes

6.5 Divestiture planning

6.5.1 Divestiture planning is the by-product of materiel planning. When determining materiel forecasts and plans, departments and agencies will determine whether they have too much of an item or will no longer require an item to meet departmental mandates, or the materiel is now considered to be obsolete and should be upgraded or replaced.

6.5.2 Factors for consideration in divestiture planning include but are not limited to:

a) engineering changes
b) capability or mandate changes
c) technological changes
d) dormant or excess stock
e) equipment obsolescence
f) supply chain accessibility changes
g) access to repair changes

h) beyond economical repair
i) life expectancy
j) safety, security and regulatory changes
k) surplus to program requirements
l) replacement with newer materiel that can deliver the program or operation at a lower cost
m) no longer meets security requirements
n) technologically incompatible with other materiel assets
o) no service contract or warranty coverage
p) spare parts or services are no longer available

6.6 Declaring materiel surplus

6.6.1 Departmental processes for both identifying and declaring materiel surplus are important because they help ensure that:

1) the identified materiel will no longer be procured
2) comptrollers can write the materiel down financially for the public accounts
3) identified items can be centralized prior to disposal, if appropriate

6.6.2 The method for declaring materiel surplus should maximize use of the materiel management information system, when possible. Doing so will facilitate information management across the entire department or agency, especially for departments and agencies that have multiple and widespread locations.

6.6.3 There are two key types of surplus. The first is all remaining holdings of that item of materiel are no longer required; such items will be fully divested. The second is there are excess holdings to meet departmental future requirements and only some of the materiel needs to be divested; such items will be partially divested.

6.7 Methods of divestiture (disposal)

6.7.1 Once materiel has been deemed surplus, there are four main methods of divestiture, in order of preference:

1) transfers to other federal government departments or agencies, usually through GCSurplus
2) sales at fair market value through GCSurplus[12]
3) donations to other levels of government or recognized charitable organizations
4) conversion to waste using GCSurplus or in an environmentally sustainable manner, which includes all efforts to recycle

6.7.2 To support the requirement to obtain the best value for the Crown, the method of divestiture will depend on the value of the surplus materiel and governmental objectives. Records of decision-making are to be kept.

6.7.3 Ministerial or deputy head (if delegated) approval is required for divestiture of materiel that is:

a) sold at less than fair market value
b) sold to a limited market
c) a donation of valuable surplus materiel
d) a donation to individuals or for-profit organizations

6.8 Valuation of surplus materiel

6.8.1 As part of the analysis to determine the most appropriate divestiture method, departments and agencies should determine whether the materiel has market value. GCSurplus, in most instances, is best suited to advise or act as a third-party assessor as to whether materiel will have a market value locally, nationally or internationally. However, for some materiel, other methods of valuation may be used, such as international agreements, previous sales, proceeds from scrap (if the scrap is worth more than the estimated proceeds from the sale), Internet sales forums, and occasionally local market mediums, especially for remote locations and overseas divestiture.

6.8.2 Surplus materiel is determined to be valuable when the reasonable estimated market value is higher than the cost to execute the divestiture. Costs to execute a divestiture can include the following:

a) cost to store and maintain during sales efforts
b) cost to package and prepare for delivery
c) cost to conduct the sale
d) transportation costs
e) cost to demilitarize, if required
f) cost to remove Government of Canada symbols
g) value of the materiel as scrap

6.8.3 Non-valuable surplus materiel is determined when the market value is less than the cost to execute the divestiture, as identified above.

6.9 Transfers

6.9.1 Whenever practicable, departments and agencies should make surplus materiel available for transfer[13] at book value to other federal departments and agencies before divesting of the materiel outside the federal domain (subsection 4.3, *Directive on Management of Materiel*).

6.9.2 As part of this practice, departments and agencies should undertake the following:

a) determine whether it is appropriate to transfer the materiel. Transfer is appropriate under one or both of the following conditions:
   i. the use of the materiel supports government programs, and the exchange is cost-effective for the government as a whole
   ii. the materiel is compliant with the *Directive on the Duty to Accommodate*; namely, it addresses individuals' accommodation needs with regard to work-related policies, practices, systems or procedures that exclude or hinder their full and equal participation in employment in the core public administration
b) be responsible for their own surplus materiel, including operating costs and storage costs, until such time as the transfer of title to another owner is completed
c) determine what compensation is expected and when the materiel can be made available
d) make the transfer appear as one of the following:
   i. a new acquisition to the receiving department or agency
   ii. a disposal to the transferring department or agency
   iii. being of ongoing use: the plans for the materiel that were submitted and the performance of the materiel that was reported with one custodian will remain essentially unchanged when the receiving federal custodian takes over

e) determine whether the materiel has not already or previously been declared surplus; if an asset is deemed to have already been made surplus, the department or agency does not need to use PSPC's GCTransfer and will transfer the materiel between the departments or agencies; however, the department or agency is to provide an audit trail
f) ensure that direct transfers of materiel have an audit trail
g) ensure the transfer of surplus materiel through GCTransfer according to policy
h) ensure that the receiving department or agency accepts all responsibilities of ownership through an MOU and is responsible for all costs associated with the transfer of materiel, which are to be received in as-is condition, as well as for all future costs associated with maintenance, repairs and improvements; the history of the asset is sent to the receiving department or agency
i) ensure that the department or agency that is transferring its surplus materiel is responsible for operating and storage costs, until such time as the transfer of title to another owner is completed

6.10 Sales

6.10.1 If surplus materiel cannot be transferred within the federal government, then a sale may be considered. A review of the surplus materiel should be undertaken in order to consider the appropriate sales strategy. GCSurplus offers consultations to client departments and agencies regarding sales strategies. The method used to sell surplus materiel should support federal programs and maximize overall benefits to the Crown. In general, surplus materiel can be sold if the estimated proceeds of a sale are greater than the estimated transaction costs of processing the sale.

6.10.2 Departments and agencies should sell materiel using open and competitive processes that provide equal opportunity to all Canadians. To the greatest extent possible, materiel should be sold at fair market value. A directed sale at below fair market value can be completed only with the minister's or delegate's written approval. Sales to a limited market should be used sparingly and only if the approach provides a benefit to Canada.

6.10.3 In addition to the financial value, sales should consider (if applicable) circumstances of significant non-monetary value that may be considered for best overall value to the Crown. Determining such value includes weighing the costs associated with not conducting a sale. These costs could include but are not limited to any offset costs associated with consolidation, decontamination, destruction and disposal. Consult GCSurplus for other best practices in considering value.

6.10.4 When selling surplus materiel within Canada, departments and agencies can use services, contracts and standing offers administered and provided by GCSurplus. Non-restricted assets, such as vehicles and furniture, are sold to the public using the Government of Canada's online auction platform, GCSurplus.ca. Controlled goods, assets being sold under a contractual right of first refusal, and specialized equipment are sold to a restricted verified market through the GCSurplus GCMil program (see subsection 6.10.12).

6.10.5 Other federal agencies, corporations and provincial, municipal and joint initiatives can use the services of GCSurplus under an audit trail. When selling surplus materiel outside Canada,

departments and agencies are authorized to sell their surplus assets directly. Departments and agencies are encouraged to contact GCSurplus for sales assistance.

6.10.6 Materiel management practitioners should work closely with their respective technical authorities, and GCSurplus sales representatives are to act with integrity and ensure that sales processes are fair, transparent and free from actual or perceived conflicts of interest. The rationale for divestiture decisions are to be documented, auditable and hold up against public scrutiny.

6.10.7 Departments and agencies should reach out to GCSurplus early in the divestiture process to ensure that sales are transacted optimally. GCSurplus sales centres located across the country can provide advice on topics such as marketing, value and lot size.

6.10.8 Departments and agencies are to conduct a cost-benefit analysis to determine whether a sale provides an overall benefit to Canada[14]. The analysis should examine not just whether surplus materiel should be sold, but how it should be sold. Transaction costs can vary widely according to the strategy implemented, so it is imperative to consider all available options. Surplus materiel may be sold through GCSurplus in the following ways:

a) from the department's or agency's site (also known as a client-site sale)
b) from a GCSurplus warehouse
c) through a GCSurplus period contract
d) through a GCMil period contract for the sale of scrap metal (controlled goods) with a condition to demilitarize and convert to waste
e) through GCMil for trade-ins of controlled goods

6.10.9 Departments and agencies should strive to maximize overall benefit to the Crown and reduce overall cost of ownership. To achieve this, departments and agencies should undertake the following:

a) sell materiel efficiently and avoid unnecessary delays
b) use competitive processes that provide equal opportunity to all Canadians
c) adopt strategies that optimize value
d) implement measures that decrease risks
e) provide accurate and complete product information
f) sell surplus materiel in accessible lot sizes

6.10.10 Departments and agencies are to ensure that divestiture activities adhere to legislated requirements, including those related to safety, security and the environment. Before proceeding with a sale, departments and agencies are to:

a) ensure that Canada has clear title to the asset being sold
b) certify that surplus materiel does not pose a risk to safety or the environment
c) confirm that surplus materiel does not have heritage value
d) remove information and wipe or remove all media
e) remove asset tags and government decals
f) remove enforcement lights and proprietary equipment
g) ensure that controlled goods are handled properly

6.10.11 In order to initiate a sale with the general public, Departments and Agencies must submit a Report of Surplus (ROS) by way of a government of Canada online submission tool called

GCSic (Client Interface of the Government of Canada's Surplus). Only registered GCSic users can submit a ROS. Departments and agencies are required to verify their registered GCSic users and to ensure that the information recorded in the online reporting tool is accurate and complete.

6.10.12 The ROS should include information relevant to the sale. This includes but is not limited to the following:

a) product features, such as year, manufacturer name and model
b) quantity
c) serial number or vehicle identification number (VIN) or hull identification number (HIN)
d) usage information (hours and mileage)
e) condition
f) location
g) contact information

6.10.13 Further to the articles outlined in this subsection, GCMil is the subject matter expert, sales agent and contractual authority for the provision of strategic, procedural and sales advice on the divestiture of surplus controlled goods and specialized assets for client departments and agencies, including full platforms such as aircraft fleet:

a) Internationally, the sale of controlled goods is governed by strict policies and international laws. GCMil considers inherent risks associated with the sale of controlled goods and specialized assets. Resulting terms and conditions are developed in consultation with key stakeholders to mitigate risks and indemnify the Crown.
b) To ensure compliance with international laws and treaties, all GCMil sales and initial engagements are subject to a verification process in coordination with key stakeholders.
c) The GCMil restricted website is the primary web-based platform used for the sale of surplus Government of Canada controlled goods and specialized assets. GCMil, in collaboration with National Defence, may use the NATO Logistic Stock Exchange sales module when deemed appropriate or at the request of National Defence.
d) As part of the sales process, Canada provides the opportunity to purchasers to satisfy themselves with the condition of the assets. GCMil, in coordination with the client department or agency, is the lead government official representative for resulting bidder or site inspection visits.
e) Offers to purchase are weighed against the predetermined evaluation criteria and proposed client-approved end use. The client department or agency is consulted to ensure that there are no known barriers that would prevent GCMil as the contracting authority from accepting the offer.
f) The GCMil contracting authority represents the Government of Canada in the negotiation process to ensure the overall best value to the Crown, segregation of authorities, and no real or perceived conflicts of interest.
g) As part of negotiations, the GCMil contracting authority collaborates with the appropriate specialists, such as the client department or agency technical authorities, functional authorities, PSPC and client department or agency legal services.
h) GCMil is responsible for entering into and amending sales contracts.
i) GCMil monitors contractual deliverables and milestones including but not limited to financial arrangements, third-party transfer requests, security clearances, export permit approvals,

removal plans, physical removal and discrepancy verifications.

6.10.14 Departments and agencies should ensure that technical records, historical data, manuals, registrations and original ownership documents are provided to GCSurplus and, when necessary, to the purchaser. Failure to provide these items may diminish value and cause delays or render the sale invalid.

6.10.15 GCSurplus tenders contracts for the sale of bulk marketable scrap waste products such as scrap metal and batteries. Departments and agencies that have sites that manage large volumes of marketable waste products should contact GCSurplus.

6.10.16 Surplus materiel are to be properly safeguarded to minimize theft, loss and damage. The asset custodian's stewardship responsibilities cease only once the item is sold and removed from the property. Ownership remains with the department or agency until the materiel is sold.

6.10.17 GCSurplus does not sell the following[15]:

a) electronic waste (when provincial programs are in place or it is offered to CFS+)
b) medical equipment greater than Class 1
c) heritage assets (unless having consulted with Canadian Heritage)

6.11 Donations

6.11.1 Materiel may be donated when the cost of selling an item exceeds the probable proceeds of sale or when the Crown can gain a significant non-monetary benefit. Ministerial authority, or deputy head authority, if delegated, is required in writing when donating an item for which the proceeds of sale would exceed the disposal cost. Departments and agencies are able to make the decision to donate surplus materiel on a case-by-case basis[16]. Donations can be made only to any of the following:

a) a Crown corporation, federal agency, provincial/territorial government, Indigenous People, or municipal government in Canada
b) a recognized charity or non-profit organization located in Canada
c) other national governments, treaty organizations of which Canada is a member, or the United Nations

6.11.2 In choosing recipients, departments and agencies should consider transparency and value to the Canadian taxpayer.

6.11.3 Before a donation is made, materiel is assessed to determine the IP and heritage, cultural, Indigenous or controlled goods value. More information on this assessment can be found in the relevant sections in this guide.

6.11.4 Materiel that has not surpassed its life expectancy is to be assessed for its market value before being donated. Capital assets require appraisal by a third-party expert external to the organization. For non-capital materiel, appraisals may be performed by an expert third party not involved with the deciding body involved with the transaction, or this expert may be internal to the organization. Both valuations can be conducted by GCSurplus.

6.11.5 Materiel that has surpassed its life expectancy is donated through the department or agency in a way that the public would perceive as fair and transparent. While the minister's signature is

not required for such transactions, a written justification for audit purposes is to be kept on file that outlines the benefits to the public of such a donation. In keeping with value to the Canadian taxpayer, departments and agencies would be expected to perform expert valuation on capital assets by someone who is separate from the decision-making body in that organization before a donation is made. Departments and agencies should have policy instruments in their materiel management framework that outline the procedures for such a donation and the required authorizations.

6.11.6 When donating low-value surplus movable assets to recipients outside the federal domain, departments and agencies should ensure that recipients[17] are selected in a way that the public would perceive as fair, equitable and transparent. To ensure fairness and transparency to all eligible recipients, ensure that donations are not made repeatedly to the same recipient when there are multiple requests for the same item. For surplus low-value assets, departments and agencies should:

a) use the GCSurplus GCDonate platform to identify potential recipients
b) donate surplus low-value assets where they will receive the greatest use or do the greatest good (to the extent possible)
c) donate surplus low-value assets when a sufficient quantity has been collected
d) ensure that donations reflect value to the Canadian taxpayer and can withstand public scrutiny

6.12 Take-back

6.12.1 The take-back[18] method is used where a contractual arrangement exists that requires returning the surplus materiel to the original supplier (e.g., used toner cartridges).

Take-backs are aimed to reduce environmental impacts where the original supplier can benefit by reducing the need to purchase raw material. They also make it easier for departments and agencies to dispose of materiel.

6.12.2 Take-back arrangements depend on several important factors, including reusability and recyclability and the ease in which materiel that has reached its end of life (EOL) can be repurposed or recycled. When departments and agencies conduct a take-back, they should ensure the following:

- the take-back is clearly identified as part of the contracting process for the EOL materiel
- the procurement contract or standing offer agreement (SOA) clearly stipulates the terms and conditions of the take-back where applicable
- appropriate records of the take-back are documented

6.12.3 When practical, acquiring office, electronics or other type of materiel through lease arrangements can incentivize suppliers to provide better quality products that last longer and to reuse and recycle hardware components at EOL. This could also be more cost-effective for life cycle management. Incorporating extended producer responsibility would make producers financially responsible and accountable for recovering, recycling and reusing EOL electronics.

6.13 Trade-ins

6.13.1 Trade-ins[19] are the exchange of materiel that currently belongs to the federal government for new materiel that belongs to a third party. When departments and agencies conduct a trade-in, they should ensure the following:

a) the trade-in is clearly identified as part of the contracting process for the replacement materiel

b) a procurement contract or standing offer agreement (SOA) clearly stipulates the terms and conditions of any trade-in where applicable
c) appropriate records of trade-in activity are kept for accounting and audit purposes
d) the value of the trade-in is accounted for as the proceeds of disposal

6.14 End of life

6.14.1 End of life (EOL) refers to materiel for which a requirement still exists in the department or agency; however, the individual item can no longer be used or returned to use for its intended purpose as determined by an on-site technical inspector, or otherwise assessed by an authorized individual. These items, through the course of use and the need for repair, have been determined as being unserviceable or unrepairable. These items will be determined as having reached EOL in lieu of surplus.

6.14.2 EOL items should be disposed in an environmentally sustainable manner and with consideration for the best or highest net value for the Crown. Items at EOL would include materiel that is beyond economical repair, broken and non-repairable, condemned, consumable, has a shelf life that has expired and cannot be extended, or beyond maintenance for safety reasons.

6.14.3 EOL does not apply to the following:

a) materiel that has been lost, damaged, stolen or destroyed
b) loss of real property
c) capitalized assets
d) vehicles that are not serviceable

6.15 Special considerations

The following paragraphs pertain to items that have special considerations during divestiture.

6.15.1 Retirement of animals

6.15.1.1 Departments and agencies that have live animals as part of their program delivery mandate are required to develop departmental policies that respect the requirements for value for money, sound stewardship of resources and program delivery, and that include a requirement for ethical and humane treatment of the animals. For some working animals (dogs, horses, etc.), the development of retirement options that are in the best interest of both the Crown and the animal are encouraged.

6.15.1.2 Departments and agencies that are required to deal with animal remains are to have a departmental policy that addresses concerns with safety, security, disease, contamination and destruction.

6.15.2 Computers for Schools Plus program

6.15.2.1 Computer equipment that has gone through GCTransfer and is no longer useful in federal departments and agencies gains a new and valuable lease on life by being offered to the

Computers for Schools Plus (CFS+) program. The computers are donated to Canadian schools, libraries, not-for-profit organizations, Indigenous communities and low-income households.

6.15.2.2 CFS+ helps Canadians take full advantage of the digital economy by directing surplus unclassified computers and related hardware destined for disposal to classrooms and Canadians across Canada. When participating in this program, departments and agencies should undertake the following:

a) Perform the first purge of information from the hard-drive and data storage devices. Departments and agencies are responsible for ensuring that security concerns are addressed. Departments and agencies can ensure that all hard drives are sanitized using approved software. Details of information technology security procedures can be found in *IT Media Sanitization* (ITSP.40.006) and in *Clearing and Declassifying Electronic Data Storage Devices*.
b) Do not strip the equipment of vital operating components if it is being offered to CFS+.
c) Ensure that any equipment donated to CFS+ includes the power cord in the donation of the equipment.
d) Ensure that users remove Apple devices from the cloud prior to transferring to CFS+; otherwise, devices cannot be wiped or used by the program.
e) Ensure that, when surplus computer equipment cannot be relocated within the department or agency, all such equipment, including equipment with adaptive technology, is offered to CFS+. Surplus computer equipment includes personal computers, laptops (Windows and Macintosh), tablets, Surface Pro devices, monitors, keyboards, mice, printers, modems, servers, hubs, network cards, iPhones, Android phones and emerging technology.

6.15.2.3 Exceptions to donating materiel to CFS+: Departments and agencies should dispose of all personal computers and related equipment rejected by CFS+ through authorized disposal options.

6.15.3 Electronic waste

6.15.3.1 Surplus electronic and information technology equipment that has no resale value should be converted into waste. Departments and agencies should ensure that disposal of electronic and electrical materiel (i.e., e-waste) follows requirements for information security and identity management (i.e., Federal Identity Program) and is compliant with the department's or agency's security policy requirements. When surplus electronic or electrical or information technology materiel assets have no reuse or resale value or the cost of disposal exceeds the expected proceeds of sale, they should be directed to a recycling program. Circularity options should be considered as well, whereby the product is leased or purchased from the vendor and returned at the end of its life cycle for upgrades and repair prior to resale or re-lease as part of the procurement contract.

6.15.3.2 Provincial recycling programs: Some provincial programs are funded by environmental handling fees added to the purchase of new products. For example, most provinces now have an e-waste program for recycling regulated end-of-life electronic and electrical equipment. At the time of disposal, there is no fee to use these programs, but there may be costs to ship materiel assets to a collection depot. Examples are Alberta Recycling Management Authority, Return-It Express (British Columbia), Nova Scotia and Recycle My Electronics (Saskatchewan). The Inventory of recycling programs in Canada also provides links to extended producer responsibility programs, product stewardship programs and other related initiatives across Canada. Additionally, Electronic Products Stewardship Canada and the Electronic Product Recycling Association provide further information

about recycling electronic and electrical equipment. Proof of documentation is required from the provincial program and the e-waste company.

6.15.4 Software

6.15.4.1 The software licence includes terms and conditions related to the authorized use of the software (including the right to install, copy, access and otherwise use the software). Licence rights are usually specific to a commercial release of the software. Licences may be purchased for new software or an upgrade of software already licensed to the department or agency. Licences can be perpetual or may need to be renewed annually. Although a licence can be perpetual with no expiry date, the useful life of a software product can be affected by the evolution of technology.

6.15.4.2 The terms of the licence agreement should be followed when licensed software on any information technology equipment is being surplused, transferred, traded in or disposed of, or the hard drive is replaced. In most cases, the software should be entirely removed from the information technology equipment, and the System of Record should be updated.

6.15.4.3 Departments and agencies should work with their information technology branch to identify the software titles that are no longer in use (or required for program purposes) and remove the software from the department's or agency's network.

6.15.5 Controlled goods

To be completed upon further consultation with the working groups.

6.15.6 Heritage assets

6.15.6.1 The Government of Canada is committed to ensuring that materiel that has heritage value is safeguarded for the benefit of all Canadians, including Indigenous Peoples of Canada, and is accessible to them. Heritage property can have individual or collective meaning and heritage value and, in many instances, contribute to telling the stories of Canada.

6.15.6.2 It is important to ensure the following:

a) heritage collections are identified and protected
b) the heritage value of these assets is assessed
c) a record of these assets is kept that includes accurate information on their nature and condition

For further information, refer to Annex C.

6.15.7 Cultural assets

6.15.7.1 The Government of Canada is committed to ensuring that materiel that has cultural value is safeguarded for the benefit of all Canadians, including Indigenous Peoples of Canada, and is accessible to them. Cultural assets can have individual or collective meaning and cultural value and, in many instances, contribute to telling the stories of Canada.

6.15.7.2 It is important to ensure the following:

a) cultural collections are identified and protected
b) the cultural value of these assets is assessed
c) a record of these assets is kept that includes accurate information on their nature and condition

For further information, refer to Annex C.

6.15.8 Indigenous artifacts and assets

6.15.8.1 The Government of Canada is committed to ensuring that materiel that has Indigenous cultural value is safeguarded and accessible, and that modern treaty provisions that address requirements related to Indigenous artifacts and assets are honoured. Indigenous artifacts and assets can have individual or collective meaning and cultural value and, in many instances, contribute to telling the stories of Canada.

6.15.8.2 It is important to ensure the following:

a) Indigenous artifacts and assets are identified and protected
b) the cultural value of these assets is assessed
c) a record of these assets is kept that includes accurate information on their nature and condition

For further information, refer to Annex C.

6.15.9 Specialized sales

To be completed upon further consultation with the working groups.

6.15.10 Divestiture of clothing

6.15.10.1 Departments and agencies should remove all Government of Canada identity markers before divestiture. If the Government of Canada or departmental identity markers cannot be removed, the clothing item should be shredded and recycled.

6.15.11 Divestiture of assets in remote locations and outside Canada

6.15.11.1 There are many elements to consider when divesting of materiel in remote locations and outside Canada. Online sales have opened the door to selling materiel, even when it is remotely located or outside Canada. Customers have the opportunity to bid on materiel regardless of where they are. It is important for departments and agencies to analyze and document their divestiture decisions, taking into consideration many factors in order to ensure an approach that is based on overall benefit to the Crown.

6.15.11.2 Departments and agencies should evaluate whether the anticipated proceeds from a potential sale exceed the cost of disposal. They should also estimate the potential proceeds of a sale by researching current market value through previous sales and similarly sold items, especially in relevant markets. GCSurplus can provide guidance to departments and agencies and help with managers' evaluations.

6.15.11.3 Factors that should be considered when determining whether to use the services of GCSurplus for remote locations include the following:

a. the type of materiel may be of great benefit to the community and should be considered for donation
b. the location of the materiel may severely limit the pool of potential buyers
c. the depreciated value of an asset
d. the physical environment and associated warehousing, transportation and handling costs
e. whether GCSurplus can be used to target the community at large and serve as the means of showcasing the asset

6.15.12 Divestiture of books

6.15.12.1 The Government of Canada divests of many types of books and publications. It is important to understand the variations in these assets in order to follow the proper divestiture procedures. Departments and agencies are to consult their departmental information management experts to discuss their internal procedures for these products.

6.15.12.2 There are two Government of Canada groups that specialize in publications:

a) PSPC's Depository Services Program
b) Library and Archives Canada

6.15.12.3 Government of Canada publications come in both hard copy and electronic formats. All departments and agencies listed in Schedules I, I.I, and II of the FAA are to adhere to the Treasury Board's *Procedures for Publishing*, which provides instructions on how books and other publications should be managed and how portable format copies (electronic) of all departmental publications should be provided to the Depository Services Program. Visit www.publications.gc.ca for more information.

6.15.12.4 Publications in electronic and tangible formats should also be sent to the Legal Deposit Unit at Library and Archives Canada.

6.15.12.5 There are different types of publications and books used by the Government of Canada:

a) books created and published by Government of Canada departments and agencies
b) books authored by third-party sources used for reference purposes

6.15.12.6 Government of Canada departments and agencies have a responsibility to ensure that publications and books authored by the Government of Canada are available for future generations. When considering divestiture, visit www.publications.gc.ca to see whether these publications are already in its collection. If they are, move forward to disposal. If not, have the publications deposited both with PSPC's Depository Services Program and Library and Archives Canada.

6.15.12.7 Library and Archives Canada has published guidance documents available to all departments and agencies through the *Surplus Publications Procedure*.

6.15.12.8 Publications available only in print format should be digitized to ensure that future generations have access to them. Government of Canada departments and agencies are subject to the *Procedures for Publishing* and are required to provide their publications in a portable electronic format to the Depository Services Program, regardless of whether a print edition is published. If a department or agency wants its publications added to the www.publications.gc.ca collection and the publications are in print format only, they may contact PSPC's Document Imaging Solution Centre services to digitize the collection.

6.15.12.9 Books and other publications that are not published by the Government of Canada may be disposed of using regular procedures.

6.15.13 Divestiture of materiel contaminated with hazardous substances

6.15.13.1 For departments and agencies that have materiel that has been contaminated with hazardous substances, they should consider the following prior to divestiture:

a) Identify the source and type of contamination.

b) Read Material Safety Data Sheets[20] to identify the source of contamination. These should be reviewed periodically to ensure that proper disposal action is initiated.

6.15.13.2 Further information on office furniture, furnishings and equipment that have been contaminated with hazardous substances can be found in Annex A.

6.15.14 Gifts to departments or agencies from sources outside government

6.15.14.1 Departments and agencies can receive materiel assets from outside sources in many instances, such as through wills and personal donations.

6.15.14.2 In many instances, such as official visits or other protocol events, there may be an exchange of national or departmental gifts to commemorate the visit or event. These gifts can be of significant value and their disposition or placement should be controlled.

6.15.14.3 The disposition of gifts received by official offices is:

a. for items to be retained:
    i. displayed within departmental facilities, including offices
    ii. for items that have departmental, environmental or heritage value: right of first refusal is provided to Canadian Heritage
    iii. returned to a gift bank to be held until redistribution. Such items should be nondescript in that they are non-identifiable as to either the source of the gift or the recipient of the gift (i.e., they do not have a personalized engraving)
b. for items to be destroyed:
    i. all distinguishable markings such as the source of the gift or the recipient of the gift are removed and the item is converted to waste in an environmentally sustainable manner
c. for items to be sold:
    i. the item are to be nondescript in that they are non-identifiable as to the source of the gift or the recipient of the gift
    ii. the items are sold through GCSurplus, with the proceeds returned to the Crown

6.15.15 Divestment of boats, ships and pleasure craft

6.15.15.1 Materiel managers should conduct the same analysis and review the same divestiture options as they do with other assets. There are many elements to consider when divesting of boats, ships and pleasure craft, including:

- Is the vessel[21] seaworthy, or is it easily repaired to become seaworthy?
- Should the asset be transferred?
- Does the department or agency or another Government of Canada organization require the vessel?

6.15.15.2 In divestiture, materiel managers are always seeking best overall value for the Crown. It may be in the best interest to offer Canadians the opportunity to purchase these assets to benefit them economically. It is presumptive to assume that these assets will become derelict.

6.15.15.3 Moving directly to recycling is a cost to the Crown and eliminates the opportunity for Canadians to benefit from potential economic opportunities and the Crown to recover some of the cost for the asset.

6.15.15.4 The new *Wrecked, Abandoned or Hazardous Vessels Act* provides Canada with an additional layer of protection and the ability to hold vessel owners accountable for the vessels in their custody.

6.15.15.5 For vessels that are derelict and cannot easily be repaired, PSPC's Marine Navigation and Remediation team may be of assistance.

6.15.15.6 Pleasure Craft (Provincial) and Small and Large Vessel (Federal) Registration

6.15.15.7 Instructions

Things to consider before submitting a Report of Surplus (ROS) to GCSurplus:

a) Research whether the small or large vessel in question is registered through the provincial or federal entity with Transport Canada:
    - Small Vessel Register (e.g., official number C01234BC)
    - Large Vessel Register (e.g., official number 123456)

i) All government identifiers are to be removed by the custodian prior to the vessel being declared surplus and photographed by GCSurplus staff – no exceptions.

ii) For small and large vessels that have an official number assigned to them, it is always best to run a search in the Vessel Registration Query System (TC–VRQS) database before reporting a vessel for disposal. This database provides many details about the vessel's physical dimensions and statistics that can be added to the ROS.

iii) Prior to declaring a vessel surplus, ensure that it has been deregistered with Transport Canada.

iv) To deregister a vessel, the department or agency are to email the vessel's particulars, including its registration number, to the Transport Canada Vessel Registration office.

v) For Federally Legislated Small Commercial (Registered with Transport Canada).

vi) Note: If a vessel's registration number begins with "C," which represents the majority of the boats sold on GCSurplus, the responsibility of ownership transfer rests solely with the purchaser.

b) The following information will be required for the ROS:
    - hull identification number (HIN)
    - vessel name, if applicable
    - official number
    - port of registry (applicable to large vessels with federal entity only)

For more information on *Service Standards for Marine Safety*, visit Transport Canada's Vessel licensing and registration web page.

Purchasers who have questions or concerns regarding vessel registration should call Transport Canada at 1-877-242-8770.

[12] Consult a GCSurplus representative to identify marketable waste. There may be existing contracts in place for this purpose or a sales contract can be warranted.

[13] Arrangements for a transfer of materiel to another department or agency are made directly between the departments and agencies involved and normally do not require a Treasury Board submission. Transfers are subject to the departmental policies and processes related to acquisition and disposal. Departments and agencies are not obligated to transfer any materiel or accept any materiel offered for transfer if it does not align with the departmental materiel management strategy.

[14] Departments and agencies should choose a strategy that, when divestiture costs and operational requirements are considered, provides the greatest overall benefit to Canada.

[15] Contact GCSurplus for assets that contain hazardous materials in order to determine feasibility of sale.

[16] Donations to individuals or to private sector organizations require ministerial (or delegate) authority. These types of donations are to be justifiable and able to stand public scrutiny.

[17] The recipient organization(s) should be responsible for all cost(s) associated with the donation, such as pickup and delivery and shipping and handling costs. Donations are to be made on an as-is-and-where-is basis, and the recipient should sign an agreement that the Crown is forever held blameless of any accident, injury or other untoward event once the item is received. When donating assets to recipients not identified on GCDonate, departments and agencies should seek legal guidance in creating this agreement.

[18] Take-backs are not authorized for vehicles.

[19] Trade-ins are not authorized for computer equipment or vehicles.

[20] A Material Safety Data Sheet (MSDS) is a document that contains information on the potential hazards of (health, fire, reactivity and environmental) and how to work safely with a chemical product. It also contains information on the use, storage, handling and emergency procedures related to the hazards of the material.

[21] To divest of a vessel, contact GCSurplus for guidance and advice.

7 Appendix A: Life Expectancy Table

To assist with materiel planning, departments and agencies should identify the life expectancy of the materiel they procure. The anticipated life expectancy[22] can be used by departments or agencies as a benchmark to assist with decision-making processes, including:

a) establishment of a planning life cycle
b) financial planning for reinvestment and replacement
c) materiel costing and valuation
d) refurbishment
e) when to consider for divestiture

Table 1 provides a list of standardized materiel life expectancy that can be used across the government. However, it is recommended that departments and agencies develop, within their materiel management framework, a departmental-specific table that accounts for the operating conditions and other factors that are imposed on materiel within their unique mandates. As this is a planning tool, it is recommended that the life expectancy table and the amortization rates be similar wherever possible.

7.1 Table 1: materiel life expectancy

Asset category and type	Suggested or recommended life expectancy (years)
Aircraft	
Airplanes	40
Helicopters	35
Gliders	15
Remotely piloted systems	10
Watercraft	
Large ships (over 100 passengers)	40
Small ships (25–100 passengers)	40
Boats (1–25 passengers)	15
Personal watercraft (1–2 persons)	5
Vehicles	
Light-duty vehicles (passenger cars and small trucks)	7
Medium-duty vehicles	10
Heavy-duty vehicles, including tractor-trailers	10
Trailers	15
Motorcycles, motor scooters and bicycles	5
Large off-road (multi-person 2+)	10
Small off-road (one- and two-person) including snowmobiles, quads, and gators	5
Shop	
Woodworking equipment	10
Metal-working equipment	10

Repair shop equipment	10
Hand tools	5
General-purpose shop equipment	10
Agriculture	
Agricultural machinery, including tractors	10
Construction	
Excavating equipment	7
Grounds maintenance equipment	5
Pumps and compressors equipment	10
Measuring tools	5
Scaffolding equipment	5
Prefabricated structures	10
Building operations	
Heating and air-conditioning equipment	10
Plumbing and sanitation equipment	6
Lighting fixtures and lamps	5
Kitchen equipment	10
Storage equipment (lockers, safes, etc.)	10
Alarm and signal systems	10
Laboratory	
Specialized lab equipment	7
Lab instruments	7
General-purpose lab equipment	10
Photographic equipment	
Cameras	5
Lenses	5
General-purpose photographic equipment	5
Office	
Office furniture	10
Office equipment	5
Office supplies (includes binders)	1
Office furnishings	5
Publications (maps, books, pamphlets, etc.)	1
Warehouse	
Asset-tracking devices	5
Storage cabinets and shelving	25
Materiel-handing equipment	10
Information technology	
Radio equipment	7
Communication equipment	5
Desktop computers	5
Laptops	4
Tablets	3

Servers	10
Networking equipment	7
Cellphones	2
Monitors	5
Employee equipment	
Clothing	1
Safety gear	5
Personal protective gear	
Masks	5
Respirators	5
Face shields	5
Safety helmets	5
Goggles	5
Hospital gowns	5
Aprons	5

[22] The life expectancy is not to be used as supporting evidence for divestiture. It is only a starting point for planning purposes where departments and agencies may not yet have developed suitable data and metrics for the life cycle of materiel according to the standards, quality and use within the department or agency.

8 Annex A: Additional guidance for management of furniture, furnishings and equipment

8.1 Introduction

Furniture, furnishings and equipment are some of the Government of Canada's largest materiel categories. Across departments and agencies, the Government of Canada spent ($175 million in 2019–20) on furniture during the 2019–20 fiscal year. Proper management of furniture is essential to provide best value and good governance for Canadians.

8.1.1 Purpose

Organized around a life-cycle approach, this Annex provides guidance and best practices that complement the *Directive on Management of Materiel*. This format enables decision makers to adhere to a common set of procedures and to ensure that their decision-making and management practices are consistent with the full range of best practices and guidelines.

8.1.2 Terminology

Common spaces are the boardrooms, kitchens and sitting areas of an office building. It includes telecommunications, video-conferencing equipment, appliances, chairs and tables.

Furniture refers to movable objects that support the human body, provide storage, or hold objects above the floor such as desks, chairs, fixed shelving and filing cabinets.

Furnishings are movable objects, other than furniture or office equipment, that are located within a government-occupied location and can serve either a decorative or functional purpose. Examples include lamps, artwork and plants.

Government-occupied locations are all locations that are owned, rented or leased by the Government of Canada for the purpose of executing Government of Canada business. Examples include office buildings, staff quarters, laboratories and Canadian Armed Forces bases.

Office equipment is located in an office and is used in the delivery of a departmental mandate. It includes telephones, photocopiers, computers, printers and fax machines. Electronic and electrical equipment (EEE) is any equipment with a plug or battery, or any equipment that uses electricity to perform its intended function.

8.2 Planning

8.2.1 Materiel management practitioners have unique insight, tools and data to assess the life-cycle performance of the materiel types that are key to achieving results and outcomes in line with policy and business requirements. Adequate planning is important to ensure that organizations can optimize the costs, time and effort associated with the management of their materiel. The furniture, furnishings and equipment required by each department and agency are shaped by the following:

- its mandate, organizational structure and capacity
- its programs and services
- the population it serves
- its geographic, cultural and historical context

Office furniture, furnishings and equipment have a strategic importance as part of the infrastructure on which work and resulting program outputs are based.

8.2.1.1 Departments and agencies are responsible for planning, acquiring, managing and divesting of the office furniture, furnishings and equipment they need to generate the work outputs that support program delivery. Departments and agencies should consult the expertise of their materiel managers during the life-cycle planning process.

8.2.1.2 Commercial-grade furniture is certified to meet certain specifications, according to requirements established by the National Furniture Centre of Expertise. This means the furniture has undergone rigorous laboratory testing before being certified for durability, ergonomics, sustainability and safety. Generally, non-commercial grade furniture would fail the performance tests required. Uncertified products should not be purchased or installed within government office space, as the risks outweigh the cost savings. Risks include, but are not limited to, inadequate ergonomics that could lead to bodily injury, warranty issues, and premature replacement costs due to poor quality. These risks represent potential liabilities for the government.

8.2.1.3 Office furniture in government offices should be based on established industry safety and performance standards for institutional furniture, such as:

a) ANSI/BIFMA: Various test standards addressing product structural performance, safety, durability and sustainability (BIFMA levels)
b) TB-117-2013: California Technical Bulletin 117 – Flammability Standard requirements
c) CAN/CGSB: Various standards addressing product dimensions and component requirements
d) CSA C22.1: Canadian Electrical Code, part 1, Safety Standard for electrical installations
e) ULC-S102: Standards Method of test for surface burning characteristic of building materials and assemblies

8.2.2 Operational needs assessment

8.2.2.1 Departments and agencies should ensure that all office furniture, furnishings and equipment are acquired and managed in support of the organization's approved program delivery needs and priorities. A needs assessment provides the foundation for a plan that aims to achieve the right balance of materiel, services, internal resources, policies and processes to support program delivery within its means.

8.2.2.2 The needs assessment for office furniture, furnishings and equipment should be scaled to the needs of the organization and should profile the key materiel currently in use, including key data such as, but not limited to:

a) types of materiel currently in use
b) physical characteristics of materiel
c) operating requirements
d) condition, including age, appearance, serviceability and warranty
e) quantities in service and how they are allocated
f) use of commercial or custom designs and features
g) other unique or special materiel, such as heritage, artistic, religious or other materiel that has real or symbolic value
h) maintenance or service information, including data on replacement and disposal
i) expected life cycle

j) estimated financial value of in-service materiel and the replacement value of the materiel

Needs assessments should, where possible, match the materiel to different types of work and environments. Examples of different types of environments may include laboratories, service counters, warehousing, monitoring, processing, commercial office and training facilities.

8.2.2.3 Assessments should also cover the corporate, legal and policy environment of the organization. For example, departments and agencies may have established commitments to sustainable development, health and safety, regulatory, or business requirements resulting from information security or privacy requirements.

8.2.2.4 The validation of organizational needs should involve stakeholders of different operational areas and corporate interests. This exercise should result in a description of the minimum acceptable performance and, where applicable, the optimal desired performance of office furniture, furnishings and equipment in qualitative terms that will both meet operational needs and be achievable within organizational means.

8.2.2.5 The validation of organizational needs should involve stakeholders of different operational areas and corporate interests. This exercise should result in a description of the minimum acceptable performance and, where applicable, the optimal desired performance of office furniture, furnishings and equipment in qualitative terms that will both meet operational needs and be achievable within organizational means.

8.2.3 Planning for accessibility in the office environment

8.2.3.1 The office environment is to be free of barriers, according to the *Accessible Canada Act* and CAN/CSA-B651 *Accessible design for the built environment*. When creating or modifying the office environment, consider accessibility requirements.

8.2.3.2 At the initial stage, it is important to determine the ability of prospective furniture and equipment to be used by employees with the widest possible range of abilities, operating within the widest possible range of situations. Planning for accessibility is about making things accessible to all people, whether they have a disability or not.

8.2.3.3 It is also important to plan so that furniture, furnishings and equipment do not create hazards that can potentially cause harm to individuals who have accessibility requirements. Avoiding hazards can include obtaining furniture with rounded corners, or that does not create or exacerbate environmental sensitivities.

8.2.3.4 There should be appropriate knee and toe clearance for wheelchair users under meeting tables and desks that are designed with slide-under space for chairs.

8.2.3.5 Whenever possible, the use of adjustable height tables or desks, chairs with wheels or that at a minimum can be easily moved should be used.

8.2.3.6 When an employee leaves their department or agency, they should be able to transfer any adaptive furniture or equipment[23] to the new department or agency that they want, when they have had an ergonomic assessment. When not possible, the employee's new department or agency will procure comparable furniture and equipment.

8.2.4 Environmental considerations

8.2.4.1 The following should be assessed or considered when acquiring furniture, furnishings and equipment:

a) avoiding products (such as finishes or materials) that can cause environmental sensitivities
b) durability and repairability: products should hold their highest value for as long as possible and should be recyclable at end of useful life
c) furniture manufactured in a facility for which the manufacturer has a solid waste diversion program for landfill disposals (excluding hazardous waste) that has been published and implemented
d) packaging and shipping: corrugated containers should have 80% recycled content, blanket-wrapping should be used for shorter distances, products should be shipped in bulk, and packaging to be recyclable, biodegradable or reusable
e) manufacturers should have a hazardous and toxic material management system in place at production and associated facilities
f) all adhesives used in manufacturing should be free of hazardous air pollutants
g) furniture may not contain urea formaldehyde unless fully encapsulated within engineered composite panels
h) use of wood for furniture or as a material for renovation or building should be encouraged as it is environmentally friendly throughout its life cycle, mitigates climate change (it absorbs and retains carbon), is aesthetic, and contributes to the wellness of employees
i) 50% of wood used in the manufacture of products offered should originate from a sustainably managed forest, as certified by a third-party certification system such as the Forest Stewardship Council (FSC) or the Sustainable Forestry Initiative.

8.2.4.2 The Government of Canada's *Greening Government Strategy* aims to divert at least 75% of non-hazardous waste from federal operations by 2030. It includes looking at how to reduce plastic-based materials with alternative sustainable materials both in furniture and construction. For more information, refer to the *Oceans Plastics Charter*.

8.2.5 Acquisitions

8.2.5.1 Furniture, furnishings and office equipment are acquired through the following methods of supply: procurement, purchase, transfer and materiel loans.

8.2.5.2 When determining the method of supply for furniture, furnishings and office equipment, departments and agencies should consider the following:

a) the most effective and economical way to satisfy the materiel requirement (such as build, buy or lease new; reallocate or transfer existing assets; acquire materiel on loan from other organizations)
b) potential risks and mitigation or management considerations:
    i. how the acquired materiel will be deployed, maintained and managed (including horizontal impacts), considering the nature of the deployment, use, security and operational readiness, among other factors
    ii. environmental impacts, including potential impacts on the sustainable development objectives

iii. relevant legislation, regulations and policies, including applicable accessibility, health, safety and security requirements
iv. the total costs associated with the method of acquisition and management, such as storage and holding costs; the supply and management of materiel in the office may benefit from application strategies, such as just-in-time delivery, to help minimize the risks, quantity and cost of storage, inventory and warehousing

8.2.5.3 Departments and agencies are responsible for clearly defining their materiel requirements in concrete, measurable and defensible terms in a manner that responds to the approved priorities and business needs of their organization. This type of document may be referred to as a Statement of Work (SOW) or Statement of Requirements (SOR) in the context of the procurement process and is typically produced by the business area of the organization responsible for the acquisition, but may be any authority as designated by the organization.

8.2.5.4 The in-house build option should be considered when the cost to build, deploy and maintain the materiel is the most efficient and economical use of resources and the capacity exists to meet the required delivery timelines and ongoing support needs. For office furniture, furnishings and equipment, this is typically reserved for highly specialized environments where there is a specific program need for locally built furniture. For instance, the in-house building of furniture and furnishings may be required to preserve the heritage character of protected sites by employing techniques and using materials that are difficult to acquire or cannot be sourced cost-effectively from existing commercial sources.

8.2.5.5 For office furniture to be used in institutional and commercial office settings, a high degree of technical and material expertise is required to ensure that the broad range of requirements for furniture are met in a reliable, cost-effective, repeatable and sustainable manner. As the government can acquire such products from industry much more cost-effectively and quickly than building their own, the in-house build option for office furniture should be employed only in exceptional circumstances and is rarely a long-term substitute for commercially designed furniture.

8.2.5.6 Furthermore, having departmental staff modify existing office furniture using techniques, materials or tools that were not approved by the manufacturer may result in a product that cannot be tested for safety and performance, may impact the integrity of a proprietary product, and may invalidate any guarantee of performance or warranty offered by the manufacturer. These modifications should be considered only in consultation with the manufacturer. This approach applies equally to the assembly, installation and reconfiguration of existing furniture, which should always be performed by certified installers or technicians using approved procedures, tools and materials to ensure that the manufacturer's installation guidelines are respected and upon which all certifications of safety and performance are based.

8.2.6 GCTransfer

8.2.6.1 Each department and agency should have its own department-wide authority for the divestiture process of all its capital and non-capital materiel, as they are the owners of such inventory. For additional information, read the Treasury Board *Directive on Disposal of Surplus Materiel*.

8.2.6.2 Furniture, furnishings and office equipment can also be acquired from other government organizations when they meet organizational and program requirements. Tools such as GCTransfer can help organizations identify opportunities to acquire materiel that is no longer needed

by other federal organizations. Arrangements for transfer and loan should engage the proper departmental authorities in order to analyze and manage the risks of such arrangements and to ensure reimbursement for costs.

8.2.7 Supply arrangements

8.2.7.1 A supply arrangement (SA) is a method of supply used by PSPC to procure goods and services. The SA is a method of supply of pre-approved furniture products and services from a pool of pre-qualified suppliers. Like standing offers, it is not a contract and neither party is legally bound as a result of signing an SA alone.

8.2.7.2 SAs include a set of predetermined conditions that will apply to bid solicitations and resulting contracts. They allow client departments and agencies to solicit bids from a pool of pre-qualified suppliers for specific requirements. SAs differs from standing offers, which only allow client departments and agencies to accept a portion of a requirement already defined and priced.

8.2.7.3 The SA is a mandatory procurement instrument that is used by departments and agencies acting on their own behalf, or by PSPC handling a requisition, unless one of the following applies:

a) the good or service available through the mandatory standing offer or SA does not meet justifiable operational requirements
b) the value of the requirement exceeds the call-up limitation of the standing offer or the scope of the SA
c) an existing contract is in place, which guarantees the manufacturer-specific products to another supplier
d) the requirement is subject to contracting obligations under a comprehensive land claims agreement (CLCA), and no mandatory standing offer or SA exists that addresses the contracting obligations of the applicable CLCA
e) the acquisition is from CORCAN, a special operating agency that is part of the Correctional Service of Canada (see subsection A.2.11)

8.2.8 Procurement Strategy for Indigenous Business

8.2.8.1 This procurement is set aside under the federal government's Procurement Strategy for Indigenous Business (PSAB). The requirement will be set aside under the PSAB, and no mandatory procurement instrument exists for PSAB set-asides.

8.2.8.2 Voluntary set-asides: Client departments and agencies may designate any procurement as being restricted exclusively to qualified Indigenous suppliers. Contracting officers should help client departments and agencies meet their performance objectives under the program by drawing their attention to opportunities for voluntary PSAB set-asides when qualified Indigenous suppliers are known to exist in the marketplace.

8.2.9 Request for Bid (RFB)

8.2.9.1 PSPC requires that all competitive and non-competitive requirements above $25,000.00 be posted on the Government Electronic Tendering System (GETS). Tier 2 requirements

(between $25,000.00 and $399,999.99) are processed by identified users. Tier 3 ($400,000.00 and above) are processed by PSPC's Acquisitions Program.

8.2.9.2 A regional individual standing offer (RISO) is used by a specific department or agency within a specific geographic area.

8.2.9.3 An Advance Contract Award Notice (ACAN) is a public notice published on GETS for a minimum of 15 calendar days, indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-qualified supplier believed to be the only one capable of performing the work. This allows other suppliers, during the publishing period, to signal their interest in bidding by submitting a statement of capabilities. If no other supplier submits a statement of capabilities that meets the requirements set out in the ACAN, the contracting officer may then proceed with awarding the contract to the pre-qualified supplier.

8.2.9.4 For requirements below $25,000, including all applicable taxes, contracting officers may request quotes from suppliers directly. These requirements are considered by PSPC as low-dollar-value procurement.

8.2.9.5 Acquiring furniture from CORCAN (see subsection A.2.11) does not require postings or multiple quotes to be obtained.

8.2.10 Special-purpose space furniture

8.2.10.1 Requirements for special-purpose space furniture solutions (e.g., lab benching, oversized conference tables) can be purchased through the RFB purchasing method. Technical specification would be required to accompany the RFB to meet operational requirements.

8.2.10.2 Requirements for dedicated use should be determined early in the acquisition process, specifically which furniture items are for common spaces, such as boardroom tables, and which items are assigned for individual employee use, such as desks.

8.2.11 CORCAN

8.2.11.1 CORCAN is a key rehabilitation program of the Correctional Service of Canada (CSC) that offers employment training and employability skills to offenders in four business lines: manufacturing, textiles, construction and services (i.e., vinyl signage, printing, industrial laundry operations). CORCAN's products include a wide variety of systems and custom furniture.

8.2.11.2 The Treasury Board has granted CORCAN special supplier status. This status allows federal government departments and agencies to acquire products from CORCAN through a stores transfer order (STO). Due to the nature of STOs, other government departments and agencies can acquire products directly from CORCAN. This supports timely transfers and operational continuity of departments and agencies. An STO is not a purchase but a transfer of Crown assets between

departments and agencies. An STO is to be initiated instead of a tendering process being posted, as CORCAN will not bid on tenders.

8.2.11.3 Additional information on how federal government departments and agencies can acquire goods and services directly from CORCAN can be obtained by contacting a local CORCAN sales representative at 1-800-267-0354 or visiting the CORCAN website at www.corcan.ca.

8.2.12 Use and maintenance

The following should be considered best practices for the use and maintenance of furniture, furnishings and office equipment:

a) Items should be tagged and tracked. Tag the items to the warranty or adhere the warranty to furniture.
b) A warranty tracking system is beneficial.
c) Items should be inspected upon receipt for defects.
d) Compliance certifications should be verified and should be CSA-approved.
e) Spot checks and lessons learned assessments are good tools to determine which assets are functioning best.
f) Report to the contracting authority any issues to capture trends for products of good and bad quality.
g) Warranty claims should be reported to PSPC's Acquisition Branch and furniture technical authority.
h) Items on recall should be flagged and returned to the manufacturer promptly.
i) Bar code inventory tracking systems should be used when possible because of their ubiquity, ease of use and comprehensiveness.

8.2.13 Divestiture

8.2.13.1 The divestiture of furniture, furnishings and office equipment will follow the guidance provided in subsection 2.5 of this guide.

8.2.13.2 When disposing of office furniture and equipment, those assets that cannot be disposed of through transfer or sale would be considered as construction, retrofit and demolition waste.

8.2.14 Telework

There may be occasions when managers authorize the use by employees of government-owned materiel from government premises for work-related reasons to meet operational requirements. While government-owned materiel is in their sole custody, employees have a duty to properly use, protect, care for, and maintain it in accordance with departmental materiel management and operational guidance. Any loss or damage of government-owned materiel should be reported immediately, which may involve related disclosures to security and finance authorities.

8.3 Office furniture

8.3.1 Specialty furniture items not included in the supply arrangement

Not all furniture found in a fit-up space can be purchased through the SA. Some exceptions include the following:

a. Secure file cabinets are a specialty item that can be purchased through a standing offer. All cabinets listed on one of the mandatory standing offers for document safeguarding are built to CSEC specifications.
b. Special-purpose space furniture requirements, such as lab furniture, warehouse shelving, benches, and consoles for control centres cannot be purchased through an SA.
c. High-density filing systems can be purchased as a stand-alone procurement (less than $25,000), by competitive requirement via an RFP or through an office accommodation fit-up project or tendered through construction packages for purchases (more than $25,000). The latter is the approach that is and has been applied in the National Capital Region.
d. Demountable walls are not considered as furniture, even though they can be sourced by the furniture manufacturers. They are considered a construction element as they are tied into the building infrastructure.
e. Purchasing furniture products that have integrated technology is not recommended, as the technology can modernize faster than the furniture.

8.3.2 Inspection and acceptance

8.3.2.1 All departments and agencies are responsible for ensuring that furniture, furnishings and equipment acquired that are delivered and received in the condition specified in accordance with the terms of the contract or service agreement. For the purchase of new goods, inspection and acceptance means at a minimum that the product was delivered, is in new condition, and works properly in accordance with the design specifications. Inspection and acceptance involves completion of the following:

a) the items were delivered according to a specified deadline
b) the items have been installed or set up in the designated space and in the prescribed manner, or in accordance with approved plans
c) hardware, software, or mechanical or electrical components have been configured or programmed so that items are fully operational by end users
d) training or instructions are provided
e) there is a supply of any unique tools required to assemble, operate or maintain the product
f) where assembly is required, the removal of all debris, equipment, and parts or tools required for assembly but not for the operation of the product
g) packaging has been removed from the work area
h) the items have been surface-cleaned and touched up, including the removal of dirt, stains, scuffs and scratches incurred during transport, delivery and installation
i) product labels or bar codes have been added or validated to support asset ID and tracking

8.3.2.2 Inspection and acceptance is also the phase in which departments and agencies should identify deficiencies that, under a contract, are usually corrected prior to issuing payment.

8.3.2.3 The phase immediately following acceptance and prior to deployment for use is when the department or agency should do any additional configuration, programming, adjustment or marking required to support effective use, monitoring and tracking, and create asset records in the departmental

inventory or materiel tracking system. Deployment for operational use should be completed only when both activities are completed: inspection and acceptance, and departmental preparation for deployment.

8.3.2.4 Departments and agencies are responsible for ensuring that qualified resources are available to work with service providers to perform the type of inspection required to accept goods in accordance with established procedures and the requirements of the service agreement or contract. A reliable process is key to ensuring that only serviceable assets are deployed that protect the health and safety of employees, effectively support program delivery, and allow for effective administration of maintenance of assets, including warranty claims, where appropriate.

8.3.2.5 Validation of compliance to standards is integrated into the procurement process to ensure that contracts are awarded fairly to qualifying bidders only. Correcting deficiencies after contracts are awarded is unnecessarily time-consuming and costly, and materiel managers and specialists should be involved to provide the technical expertise to support this process.

8.3.3 Remanufactured furniture

8.3.3.1 Remanufacturing involves making structural changes to existing products and may involve using reused, repaired or new parts to refinish or restore them. Refurbishing typically involves re-skinning panels, re-laminating and re-edging surfaces, reupholstering, repainting and replacing components, as required. The extent and costs associated with remanufacturing may vary greatly, depending on the type and scope of the project, the project schedule, the desired outcomes, and the alignment with departmental policies and overall requirements.

8.3.3.2 If a client determines that refurbishing is the solution to their project requirements, then a funded requisition should be sent to the departmental contracting division for bidding purposes.

8.3.3.3 The greatest potential for achieving good value in remanufacturing comes from processing large quantities of furniture that are located near the original manufacturer's authorized service provider. The total costs for the remanufacturing process, as well as all related logistics and services (including disassembly, sorting, shipping, storage, replacement parts and reassembly), should be factored into the best value proposal to the Crown. Departments and agencies should always consult with the manufacturer to verify the remanufacturing potential of the products by authorized resources, as work by third parties unaffiliated with the manufacturer may void warranties and may result in products that have not been properly tested. Proposals to use remanufactured furniture should also consider the balance of environmental benefits and impacts and ensure that the scope and procedures for refurbishing the furniture strive to incorporate environmental considerations similar to those of the furniture industry in general.

8.3.4 Reuse

8.3.4.1 Where possible, furniture and equipment should be selected to favour longevity and reusability within the department or agency, at least within the local office, if not at a regional, national or government level. Commercial off-the-shelf furniture and equipment should be specified with only the customizations required to meet operational requirements. Finding alternate use cases for owned furniture and equipment has known financial and environmental benefits. Seeking an appropriate use case for furniture before reuse is considered a best practice.

8.3.4.2 Departments and agencies should identify key principles for the selection of assets that will favour maximum return on investment, and when declared surplus, the furniture and equipment

will have a recognized reuse potential and value for taxpayers or organizations outside the government. These principles include the following:

a) Scalability: Furniture and equipment should be able to be deployed, reconfigured and rearranged to meet the range of needs of the organization with a minimum of effort, cost and resources. Typically, ensuring scalability means selecting the smallest units of furniture and equipment that can be deployed, assembled or reconfigured into repeatable functional units that will meet the range of needs of users or operations, within approved space, based on the equipment, tools, technology, processes, sequencing of activities and the delivery of services.
b) Right-sizing: Only the furniture and equipment required to meet operational requirements, based on the need for readiness and service delivery should be considered, and only the features and functionality required to meet core needs of operations are to be specified.
c) Universality[24]: Furniture and equipment should be useable by as many employees as possible within an organization, with a minimum of training, instruction or time for employees to refamiliarize themselves with the items.
d) Durability: The furniture and equipment will perform effectively and reliably for as long as possible with minimal unplanned maintenance and effort.
e) Safety: Furniture and equipment will be safe to operate, service or redeploy under all conditions of intended use and service delivery.

Note that for different types or categories of furniture and equipment, many of these principles may appear to be in conflict or contradictory. How these are operationally defined, realized and assessed will depend on the specific design considerations for the product types, and the balance of costs, risks and benefits that will apply over the life cycle of the furniture and equipment within the department or agency in order to support program delivery.

8.3.4.3 When furniture and equipment are available for reuse, departments and agencies should ensure that there is a process to document the type, quantity, condition, intended use, technological considerations and availability of existing furniture and equipment. Such documentation is an essential step to communicating what is available when and how. This key information allows other managers within and outside the department or agency to assess the feasibility, practicality and cost of acquiring the used assets for their needs.

8.3.4.4 In general, departments and agencies are responsible for all normal costs that would be incurred to remove the furniture and equipment from their environment, such as collection of user guides, instructions, related parts and accessories, removal of information and markings, disconnection, disassembly, packaging of equipment, staging or storage. Those acquiring the surplus furniture and equipment are normally responsible for the costs of acquisition, such as pickup, transport, installation, design plans, configuration or programming, addition of tracking or identification labels, determining which parts and accessories are not included, fuel and consumables, cleaning, refinishing, and touch-up. Some types of furniture and equipment may be subject to special guidance by departmental

authorities, manufacturers, regulators or product specialists, and the acquiring department or agency is obligated to ensure that all requirements that apply are met.

8.3.4.5 Transferring and donating furniture to another department, agency or charity for specific use may count as reuse if proper divestiture protocol is followed and the asset is not converted into waste.

8.3.5 Divestiture of office furniture

8.3.5.1 Divestiture of furniture follows the normal divestiture process outlined in the main body of this guide.

8.3.5.2 Furniture in good or serviceable condition or with good reuse potential should be offered to other departments and agencies as the first step of divestiture. Offers can be made through GCTransfer, where the item is posted for approximately 10 days on a website that is open to government departments and agencies only. If there is no interest in the furniture, then departments and agencies should assess the item as to its value and the cost of disposing it.

8.3.5.3 If transferring the furniture is not an option, then the furniture should be valued. For items that have a known market value (such as jewellery and art), expert third parties may need to be consulted. However, such expertise would typically be required for furniture only when dealing with heritage furniture or furniture that has artistic or historical value. The value of commercial office furniture is typically related to its potential reuse by virtue of its size, features, portability and compatibility with requirements. In general, office furniture that is in good condition and has not exceeded the lower end of the range of the established life cycle for office furniture, or that the public would reasonably regard as having value, should be considered valuable and offered for reuse. Offers for reuse are normally through a sale to the public but possibly by other means, as noted below.

8.3.5.4 If the overall costs or risks of a sale will be greater than the potential revenue or value to the Crown, then departments and agencies should consider all potential means of divestiture, including the following:

a) donation to a recognized charitable or non-profit organization, another level of government or national government, treaty organization for which Canada is a member, or United Nations
b) conversion to waste in an environmentally sustainable manner
c) other means of disposal

8.3.5.5 However, if the furniture is considered a valuable asset, where its value is more than its cost of disposal, then the furniture:

a) should be sold on GCSurplus
b) can be donated or transferred to an approved third party or department or agency
c) can be sold at a discount with the minister’s approval

8.3.5.6 When conducting a renovation, acceptable disposal methods may include a valuation of an item on site, and if the item is deemed as having no value, then disposal of the item in an environmentally sound manner.

8.3.6 Disposing of insect-infested or unsanitary furniture[25]

The following best practices should be taken into consideration when the furniture poses an established health concern due to insect, chemical or biological contamination, such as bloodstains or infestation by insects and it will not be returned to service in the department or agency:

- The furniture should be treated and wrapped before disposing of it off the property.
- If the furniture is being sold or transferred to a third party, a qualified individual such as an exterminator should certify that it is infestation-free before it leaves the property.
- If there is no one to certify that the furniture is infestation-free, then it should be destroyed or incinerated to contain the spread of the infestation.

8.4 Office furnishings

8.4.1 Planning for office art

8.4.1.1 It is important to assess the life-cycle management of artwork for the office, either by purchasing or renting. The Canada Council Art Bank (Art Bank) provides an affordable, government-wide art rental service that departments and agencies may use.

8.4.1.2 At the outset, it is important to establish the motivation for obtaining artwork for the office and to set parameters for artwork requirements (reception spaces, boardrooms, private offices, corridors, etc.). It is also important to develop a budget to facilitate the selection process.

8.4.1.3 A theme may be identified to reflect the unique identity of the department or agency. It is helpful to stay focused on a specific outcome. An art consultant can assist with this process.

8.4.1.4 It is important to identify the decision-making protocol(s). In some cases, an art committee can facilitate the selection on behalf of the entire office or department or agency. Committee members may rotate over time, giving a diversity of employees an opportunity to participate that works well in large organizations and incorporates a variety of tastes. Alternatively, it may be more efficient if one person makes decisions.

8.4.1.5 The Art Bank, an art rental program offered by the Canada Council for the Arts (a federal Crown corporation), launched in 1972 to exclusively serve the needs of the federal government. The Art Bank rental program was initiated to service the life-cycle management for artwork within government; to meet business needs; and to optimize the costs, time and effort associated with the management of artwork in the office environment. In 1999, Art Bank services expanded to include the corporate sector in Canada.

8.4.1.6 The Art Bank is the only national art rental and leasing service provider in Canada. It includes a collection of more than 17,000 works of art by over 3,000 contemporary Canadian artists. It houses a selection of paintings, sculptures, drawings, photographs and prints by emerging and

established artists, including a significant number of artwork by Indigenous artists. A full service, including consultation, transportation, installation and maintenance, is provided for a fee.

8.4.2 Acquiring office art

8.4.2.1 Art rental process: Once in touch with the Art Bank, an art consultant will book an initial, no-cost consultation to discuss needs, preferences and workspace. This can be done remotely for government offices outside of the National Capital Region (NCR).

a) Based on the initial consultation, objectives and defined budget, the art consultant will pre-select artwork for consideration, which is sent to clients as a virtual web gallery. Clients within the NCR are invited to the Art Bank to view the artwork in person. For clients outside the NCR, the Art Bank will facilitate a tour of the artwork via FaceTime or Skype.
b) Once the artwork selection is finalized, a quote for the art rental and installation costs is provided for approval. Once approved, the shipping and installation arrangements are finalized. **Note:** The Art Bank works with third-party fine art companies to coordinate shipping and installation outside of Ottawa, Montréal and Toronto.
c) The client shall pay for the art rental contract in two installments. The initial invoice will include the rental of artwork calculated on a 12-month basis, and the installation service fees. An invoice for the second annual installment for the artwork will be sent one year after the date of installation.
d) The Art Bank will send a letter notifying the client that the contract is expiring at least 60 days prior to the expiration of the original term of the rental contract. The client can choose to renew the rental contract; exchange some, or all, of the artwork; or return some, or all, of the artwork. The client is responsible for paying all service costs associated with the takedown and return shipment to the Art Bank. A quote will be provided in advance.

8.4.2.2 Typical contracts

a) Contracts are for a minimum two-year period. In markets outside of Ottawa, Montréal and Toronto, contract periods are often longer. Annual rental rates range from $60 to $3,600 per year per artwork, with a minimum contract value of $1,000 per year for two years. Service fees for transportation and installation apply.
b) A quote for annual artwork costs and service fees is provided once the artwork selection has been finalized.
c) Locations typically include offices, boardrooms, reception areas, hallways and open areas where both staff and visitors can enjoy the artwork.

8.4.2.3 Contact information

Telephone: 1-800-263-5588 ext. 4479 or 613-566-4414 ext. 4479

Email: artbank@canadacouncil.ca

Website: www.artbank.ca

8.4.3 Operations and maintenance

8.4.3.1 Artwork rented from the Art Bank is to be maintained according to the requirements agreed upon in the rental agreement.

8.4.4 Divesting of artwork

8.4.4.1 Artwork owned by government departments and agencies may be offered to the Art Bank if the artwork aligns with established collecting practices and objectives and meet the following criteria:

a) an appraised original artwork in good condition
b) created by a Canadian artist between 1960 and today
c) suitable for rental in an office setting

8.4.4.2 Should departments and agencies have artwork to divest, they should contact the Art Bank to see whether it is acceptable for transfer.

8.4.5 Planning for office plants

8.4.5.1 Plants can add character to an office environment and be a source of peaceful contemplation during break time. Large house plants can also serve as separations between workplaces. Several studies have shown that plants significantly lower workplace stress and enhance productivity. They clean the air and improve well-being. They also improve corporate image.

8.4.5.2 Biophilia design focuses on introducing nature and natural materials, including plants, into the built environment. Incorporating plants into workspaces can reduce stress, improve production and enhance moods. There are opportunities for every workspace to incorporate biophilia design.

8.4.5.3 Real plants require maintenance; as such, a maintenance contract will be required to ensure watering, inspection for bugs, and trimming. Products such as preserved moss walls that are maintenance-free and can also act as an artistic feature wall are recommended. Alternatively, there are artificial plants that can be placed anywhere and require no maintenance other than an occasional dusting.

8.4.5.4 Some of the benefits of small indoor plants are they are easy to take care of, they are resilient, they require minimal care, and they last a very long time. However, it is important to choose the right plants. The following are indoor plants that will thrive in an office environment: the jade plant, African violet, peace lily, Chinese evergreen, gerbera, philodendron, various dracaena, weeping fig, umbrella tree, phytonia, pothos, aglanomea and the rubber tree plant.

8.4.5.5 Departments and agencies can determine where larger plants could be placed and should consult with employees for their preferences.

8.4.6 Acquiring plants[26]

Acquisitions: Plants can be bought from large hardware stores or specialized florists. Procuring plants can also be found through Buyandsell.ca under the Furniture and Office Supplies Division. Planters can be found under “Miscellaneous Furniture” and “Fixtures and Services” under “Custodial Services.”

8.4.7 Use and maintenance of plants

8.4.7.1 Maintenance of federally owned plants is the responsibility of the relevant department or agency. Plants are to be treated with care, and provided with sufficient nutrition, water and sunlight. Employee-owned plants are to be kept healthy. Plants that have died should be divested of or replaced.

8.4.7.2 A private service for taking care of large plants can be procured. Employees requesting a plant for their office would be responsible for maintenance and watering.

8.4.8 Divesting of plants

Federally owned plants should be sent to GCSurplus for disposal or transferred to other departments and agencies. The removal of plants owned by employees is the responsibility of the individual owner. Care should be taken to ensure that employee-owned plants are divested of in an environmentally sound manner in keeping with municipal and provincial rules for organic divestiture.

8.5 Additional guidance for the management of office electronics and electric equipment

8.5.1 Scope

Office electronic and electric equipment (EEE) located in departmental offices is a vital resource that supports the cost-effective and efficient delivery of all departmental programs and services. EEE is considered to be any equipment with a plug or battery, or any equipment that uses electricity to perform its intended function. EEE includes laptops, desktop computers, printers, peripherals, network equipment and other assets that have similar functions.

8.5.2 Administration

a) A complete and accurate inventory according to department or agency requirements is to be maintained, including the identification, location and acquisition of the office equipment.
b) Assets are to be kept on site. If offsite, telework arrangements would have been made and authorized by the department or agency. Refer to the guide and the Treasury Board *Telework Policy*.
c) For a model of equipment that requires above-average repairs before it reaches its life expectancy, a file should be created that tracks the model's performance.
d) For a model or make of equipment that requires frequent repair before it reaches its life expectancy, a file should be created for that model or make of equipment to find the reference and warranty documents kept on file and updated when repairs are required.
e) There should be tracking of repairs and maintenance issues when it is suspected that the equipment will not meet its life expectancy, and this information is to be incorporated into the department's or agency's asset performance measurement system to support life-cycle decision-making for EEE assets.

8.5.3 Accessibility

Ensure that devices provided for in-office use such as telephones, computers and tablets meet the required needs of persons with disabilities. Different forms of hardware and software may be used to make these devices accessible, such as TTY machines for telephones, screen magnification software, and equipment for alternative modes of operation, such as trackballs or joysticks. Accessible technology should follow the EN 301 549 standard, which has been adopted by the Government of Canada as its preferred standard for accessible EEE.

a) The *Accessibility Strategy for the Public Service of Canada* links with the following in this guide:

   I. Departments and agencies are responsible for ensuring that decisions with respect to the management of materiel […].

   II. Government-wide strategic plans, priorities and initiatives […].

   III. Government-wide initiatives […].

   IV. Planning for accessibility in the office environment

b) Planning for accessibility in the office environment

   i. When an employee leaves their department or agency, they should be able to transfer any adaptive furniture or equipment to the new department or agency […]. The *Directive on the Duty to Accommodate*

   ii. Allow persons employed to retain technical aids, equipment and support materials if they move to another position in the core public administration and still require that accommodation

c) Under the *Accessible Canada Act* and its regulations, federally regulated entities are to report to the public on their policies and practices in relation to the identification and removal of barriers by publishing their accessibility plans, feedback processes and progress reports. The built environment and procurement of goods, services and facilities are included among the seven priority areas.

Additional information is available at Summary of the *Accessible Canada Act* - Canada.ca.

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[23] The Treasury Board *Directive on Duty to Accommodate* in requirement A.2.3.11 allows persons employed to retain technical aids, equipment and support materials if they move to another position in the core public administration and still require that accommodation. In other words, employees can retain their adaptive furniture or equipment when they move departments or agencies, if they wish.

Moreover' the GC Workplace Accessibility Passport is one of the flagship initiatives under the Public Service Accessibility Strategy. The Passport facilitates and streamlines conversations about workplace accommodation between public service employees and their managers.

Through the Passport, employees describe the accessibility barriers they may encounter in the workplace and, if known, the accommodation tools and measures that would enable them to succeed.

[24] Universality does not apply when considerations are necessary to support accessibility.

[25] Eliminating and containing contamination is a higher priority than salvaging furniture.

[26] If an employee in the work environment is sensitive to plants, the plants should be removed.

9 Annex B: Additional Guidance on Management of Scientific and Laboratory Equipment

10 Annex C: Additional Guidance on Management of Inventory

10.1 Introduction

The objective of the *Directive on the Management of Materiel* is that materiel is planned, acquired, operated, maintained and divested in a manner that supports the delivery of programs and services to Canadians, while ensuring best value to the Crown.

The *Guide to Management of Materiel* requires departments and agencies to demonstrate sound stewardship in the management of materiel assets during their life cycle. Sound stewardship requires departments and agencies to retain information on the materiel assets in their custody.

This document provides best practices to the materiel management community for the **physical tracking** of materiel assets. This annex is a complement to the Treasury Board of Canada Secretariat (TBS) Annex on Warehousing and is applicable to materiel and inventory, as defined in this document.

The document is to be read in conjunction with the TBS directives on accounting standards, which contain dispositions for specific types of materiel, such as tangible capital assets and heritage assets, and with any other regulation concerning materiel assets.

10.2 Objectives of inventory management

The main objective of inventory management is to have the right materiel at the right place at the right time in the right condition to be able to support departmental operational mandates. The objective of this document is to provide foundational information on various aspects of inventory management to assist the materiel management community in the physical tracking of assets under their custody.

The expected outcomes or benefits of inventory management are:

- improved planning
- minimized costs
- less waste or losses
- controlled stocks
- accountability
- enhanced logistics
- optimized productivity

10.3 Definitions

10.3.1 Materiel

The TBS *Policy on the Planning and Management of Investments* defines materiel as “All movable assets (excluding money, records and seized assets) acquired by Her Majesty in right of Canada.”

In this document, the terms materiel, materiel assets and assets are used interchangeably to describe movable assets used by departments and agencies to deliver programs and services.

Below is a non-exhaustive list of materiel assets:

- furniture such as desks, chairs and shelving
- fixtures such as plants, light fixtures and clocks
- artwork, gifts and other accountable memorabilia
- consumable items such as ammunition, rations, fuel and lubricants (including energy reserves)
- IT equipment such as mobile telecommunication devices, computers and servers
- office equipment such as printers, scanners and shredders
- scientific and laboratory equipment
- machinery and the associated tools
- animals
- land vehicles, watercraft and aircraft

Note: Building components, such as doors, windows, air delivery systems and electrical wiring, that are permanently affixed to the structure of a building are not considered materiel assets.

However, when those components are removed from the building, they would be considered materiel assets. If they are identified as valuable assets, they should be tracked.

10.3.2 Inventory

Inventory is materiel held in stock at storage facilities, including materiel that is undergoing repair or is in the supply system.

Simply, inventory is any item held in stock or in a storage location that is not immediately issued for use or consumed in the delivery of the departmental programs, for which tracking for quantity, location or condition is necessary. Proper valuation of this materiel is necessary to support accurate financial accounting.

Inventory should include any goods purchased and held in storage for the delivery of programs, such as ammunition, consumable stores, spare parts and materials held for issue at a later date. It may also include tangible capital assets that are not currently in use but stored or parked for future use.

It also includes goods maintained in strategic stockpiles of reserves, such as energy reserves (e.g. oil), for use in emergency or other situations.

Any materiel asset that is kept in storage for future use is also considered inventory.

In the context of this annex, inventory also includes seized and forfeited assets and any other asset in the custody of a department or agency for which there may be a need for warehousing.

Note: Requirements in other TBS documents applicable to materiel during its life cycle apply to materiel and inventory as defined in this document.

10.4 Considerations

Departments and agencies are accountable for managing the materiel they need to support the delivery of programs according to their mandates. Information on materiel and inventory is required to exercise sound stewardship during all phases of an asset's life cycle.

In order to adequately manage their materiel, departments and agencies should be able to:

- provide an auditable list of the materiel in their custody
- identify:
    a. need for replacement
    b. any warranty applicable to a product
    c. maintenance schedules for a given asset
    d. surplus assets
    e. types of stock or items in inventory
    f. departmental reporting needs for proper inventory illustration
    g. information specific to inventory, such as date in, date out
- maintain:
    a. any required financial information and track the costs associated with assets, if required (amortization of capital assets, betterments, leasehold, etc.)
    b. timely records of the inventory in storage or in transit
- determine the location of the materiel, including assets in transit
- document any information pertaining to batch, lot or shelf life
- retain all pertinent information, such as the condition of the asset, for an efficient use of materiel during its life cycle
- extract any information required

Departments and agencies should track and control inventory to monitor inventory costs and risks such as loss, theft, obsolescence and damages. This will help with the ongoing and systematic assessment of the physical condition, functionality and use of materiel assets, and eliminate excess inventory. It will also ensure that the materiel assets in inventory fully, effectively and efficiently meet the intended program requirements they support and that, when feasible, materiel assets are repaired, refinished, serviced and reused before they reach the end of their expected useful life.

Departments and agencies should adopt a risk-based approach when making any decisions about inventorying assets and respect the principles of the *Policy on the Planning and Management of Investments*, its associated documents, generally accepted accounting principles (GAAP) and any other pertinent regulation. Departments and agencies should focus on a good control of stocks, and the level of effort should be consistent with the benefits.

10.5 Sound stewardship

Section 1.4.4 of the *Guide to Management of Materiel* states: "Departments and agencies are responsible for safeguarding public materiel. This responsibility includes implementing measures to protect materiel assets and detect losses."

To fulfill this obligation, departments and agencies should establish adequate controls during the life cycle of their inventory, including an appropriate segregation of duties.

Departments and agencies should adopt a risk-based approach, and if, based on size of the organization or other factors, the same person holds several functions, then leadership should put in place extra audit controls to mitigate risks.

Note: More than one person should be present during key activities. This will increase the accuracy of record-keeping, provide better accountability for the materiel during warehousing and inventory processes, and ensure a safer work environment.

10.6 Inventory management strategies

There is a lot of literature on how to best manage inventory. Various inventory management strategies[27] exist, and different names are used to describe those strategies and techniques. The terms push strategy; pull strategy; first in, first out; just-in-time/just-in-case are often used, but there is a variety of other existing strategies. Departments and agencies should take the time to identify their needs and adopt strategies that will best support their program delivery, while limiting storage time and costs.

Departments and agencies should pay special attention to high-risk commodities, where the lack of certain materiel may impede delivery of programs, especially in circumstances where there could be a supply shortage.

10.7 Inventory management system

Inventory management refers to the process by which departments and agencies manage the materiel in their custody during the materiel's life cycle.

An inventory management system (IMS) will provide accurate and viable information for the planning, procurement, operations, maintenance and disposal of materiel, in addition to information that may be needed by the department or agency.

A departmental IMS enables all aspects of materiel management from planning to disposal and is crucial to ensuring that the right materiel is where it needs to be to support operational mandates. It is also a source of information for financial management, financial reporting, life-cycle costing, maintenance and operations. Refer to sections 3.7 and 5.1.3 of the *Guide to Management of Materiel*.

10.7.1 Government of Canada Enterprise Resource Planning (ERP) system

The Government of Canada, through TBS's Digital Comptrollership Program (DCP), has adopted an Enterprise Resource Planning (ERP) system to be used by all departments and agencies for procurement, financial management and materiel management[28]. This software enables substantial process efficiencies, particularly when integrated with planning, procuring, financial management and control, materiel management and maintenance.

To manage the materiel, the ERP system offers a full range of transactions and reporting capabilities in support of the operational mandates, including:

- procurement of goods and services

- life-cycle financial tracking
- inventory and materiel management
- shipping and receiving
- maintenance
- reporting
- historical transactions and archives

More information about the DCP is available at DigitalComptrollershipProgram - GCpedia.

Departments and agencies allowed to move forward with an ERP system other than the system prescribed by the TBS's DCP should identify the most cost-effective solution to meet their requirements. Regardless of the system chosen, all records in an IMS should be auditable and defendable. The parameters should enable the demonstration of sound stewardship and good decision-making.

Some factors to consider when choosing and defining an IMS are:

- user-friendliness
- adaptability to the needs of the organization
- accurate tracking of materiel
- proper identification of materiel location
- real-time data
- tracking of information by asset or group of assets (financial, attractive items, essential assets, etc.)
- tracking of asset status when required (under management, forfeited, lost, damaged, loan, etc.)
- flexibility to respond to any regulatory requirements (controlled goods, production defence, seized assets)
- production of reports and response to audit requirements
- life-cycle management
- tracking of asset movements, if required
- adequate level of security for protected or secret information (seized assets, controlled goods)
- information-sharing
- back-up availability for business continuity in emergency situations
- quality assurance
- compatibility with other systems to allow information transfer
- extraction of information for ATIPs or corporate requests
- easy research by various criteria
- compatibility with management needs (associate costs or client to a particular item)
- possibility to add notes, files, photos
- tracking of data entry (user, date and time)
- possibility to associate items with attributes, such as colour, size, expiry date, periodic maintenance of vehicles, etc.
- exception handling
- use of bar codes or QR codes
- duplication checks

10.7.2 Protection of information and assets

In some circumstances, the ERP system may contain protected or classified information, such as the consignee's name and contact information. Custodians should ensure that their system protects classified or sensitive information. Departments and agencies should consult with their security departments, if required. Security requirements apply not only to sensitive information, but to assets as well.

Record-keeping and destruction of information should always be conducted in compliance with records retention policies.

10.8 Materiel identification

Materiel identification involves properly identifying an item in the system of record. The attributes of the materiel are identified such as name, descriptor, unit of issue, type of materiel/materiel class, price, etc. The materiel is also to be assigned a stock record number. This stock record number is what is used to order, demand, issue, receive, move and track the materiel. This process and these master records are the foundation of the IMS.

A stock record number is to be assigned before materiel can be entered into the IMS. Best practice is that the stock record number should be available before the materiel is procured. If the department or agency is using an IMS, the purchase order should be raised for that stock record number from within the IMS. In some cases, the stock record number will be the same as the UPC or UNSPSC codes, or other government-mandated identifiers, and in other cases it will be system-generated. For those instances that require NATO stock numbers (NSNs), they can be requested through the National Codification Bureau and should be an attribute of the stock record.

The stock record number is to be clearly affixed to the outside packaging of the item. For some items, this will be with a sticker or label and, for other items, it may be etched into the equipment. All Government of Canada identification numbers should be removed, erased or destroyed prior to divesting an asset.

10.9 Materiel to inventory

Departments and agencies are responsible for the form and type of IMS they maintain. Every asset defined as inventory is to be recorded in an IMS[29].

Departments and agencies should pay special attention to the following materiel, for which a complete detailed inventory should always exist:

- all tangible capital assets
- all types of land vehicles, watercraft and aircraft
- emergency or strategic stockpiles
- controlled goods
- weapons, weapon parts and ammunition
- materiel representing a risk and for which control is necessary
- attractive or pilferable items, or any item with a higher risk of loss or theft
- high-value items

- heritage and cultural assets
- Indigenous artifacts
- items essential to the delivery of departmental mandates and operations
- non-functional assets that can be repaired
- seized or forfeited assets
- hazardous materiel assets, especially those with toxic substances
- materiel that has expiry or warranty requirements (identified by lots or batches)
- materiel for which the disappearance would affect the department's or agency's reputation
- loans of materiel (refer to section 5.11 of the *Guide to Management of Materiel*)
- office electronics and electrical equipment (refer to section A.5 of the *Guide to Management of Materiel*)
- scientific and laboratory equipment (refer to section B.6 of the *Guide to Management of Materiel*)
- whenever required by a policy, a directive or a guide, or whenever a regulatory requirement exists

In general, departments and agencies need to have information on the materiel that is in their custody or that is being used for the day-to-day activities to deliver their programs[30]. The IMS provides this information for sound decision-making.

However, sometimes keeping the materiel in the IMS is not cost-effective. This is usually reserved for materiel that is low-dollar value, immediately expensed (financially) and for which knowing the quantity and location are not a requirement. Examples of this would be office supplies. However, this risk-based approach should be limited to certain types of materiel.

Below are suggested criteria that departments and agencies could use to justify their decision-making:

- The materiel has a limited value.
- There is no accounting requirement or other regulatory requirement to maintain an inventory (capital assets, controlled goods).
- The materiel has no symbolic or heritage value.
- It is easy to plan without a formal inventory.
- It does not affect operations.

Departments and agencies may also adopt a different risk-based approach for stock-taking of these assets.

10.10 Record-keeping

All items under the control of a department or agency, under the protection of the Crown or whose title has passed to the Crown should be included in the department's or agency's inventory[31]. In the context of a warehouse, any item kept in storage should be recorded.

The *Directive on Accounting Standards – GC 3150 Tangible Capital Assets* describes two methods for defining capital assets for the purposes of capitalization and amortization: whole asset and component. Data entry should be consistent with accounting requirements.

If an organization is dismantling all or part of an item or asset to put parts into spares (cannibalization) or to enable repairs to another item or asset, then all records need to be updated appropriately.

This includes updating items to serviceable/unserviceable, increasing and decreasing quantities and amending associated financial records, especially if it is a tangible capital asset.

Items should be removed from the inventory records when they are written off, which is the formal documentation process to record the disposal of assets. Accurate documentation regarding the disposal or loss of assets is required to adjust the inventory record and to support information provided to Public Accounts.

All asset movements should be recorded in the IMS. The following are some actions that would change the quantities of an asset recorded in the IMS[32].

Departmental internal transactions: For all the following activities, the departmental records should be amended and the quantities increased or decreased accordingly:

- when an item's status is changed from storage to use or use to storage
- when assets are used to create a new asset
- when assets are cannibalized

Items are consumed: Records should be reduced accordingly

Lost/damage/obsolescence/destruction/theft: Recorded quantities should be reduced appropriately and any investigations commenced

Loan of assets: Conducted in accordance with the Public Property Loan Regulations. Departments and agencies should keep a record, including where the materiel has been loaned to and when it is to be returned

Divestment: When assets are:

- transferred between departments, assets should be removed from the exporting department's inventory and added to the recipient's inventory
- sold, donated, recycled, converted to waste: records should be reduced accordingly

Custodians are to comply with their departmental record-keeping requirements prior to disposing of any records.

10.11 Stock-taking

Stock-taking is the physical verification of the quantities and condition of items held in an inventory against the records in the IMS[33].

Section 5.4 of the *Guide to Management of Materiel* outlines detailed requirements for stock-taking.

The basic principle is to regularly validate whether the physical holdings match the departmental records.

The goal is to:

a) identify assets through validation of their location and condition
b) identify overages and shortages and investigate the cause of any discrepancy
c) review items with a warranty and shelf life
d) validate materiel usage and requirements
e) identify items that should be repaired or divested

Stock-taking also enables departments and agencies to monitor their inventory management performance, find areas for improvement, and help management determine the best allocation of resources and support. It should lead to concrete corrective actions when necessary.

Stock-taking schedules can be developed in a risk-based approach that deviates from annual stock-taking if legislative and policy requirements are met, safety issues are addressed, and high-risk and high-value items are considered. IMSs can have multiple cyclical count indicators that range from monthly to every several years and can be assigned to materiel based on a departmental risk-based plan. This risk-based plan is an auditable document and should be included in the internal departmental policy suite on materiel management.

Stock-taking requires planning as it interferes with normal warehousing activities and can lead to significant warehouse operational downtime. Stock-taking should be performed by independent stock-takers to ensure objectivity. It is important to immediately address any discrepancy in inventory records revealed by the stock-taking.

In addition to the usual stock-taking exercise, the *Guide to Management of Materiel* also requires that all government-owned furniture and equipment located outside the department's or agency's work office be tracked annually.

10.12 Inventory discrepancies

This subject is covered in paragraph 5.4.3 of the *Guide to Management of Materiel*. All discrepancies revealed by the stock-taking should be amended in the IMS as soon as possible so that records and physical balances match. An investigation should be conducted to determine why the discrepancy occurred so that corrective actions can be taken as necessary.

If theft is suspected, then the proper police and/or security forces need to be notified to investigate or be informed of the loss. In addition, a broader stock-taking should occur to determine if additional materiel may have been pilfered. Depending on the materiel missing, such as controlled goods, other organizations may have to be informed for security reasons.

Custodians should also proactively inspect their inventory and correct their records on an ongoing basis during their normal activities to ensure that the inventory reflects actual stock balances. Anomalies can be discovered outside of a stock-taking exercise, and corrective action can be taken immediately.

Common practices to avoid inventory discrepancies include:

- Record all stock movements in real time.
- Establish adequate policies, processes and procedures.
- Properly train staff.
- Immediately investigate any causes of discrepancies.

10.13 Reference documents

Policy on the Planning and Management of Investments defines the general requirements for asset management.
Directive on the Management of Materiel defines requirements on management of materiel, including the requirement to put in place a materiel management information system.
Guide to Management of Materiel defines the requirements for a management information system and provides instructions for Stock-Taking.
Annex on Warehousing provides good practices for inventory management.
Tangible Capital Assets contains the Generally Accepted Accounting Principles
Directive on Accounting Standards: GC 4200 Inventories defines inventory requirements from an accounting perspective
Directive on Accounting Standards: GC 3150 Tangible Capital Assets

[27] The strategy chosen will significantly influence the planning processes to meet materiel and inventory requirements and has a direct feedback loop to materiel planning processes, as noted in the assessment and planning section of the *Guide to Management of Materiel* (section 3).

[28] Any department or agency seeking an exception to the required ERP system will need an endorsement from the Office of the Comptroller General (OCG), according to sections 6.1.1 and 6.1.2 of the Standard on Enterprise Resource Planning Systems, or will need to present a business case to the Government of Canada Enterprise Architecture Review Board (GC EARB). For more information on the Investment Alignment Endorsement process, visit GCPedia's Investment Alignment page.

[29] Materiel remains in the departmental accounts until such time as it is removed from the accounts through a transfer, donation, sale or destruction, normally through a surplus or end-of-life process.

[30] Additional materiel management requirements may be mandated by legislation. An example would be a MSDS-Material Safety Data Sheet, which is a document that lists information relating to occupational safety and health for various substances and products. This is required by the Workplace Hazardous Materials Information System (WHMIS). Departments and agencies should identify the inventory requirements specific to their activities.

[31] Materiel that is in the custody of the Crown but not owned by the Crown should be kept separate from other stock. This materiel should not be included as part of the value of the inventory.

[32] In all cases, sound stewardship is required for all materiel while in the custody of a department or agency, and a record should be kept for all physical assets under the protection of the Crown until they leave departmental custody.

[33] The department or agency assumes the risk for not conducting an annual stock-taking exercise.

The *Guide to Management of Materiel* recommends departmental stock-taking programs for both annual and multi-year cyclical stock-taking based on a risk management approach. Multi-year cyclical stock-taking (also called cycle counting), a perpetual inventory auditing procedure, is a good process for reviewing inventory. It involves performing a regular count and recording the adjustment of specific items.

11 Annex D: Additional Guidance on Management of Warehouses

11.1 Introduction

This document is an annex to the Treasury Board of Canada Secretariat (TBS) *Guide to Management of Materiel* and *Directive on the Management of Materiel*.

11.2 Background

Departments and agencies require materiel to support the delivery of their programs according to their departmental mandates. Sound stewardship of materiel may require the materiel to be stored in a warehouse or other storage facility. Departments and agencies may also be responsible for warehousing other types of materiel, such as IT system builds, construction material, and seized or forfeited assets.

This annex provides guidance and additional information on warehouse management and storage of inventory in a storage facility. In the context of this document, a storage facility can be a warehouse or any section of a facility used for storage such as a caged area, a car compound, or a combination of the above. This annex is complemented by the TBS Annex on Inventory.

This annex should be read in conjunction with TBS materiel management directives, policies and guidelines.

11.3 Purpose

The purpose of this annex is to assist federal materiel management practitioners in implementing the Treasury Board's materiel management policy instruments by providing guidance and best practices in warehouse management, without creating additional policy requirements.

This document is intended to guide departments and agencies in their warehousing operations to ensure adequate planning, receipt, storage and removal of inventory. It also provides guidance for the processes, stock-taking, planning, resources and various requirements related to warehousing. This document is to be read in conjunction with the regulations in place and internal departmental policies and procedures.

11.4 Definitions

11.4.1 Materiel

The TBS *Policy on the Planning and Management of Investments* defines materiel as "All movable assets (excluding money, records and seized assets) acquired by Her Majesty in right of Canada."

In this document, the terms materiel, materiel assets and assets are used interchangeably to describe movable assets used by departments and agencies to deliver programs and services[34].

Below is a non-exhaustive list of materiel assets:

- furniture such as desks, chairs and shelving
- fixtures such as plants, light fixtures and clocks
- artwork, gifts and other accountable memorabilia
- consumable items such as ammunition, rations, fuel and lubricants (including energy reserves)

- IT equipment such as mobile telecommunication devices, computers and servers
- office equipment such as printers, scanners and shredders
- scientific and laboratory equipment
- machinery and the associated tools
- animals
- land vehicles, watercraft and aircraft

However, when those components are removed from the building, they would be considered materiel assets. If they are identified as valuable assets, they should be tracked.

11.4.2 Inventory[35]

Inventory is materiel held in stock at storage facilities, including materiel that is undergoing repair or is in the supply system.

Simply, inventory is any item held in stock or in a storage location that is not immediately issued for use or consumed in the delivery of the departmental programs, for which tracking for quantity, location or condition is necessary. Proper valuation of this materiel is necessary to support accurate financial accounting.

Inventory should include any goods purchased and held in storage for the delivery of programs, such as ammunition, consumable stores, spare parts and materials held for issue at a later date. It may also include tangible capital assets that are not currently in use but are stored or parked for future use.

It also includes goods maintained in strategic stockpiles of reserves, such as energy reserves (e.g. oil), for use in emergency or other situations.

Any materiel asset that is kept in storage for future use is also considered inventory.

In the context of this annex, inventory also includes seized and forfeited assets and any other asset in the custody of a department or agency for which there may be a need for warehousing.

11.4.3 Warehousing and storage

TBS *Guide to Management of Materiel* defines warehousing and storage as follows:

"Warehousing and storage are the processes of properly storing and handling materiel that is not in use or is waiting to be shipped to various locations, i.e., furniture, heritage assets, maintenance supplies. Operationally, warehousing covers areas such as receiving, distribution, organization and order fulfillment."

Section 5.3 of the *Guide to Management of Materiel* contains considerations for warehousing and storage, which are reiterated in more detail in this document.

11.4.4 Inventory Management System

A departmental Inventory Management System (IMS) supports all aspects of materiel management from planning to disposal[36]. An IMS is crucial to ensuring that the right materiel is where it needs to be

to support operational mandates. It is also a source of information for financial management, financial reporting, life-cycle costing, maintenance and operations.

11.5 Preliminary assessment

Departments and agencies should consider all options before deciding to keep items in a storage facility. Warehousing and its associated costs and logistics may well exceed the benefits of keeping those items. Any warehousing should be supported by a feasibility and options analysis that demonstrates that warehousing is the right choice to support departmental mandates and operational requirements and offers value for money. Immediate divestiture and future purchase of an item if required may be more cost-effective.

Departments and agencies should consider expiry dates, technological compatibility (obsolescence), item retrieval, management fees, maintenance costs and warehouse rental fees, among other factors. Departments and agencies should maintain auditable records of the costing analyses that were used to justify their decisions.

11.6 General requirements

Warehouse management is a component of materiel management. Goods are stored to meet materiel asset requirements through a planning method, inventory control management and an internal ordering and distribution process. **Warehouse management covers various aspects such as accessibility, security, safety, human resources and processes.**

Departments and agencies should maintain and conduct their warehousing activities in accordance with:

- efficient use of space
- appropriate use of equipment and labour
- accessibility of materiel, equipment and facility
- protection of staff and materiel in storage
- efficiency of operations
- health and safety

When making any decisions concerning warehousing, departments and agencies should comply with regulatory obligations at all levels of government and with the *Greening Government Strategy*.

11.7 Options for warehousing

The use of a government-owned or leased storage facility is a common approach for warehousing. However, when departments and agencies have limited inventory to be stored, for convenience, timing, or lack of resources, it may be easier, quicker and cheaper to store it in a private facility.

When using a private facility, departments and agencies retain ownership of the inventory, but the custody is transferred to a third party.

Departments and agencies should conduct contracts and contracting processes to ensure that warehousing activities comply with relevant policies, including materiel management, and support all departmental operational requirements.

When departments and agencies outsource their warehouse activities to private facilities, they should:

- ensure that the facility can offer the adequate level of protection/security for the inventory
- require the supplier to have appropriate insurance coverage for the value of the inventory under its control
- ensure that receipt/return of items is documented in writing or electronically and respects the chain of custody, if required.
- ensure that more than one person is present during the transfer of assets
- keep documents on file in accordance with departmental record-keeping policy
- maintain inventory records of materiel in storage and ensure departmental access to the facility for audits of physical inventory levels
- ensure that the supplier's employees have the required security clearance

11.8 Storage facility: Requirements for a government-owned or leased storage facility

A storage facility can be a warehouse or any section of a facility used for storage such as a caged area, a car compound, or a combination of the above. This is where materiel is kept for future use and stored before going for distribution within a logistical process.

A storage facility should provide easy, controlled access to employees, clients and stakeholders. The need for access should be consistent with the role of the facility and depend on several factors, such as floor space costs, type of inventory stored and pick frequency.

Facility design is based on several factors, such as the role or objective of the warehouse, the types and dimensions of inventory to be stored, the logistics of stock intake and removal, the duration of storage and the material handling equipment to be used.

Departments and agencies should consider the following factors when selecting a storage facility:

- right-sizing for an organization's needs: a space requirement analysis should be conducted to ensure that storage facilities are wisely selected to meet program needs and mandate
- allowances for overflow or "flex" space based on operational risks
- appropriate environmental conditions, such as temperature and humidity levels, to protect the materiel being stored
- security: storage facilities must meet all departmental security requirements, i.e., alarms, security cameras and access control

11.9 Facility planning

Determining the **layout** is the first step in designing a facility. Departments and agencies should define the goals, objectives and expectations of the warehouse or storage space and establish a clear understanding of the primary and supporting activities before specifying space requirement.

Planning criteria should include the definition of the mission or function of the warehouse, space constraints, product characteristics, business rules and processes, frequency of stock turnover, storage aids, materials handling equipment, environmental conditions, and safety and security.

The general layout of a facility should include:

- efficient use of space
- easy access to the stored product
- adequate flexibility in the positioning of products
- security of Crown property, inventory and employees
- operational feasibility
- accessibility
- ergonomics
- future flexibility, adaptability to business changes
- business continuity planning (see section 11. Business continuity planning)

Departments and agencies must ensure to comply with any regulatory requirement. The warehouse should be planned in consultation with the departmental occupational health and safety (OHS) adviser, or the Canadian Centre for Occupational Health and Safety (CCOHS) and the security department. There may also be other requirements at the federal, provincial or municipal level that have an impact on planning.

Private-sector consulting services can advise on the most appropriate layout. The cost of such a service may easily pay for itself in realized efficiency savings.

Departments and agencies can also contact Public Service and Procurement Canada (PSPC) Real Property Services (RPS) for assistance. RPS are real property professionals specializing in workplace accommodation, architecture, engineering, real estate, and asset and facility management. They are involved in all aspects of real property, from initial investment strategies and the construction and leasing of facilities, to the maintenance, repair and disposal of real property assets.

11.9.1 Warehouse design

A warehouse is a system where various components impact each other. Therefore, warehouse design depends on the type and quantity of materiel to be stored and the type of material handling equipment used. The shape, volume, weight or unique storage requirements for assets, as well as the operational needs, will affect the warehouse layout and often dictate the type of material handling equipment required. Aisle widths and shelving will vary depending on the type of material handling equipment used, as turning radius, maximum reachable height and lifting capacity vary between equipment types.

Warehouse design should also meet the operational needs for material handling and be aligned with the warehousing logistics to facilitate an efficient flow of inventory.

In a warehouse design, priority is generally given to storage volume. Open sections are optimal for storing inventory because a higher ceiling and open areas provide more storage volume and allows a safer use of material handling equipment. Offices, locker rooms, rest rooms and charging stations are often in more confined sections with a lower ceiling or close to columns or other physical obstacles.

Ergonomics is also an important factor to consider. Departments and agencies should considering the human element in the design of a new warehouse to increase the workers' ability to perform material-handling tasks efficiently and reduce injuries.

11.9.2 Warehouse design elements

A warehouse's components vary depending on needs, but the following are the main warehouse functions that should be considered.

11.9.2.1 Loading docks

A storage facility that receives and ships loads by truck on a regular basis should be equipped with one or several loading docks able to accommodate a wide variety of truck sizes and types. When required, loading docks should be equipped with a dock leveler system to provide a smooth transition for forklifts and prevent drop-off accidents. Dock seals or curtains on the side and top of the loading dock should be installed, specifically for wider-loading docks. Seals block the gaps beside trailers and prevent accidents, help maintain the warehouse temperature, and prevent unauthorized entry. Other factors in dock design are weather protection, energy use, security and construction cost.

Loading dock door dimensions should be adapted to the type of vehicle and dimensions of materiel to be unloaded. Provincial regulations limit the maximum dimensions of vehicles, but within those limits the actual width, length, depth and height will vary. The dimensions of a standard tractor-trailer will not exceed a width of 2.60 metres, with a maximum height of 4.15 metres. Loading dock floor height is commonly between 1.2 metres and 1.3 metres to accommodate most trucks. Loading docks have standard size specifications, and suppliers can advise on the products available.

A flush loading dock with a trailer parked at 90 degrees from a building is the most common loading dock, but it requires a lot of parking space. An angled loading dock design, commonly called a "sawtooth" loading dock, is another option. A reduced angle for the loading dock, 45 degrees for example, allows vehicles to be parked closer to the building, which is useful when a site does not have a lot of manoeuvring area between the dock and the nearest obstruction or street. This layout can help make better use of outside parking space. The major disadvantage of this dock type is that it uses twice as much building space while reducing dock space.

An enclosed loading dock can be used when product protection, climate control, security and overhead lift capabilities are needed. This type of dock needs proper ventilation and air exchange because truck exhaust fumes occur inside the building.

11.9.2.2 Triage/receiving/packaging/shipping

The triage/receiving section of the warehouse is where material is received, the documents and material are reviewed and processed, and the material is identified, tagged, repalletized and inventoried. The size, location and layout of this section should support the business processes and logistics. The planning should start by identifying all tasks to be accomplished in this section.

The following are some factors to consider when planning a triage/receiving section:

- proximity to the loading dock, receiving area or office
- need of space for material handling equipment
- enough space for processing and to repalletize inventory if needed
- proximity to wrapping, dunnage, scale or other equipment
- located in an area separate from the current inventory to avoid confusion
- minimal movement of assets

- the frequency of inbound and outbound deliveries
- the dimensions of the materials from inbound/outbound deliveries
- time lapse required to complete all receiving tasks (before put-away in storage area)
- weather elements
- air quality
- sound insulation
- ergonomics
- security
- privacy
- accessibility
- need for a physical barrier for truck drivers

The same section is often used for the packaging and shipping of outbound inventory. If a separate section for packaging/shipping is required, the same principles apply. The location of this section should support the flow of material and limit the movement of inventory to minimum.

11.9.2.3 Office section

Office space is convenient to perform administrative duties.

The following are some factors that departments and agencies should consider when designing an office section:

- proximity to access door or the triage/shipping/packaging/receiving area
- using an area that is not optimal for storage use
- wherever possible, ensure pedestrian traffic lanes within the facility do not intersect with routes used by material handling equipment
- monitoring/supervision of warehouse activities
- distance from inventory or other sections of the warehouse
- security monitoring
- weather elements
- air quality
- sound insulation
- access to power and connectivity

In a facility where floor space is important, departments and agencies may consider an office on a mezzanine, even if this option may be a challenge for accessibility. Modular offices also exist and may be an interesting alternative to the construction of an office.

11.9.2.4 Storage

The storage section is where inventory is placed in the facility for a variable amount of time. It should be designed to make the most efficient use of available space, support logistics, and limit handling and travelling.

Departments and agencies should consider the following aspects in designing and operating their storage section:

- making optimal use of racking/shelving

- using the appropriate types and sizes of storage aids, pallets, bins, triwalls, etc.
- planning the location and layout of the storage section for a smooth flow of equipment between the triage/receiving section and the packaging/shipping section
- limiting the movement of materiel to a minimum
- ensuring easy identification of the rows, aisles and sections based on the inventory location system for easy put-away and retrieval of inventory
- safeguarding inventory, protection from elements, rodents, theft, etc.
- building higher to get more storage room while respecting the limitations of the materiel handling equipment
- considering width requirements for the circulation of materiel handling equipment
- complying with specific storage requirements, such as refrigeration
- ensuring privacy and security requirements
- protecting health and safety
- ensuring ergonomics
- ensuring adaptability for special needs or for changes in business processes or volume

The need for storage space can be reduced through various strategies:

- Reduce or better plan for the materiel entering the facility: Obtain advanced shipping notifications. Negotiate with the supplier to receive materiel that will meet operational requirements based on a set agenda. Consider a “just-in-time” approach, which consists of receiving materiel in smaller amounts aligned with the demand, as close as possible to their pick up time. A “just-in-time” strategy minimizes inventory and increases efficiency.
- Increase the inventory leaving the facility: Review the inventory to identify materiel that could be released earlier. Reassess the need for keeping materiel in inventory. Divest any unnecessary inventory.
- Review processes and resources: Identify improvements that could reduce processing time. Improvements include increasing the workforce, reducing processing steps, or providing more suitable tools or equipment. By modifying the roles of employees or providing better training and instruction, the workforce could become more efficient. Consider using technology or better IT tools.

There are a lot of publications on continuous improvement and operations optimizing. Various training and certifications also exist.

Departments and agencies could also contact organizations like the Canadian General Standards Board (CGSB) to assess and certify quality management systems for conformance to the ISO 9001 standard.

In addition to the above, the following concepts may also help make the most efficient use of the facility:

- Fill the empty gaps in racking/shelving.
- Reorganize and repalletize. It might be possible to dismantle some of the inventory and repackage it in a more efficient way. Double-stacking some inventory might also be an option. Keep in mind the health and safety of employees and the protection of materiel, as double-stacked materiel may not be as stable.

- Gather the materiel in bins, triwalls or other containers. Use a size and mode of containment best suited to the inventory. Right-sizing the container is important, as a full box takes the same amount of space as an empty box.
- Build higher racking or add shelves to the existing shelving.
- Use more adapted racking and shelving, or a better warehouse configuration.
- Consider outsourcing some of the storage services.
- Use temporary storage such as a tractor-trailer or a sea container.

11.9.2.5 Racking and shelving

A racking system is a storage aid designed to store materiel on pallets for optimum organization. There are many different types of racking systems, but all types allow for the storage of palletized items in horizontal rows with multiple levels. All types increase storage density in the most organized way possible. Racking and shelving should be adapted to the size and characteristics of inventory.

Various types of racking systems are available. In order to select the one best suited to operational needs, departments and agencies should consider the following:

- amount of storage
- floor space and building height
- inventory accessibility
- location of access doors, columns or other obstacles
- inventory rotation
- load sizes and weights
- characteristics of inventory, including the type and size of pallets or storage aids used

The benefits of racking/shelving are:

- maximizes space utilization by taking advantage of vertical space
- helps prevent damage to products on the ground from pests, moisture, impacts, etc.
- allows for retrieval of pallets and materiel more quickly and easily
- adaptable to needs

Some racking is specifically made for a type of asset. For example, cantilever racking is the most appropriate way to store bars and pipes. A reel rack is excellent for the storage and dispersal of wire, rope and tubing. Many products exist on the market, including automated vertical and horizontal carousel storage machines.

Racking is subject to health and safety regulations. Departments and agencies should consult their OHS adviser during planning.

Regular inspections of racking and shelving is required to identify visible damage that could affect the load capacity or performance of the structure.

It is important to maintain the integrity of the racking structure. Adding racking protectors or bollards is suggested to protect them from the material handling equipment.

11.9.2.6 Pallet (skid)

A pallet (commonly called a skid) is a low, portable platform that supports assets during handling, storing or moving. It is designed to be lifted by a variety of material handling equipment, such as a forklift or a pallet jack.

Pallets and containers exist in various types, load capacities and formats, but the most common dimensions in North America are:

- 40 x 48 inches (W x L) pallet
- 20 x 48 inches (W x L) half-pallet

The number of pallets that a storage facility can contain is useful information when the inventory stored is palletised. This number can be used as a unit measure for the capacity of a warehouse, be used to establish key performance indicators, and helps to plan warehouse activities. Standard pallets dimensions can also used as the basis of an inventory location system.

As information, a standard 53-foot long semi-trailer can normally hold 26 pallets or 52 double-stacked pallets, when double-stacking is possible. This estimate of the capacity of a semi-trailer may be useful when planning shipping logistics.

11.9.2.7 Items required for health and safety

Various types of health and safety equipment may be required in a storage facility, depending on the nature of the business and the inventory stored. Examples of equipment are emergency showers, eyewash stations, first aid stations, column protectors, fire suppression equipment, carbon monoxide detectors and traffic barriers.

The departmental OHS adviser can help identify requirements and recommend the type of equipment needed and how to integrate this equipment in the design. Section 18 of this document also provides more information on health and safety.

11.9.2.8 Inventory location system

An inventory location system’s base function is to provide logical, quick and easy access to assets located in the warehouse. Easy retrieval of inventory is essential to the efficient operations of a facility.

A good inventory location system will support warehouse operations and logistics, and optimize warehouse functionality by reducing retrieval time.

The most common inventory location system is to divide storage into aisles, rows, sections, shelves, parking numbers, etc. Departments and agencies can use the most appropriate system for their specific needs.

The system should:

- be logical
- have the various sections clearly and visibly identified
- facilitate an easy retrieval

- adapt to the type of inventory
- be compatible with the IMS
- be consistent with the costing model (for example, bigger vehicles are often charged by linear feet)
- be flexible

11.9.2.9 Charging station

Forklifts and pallet trucks are often battery-operated and require a charging station. The charging station should be in a convenient location that provides adequate space, adequate ventilation, appropriate plumbing and proximity to appropriate emergency equipment.

11.9.2.10 Materiel handling equipment

Departments and agencies should consider many characteristics before choosing a particular piece of equipment for a facility. Often, several methods or types of machinery can perform the required work, and the facility is the final determining factor between the various methods.

Department and agencies might consider the following factors:

- applicability of the equipment to the solution of the problem
- versatility and ability of the equipment to perform all required tasks (such as working outside a building)
- equipment size and lifting capacities (weight, height)
- reliability and maintenance requirements
- any requirement related to propulsion mode (need for a charging station or storage of propane)
- purchase price and operating costs (parts and service)
- flexibility of equipment in case of business change
- training required
- health and safety

11.10 Security requirements

The TBS *Policy on Government Security* and *Directive on Security Management* outline how to manage government security in support of the trusted delivery of Government of Canada programs and services; protect information, individuals and assets; and assure Canadians, partners, oversight bodies and other stakeholders regarding security management in the Government of Canada.

These documents describe the roles of various government departments and agencies and provide requirements with regards to several aspects of security, such as:

- security incidents or security events
- security screening
- security threats
- business continuity management
- emergency procurement and emergency accommodation
- security services and contract security
- base building security

- physical security

Departments and agencies should consider these aspects in their warehouse activities and in the development of their three-year departmental security plans.

The policy requires that departments and agencies establish risk-based and standardized security practices and controls for the protection of information, individuals and assets.

Departments and agencies should proactively analyze risks/threats and develop a business continuity plan to ensure the capacity to deliver their mandate in case of threats, risks, events or natural disasters (see section 11. Business continuity planning).

The policy also outlines the security screening requirements. Warehouse employees must have and maintain the security clearance appropriate to the type of inventory stored.

If the department or agency is required by contract to store sensitive government information and assets, it should contact the PSPC Contract Security Program.

The following are some security recommendations:

- Controls should be in place for personnel who need access to the facility.
- Valuable items may require more stringent security controls, and those assets can be stored in a separate section within the storage facility. Physical barriers may need to be installed to hide some types of assets, like attractive items and seized or forfeited assets.
- The storage facility can be structured so that different security clearance is required to access different sections of the facility.
- Sensitive information on attractive assets and seized or forfeited items, or on any subject that requires confidentiality, like details on the security system, should be controlled and disclosed on a need-to-know basis only.
- Security screening, access card readers, security cameras, or other security measures should be used to deter theft.
- Employees should not be left alone with valuable or attractive assets.
- Information should be protected with an appropriate segregation of duty.
- Alarm codes, access cards and safe combinations should be replaced regularly in accordance with departmental policies. Safe combinations should be provided to employees only on a need-to-know basis, and it is recommended to change them every year, every time an employee knowing the combination leaves, or in accordance with departmental policies.
- Use the appropriate mode of containment, such as an RCMP-approved safe.

11.11 Business continuity planning

A business continuity plan (BCP) is required by the TBS *Policy on Government Security*. Further requirements appear in Appendix D: Mandatory Procedures for Business Continuity Management Control of the *Directive on Security Management*. Other requirements can also exist at the departmental level.

Departments and agencies should develop a BCP specific to their warehousing activities. It should be integrated with the BCP of the organization. Departments and agencies should ensure that their BCP protects assets and employees and ensures the continuity of government operations and program delivery in the case of various threats.

Departments and agencies should perform a business impact analysis to identify the critical activities and resources needed to maintain their service delivery, identify allowable downtime and develop substitution options.

In their planning, they should consider any type of threat that may cause unforeseen disruption and develop strategies adapted to various situations.

Departments and agencies should consider the following scenarios:

- loss of access to a facility and/or its inventory
- loss of the entire facility and/or its content
- loss of access to any document essential to warehouse activities, such as inventory list, delivery/pick up schedule, contact information, bill of lading
- loss of contact information of employees, supervisors, managers or stakeholders
- loss of power, heat, air conditioning or refrigeration capacity
- loss of internet access, security system or phone connectivity, which would not only inhibit communications, but may also result in loss of access to inventory lists and block warehousing and distribution tasks
- loss of capacity to maintain assets under certain conditions (refrigeration, heat)
- storage facility becoming unsafe as a result of structural damages to the building or storage racking, or through an industrial accident such as a spill
- climate emergency
- any threat or security incident

Storing inventory that is essential to mandate delivery in various locations may be a good mitigation strategy for several potential threats. A containment strategy should be developed in the event that a storage facility becomes condemned.

If a storage facility is unable to operate for a long period of time, departments and agencies may consider redirecting shipments or subcontracting services to another storage facility.

For normal warehousing activities, a generator may be sufficient to maintain a minimal level of service in case of power failure.

A power loss may render the security systems ineffective. An uninterruptible power supply (UPS) system provides immediate backup power and helps keep the security system running, normally a few hours. UPS system rental trailers and mobile generators can also be used. Custodians might consider using a security guard, or installing a temporary alarm system to protect valuable inventory.

11.12 Warehouse operations/logistics

Sound stewardship involves planning warehouse activities ahead of time based on expected items received, shipped and picked up.

Departments and agencies should develop a smooth, consistent process that minimizes movement and disruption and that can be adjusted according to the variations of flow, speed or business changes. A warehouse management flow chart should be prepared.

For a warehouse with a fast flow of materiel, departments and agencies should determine and aim for the optimal percentage of storage capacity of the warehouse for inventory. The number should allow for maximum use of space with minimal disruption.

Departments and agencies should have clear rules on the type of items receivable (materiel that needs to be refrigerated, live animals, dangerous goods, controlled goods, etc.) and consider declining materiel for which proper and safe storage cannot be assured, or employees do not possess the training required by regulations.

The following elements can help departments and agencies better manage activities:

- Supervisors should provide clear instructions on how to handle inventory (receiving, storage, shipping, returns, etc.).
- To assist planning, obtain an advance shipping plan from customers, shippers and other Government of Canada facilities, whenever possible.
- Obtain, review and validate documentation prior to receiving materiel.
- Use government documents whenever possible. A consistent document makes the information easier to extract and ensures better control of the information requested.
- Resolve any issues with an item before receiving it at the storage facility or at time of receipt.
- Always have a witness when receiving materiel at the storage facility.
- Obtain a signature from the shipper.
- Whenever practicable, receive items according to a schedule that is shared with all employees.
- Enter materiel in the IMS at the time of receipt. The IMS should contain all the information needed for inventory management, such as factors influencing management costs, contract number, etc.
- Affix a unique reference number to all assets received. The reference number should be able to stay on the asset throughout the management period, but it should be removeable when the asset is disposed outside of the government domain.
- Be vigilant before signing any document from a third party as it can create a legal obligation. Refer to the supervisor in case of doubt.
- Always practise continual improvement when reporting and resolving any problem with the delivery in terms of packaging, scheduling and documentation. Adapt methods to prevent similar issues in the future.
- When receiving materiel, ensure that packaging meets the contract requirements. If not, consider refusing the shipment, especially if it does not meet health and safety standards or is damaged. Seek immediate help from contracting/project authorities and ensure that remedies are in place.

- Be open, clear and transparent in communication with all stakeholders.
- Ensure that information is available to everyone at all times. Absent employees should not disrupt normal operations. A generic mailbox or a shared calendar might be a good option to consider.
- Set aside some time in the planning for reviewing methods/processes.
- Keep copies of all delivery documents in accordance with departmental standards.
- Provide the appropriate equipment, adapted to the type of work, to help employees work safely and efficiently.
- It is generally more efficient to move a small number of larger goods than a large number of smaller goods.
- Develop a departmental risk-based stock-taking program. Refer to the Annex on Inventory for more details.
- Establish a quality assurance system or process.
- Keep auditable records for all activities and respect the retention periods.

A good IT system is essential to managing a warehouse efficiently. Departments and agencies need to use software and hardware that is appropriate for the scale and nature of their warehouse operations. Departments and agencies should consider bar coding or any innovative approach that fits the situation and budget.

11.13 Materiel/inventory handling

11.13.1 Moving materiel

Loading, off-loading and moving materiel inventory inside or around the warehouse are necessary at various stages of warehouse operations. Certified and well-trained employees using the right equipment are the best way to improve productivity, protect materiel and prevent accidents. Equipment must always be certified and in good condition. It is important to ensure that the floor of the storage facility, vehicles, trailers and containers can support the weight of the forklift or pallet truck and the materiel. The floor surface should be clean, even, level and non-slip.

Materiel exceeding the capacity of equipment or that can represent a risk by its inappropriate packaging, instability, or any other reason should never be moved. The materiel should first be secured and the right equipment should be used.

Materiel should be kept as low to the ground as possible to minimize the likelihood and impact of accidents. Store heavy materiel on the floor or on the lower sections of shelving.

A government-owned forklift should always be operated by a government employee with the proper credentials and training. In tight areas or when their vision is blocked, forklift operators may need to use convex safety mirrors or get help from a colleague with experience with forklifts.

A storage facility may not be equipped with the right equipment, such as a loading dock, to allow the loading/unloading of some types of materiel. Departments and agencies may need to consider using equipment such as:

- mobile loading ramps and forklift ramps

- elevating scissor dock lifts
- walk ramps

11.13.2 Receiving materiel

Section 5.2 Receipt and receiving of materiel of the *Guide to Management of Materiel* provides useful and detailed contractual and financial information on receiving materiel.

In the day-to-day operations, receiving materiel consists of:

- identifying the materiel and ensuring that it is at the right destination
- providing the adequate level of materiel protection (appropriate space, ventilation and safety considerations are in place for the protection and humane treatment of live animals. Without adequate protection, materiel may have to be refused)
- reviewing and matching delivery documents with the materiel received (verify description, numbers of items, contract number, etc.)
- inspecting the condition of the materiel received
- documenting and reporting any problem or damage. To avoid liability problems for damages caused during the transportation, agree with a transportation company representative on condition of damaged materiel received. Photos should be taken. Deal with the situation without any delay
- identifying materiel with specific requirements (shelf life, valuable asset, etc.)
- adding materiel to the IMS to convert the materiel to inventory
- preparing the materiel for storage (packaging, reorganization, dunnage, etc.)
- affixing an inventory number if required. This number should be visible and secure enough to stay on the item for the entire storage time
- determining the warehouse location (consider specific requirements and shelf life)
- making copies of delivery documents
- identifying any suspect package and initiating security measures

11.13.3 Put-away of inventory

Put-away is the process of moving materiel from the receiving area to the most optimal warehouse storage location. Materiel should be moved to a location that optimally supports the flow of materiel.

Some factors that departments and agencies should consider are:

- optimal warehouse space utilization
- minimal labour and travel time
- storage strategy should be linked to the type of item, storage time and removal strategy
- limited movement of inventory
- expected pick frequency and storage time
- a strategy for items with a shelf life
- items with specific requirements (attractive asset, animals, etc.)
- easy finding, tracking and retrieving of inventory with visible inventory numbers
- protection of inventory (temperature, humidity, protection from elements, etc.)
- safety of goods and employees
- security requirements

It is a common strategy to store certain items in a specific location, such as a lane or a pick position, to make it more efficient to handle those items. However, this strategy can create gaps (honeycombing), as there will almost never be the exact number of items to fill the location entirely, resulting in an inefficient use of the storage area. Those gaps could be used for other items, or items could be moved to another location, but it would decrease handling efficiency. It also would complicate retrieval, and the same item might have to be moved multiple times. A decision has to be made between prioritizing storage efficiency or handling efficiency.

11.13.4 Storage

Storage is the step when inventory is placed in its most appropriate warehouse space. The objectives are to optimize the storage space available, support logistics, and limit the materiel handling required.

Inventory in storage should meet the following requirements:

- Rows and aisles are clearly identified in accordance with the inventory location system.
- Inventory can be located at all times.
- An accurate inventory is maintained at all times.
- Inventory that has reached its end of life can be identified.
- Inventory is protected (temperature, humidity, protection from elements, etc.).
- A strategy exists for items not picked up.
- Inventory is verified through stock-taking.
- All health and safety requirements are complied with.

11.13.5 Removal

11.13.5.1 Picking

Picking is the process of collecting inventory items to give to clients or other stakeholders. Departments and agencies should focus on achieving high accuracy in minimal time.

Departments and agencies should consider the following:

- Establish a clear process. Several picking methods exist (zone, batch, wave, cluster, etc.). Identify the method that best suits needs and minimizes travel.
- Organize inventory to be picked in an efficient manner. Consider establishing a separate picking or order consolidation area.
- Inspect inventory and stock levels prior to picking or shipping.
- Deal with issues prior to inventory being picked up.
- Document any issue.
- Use a standardized picking document.

11.13.5.2 Shipping

Prior to shipping, the materiel is brought to staging lanes for packaging. Departments and agencies should ensure to use the appropriate packing to best protect the materiel. Packaging should be light enough not to unnecessarily increase the materiel weight and minimal enough to control packaging costs. Departments and agencies should consider all options before shipping materiel that is likely to be damaged during transportation.

Departments and agencies should consider documenting the condition of materiel before shipping and taking photos, especially when preparing materiel for pick up by a third party.

When shipping[37], departments and agencies should:

- schedule pick ups – allow specific times for pick up to avoid wasting time
- obtain, where appropriate, signature of acceptance of materiel and verify the identity of the person picking up the item
- be cautious when signing a bill of lading or any document related to a shipment to ensure not to assume any unjustified responsibility regarding transportation or payment
- remove item from inventory
- ensure client satisfaction

11.14 Lending materiel

All materiel loans will be administered according to the *Public Property Loan Regulations*.

Material loans are covered in the *Guide to Management of Materiel*.

11.15 Inspections

Regular workplace inspections are required by OHS and are an essential part of every health and safety program.

Some materiel handling equipment, such as a forklift or a lift truck, require a daily inspection and an annual comprehensive safety inspection. Other equipment like dock levellers, extinguishers and carbon monoxide detectors must be inspected in accordance with a defined schedule. The departmental OHS adviser can advise on specific requirements applicable to the equipment used in your storage facility.

Security inspections must also be conducted by authorized persons with defined processes and timelines, in accordance with departmental security requirements.

Inspections may also be required by other regulations, depending on the type of storage facility and inventory stored.

For instance, weighing and measuring devices used for trade in Canada must meet stringent standards under the *Weights and Measures Act*, administered by Measurement Canada. Operations that use scales should periodically have those scales tested and calibrated to ensure accuracy and maintain safety and compliance with Measurement Canada requirements.

Besides the regulatory requirements, departments and agencies should perform regular inspections of the storage facility to:

- reassess the operations/logistics and the flow of materiel
- assess the condition of inventory
- ensure that the conditions (temperature, humidity, security, etc.) are adequate for the type of inventory
- verify and correct inventory (see Annex on Inventory)
- verify the condition of the building, racking and shelving

- assess the condition of equipment used and the need for new equipment
- ensure compliance with security requirements
- ensure compliance with health and safety requirements
- review employees' compliance with processes in place

Inspections should be focussed on process improvement, health and safety of workers, and the identification of corrective actions.

11.16 Training

Departments and agencies should ensure that employees have the appropriate expertise and experience to manage and handle the inventory under their custody. This is particularly important in a warehouse environment where there are several risks for the health and safety of employees. Training also helps employees better accomplish their tasks.

TBS has developed the Government of Canada Materiel Management Community Competencies, and the Canada School of Public Service provides training recognized by the Certification Program for Procurement and Materiel Management Communities in the Government of Canada.

Through the **Certification Program for Procurement and Materiel Management Communities in the Government of Canada**, employees can become Certified Federal Specialists in Materiel Management. Information on this program is available to government employees at ASAS CMO - Home - GCpedia.

There are several required trainings for employee health and safety[38]:

- Operators of materiel handling equipment such as a forklift, a lift truck or an electric pallet jack must complete the appropriate training and be certified.
- All workers who work with a hazardous product or may be exposed to a hazardous product in the course of their work activities are required to complete a Workplace Hazardous Material Information System (**WHMIS) training.**
- **Other training may be required for the management of other types of materiel.**

Departments and agencies can obtain more information about required health and safety training from departmental OHS advisers or the Canadian Centre for Occupational Health and Safety (CCOHS).

11.17 Requirements for specific types of materiel

11.17.1 Dangerous goods and hazardous materials

Some types of materials or chemicals used at work can risk the safety and health of workers.

WHMIS was created to prevent injuries, illnesses, deaths, medical costs and fires caused by hazardous materials. It is a comprehensive system for providing information on the safe use of hazardous materials in Canadian workplaces.

Information is provided by:

- product labels

- MSDS-Material Safety Data Sheets required for any hazardous products or chemicals in the storage facility
- worker education programs

Storing hazardous products in the workplace should be based on workplace-specific factors, including:

- the hazards of the product (health, fire and reactivity)
- the amounts in storage
- types of containment (bulk or smaller containers)
- the way the product is used

It is also important to know that there may be specific containment requirements, such as ventilation, and that some materials are incompatible and cannot be stored together.

More information on applicable acts and regulations can be obtained through WHMIS. The transportation of dangerous goods is strictly regulated under the *Transportation of Dangerous Goods Act, 1992* and the *Transportation of Dangerous Goods Regulations*.

When planning to ship or receive dangerous goods, departments and agencies should be aware of existing provisions concerning signage, documentation, training, containment and other safety and security requirements. Requirements apply to those importing, offering for transport, handling or transporting any dangerous goods.

In case of an emergency involving dangerous goods, custodians can call CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone.

11.17.2 Controlled goods

Controlled goods are defined in Part 2 of the *Defence Production Act*, and any item that appears on the Controlled Goods List of the *Defence Production Act* is deemed to be a controlled good. Generally, these are goods, including some components and technical data, that have military or national security significance and are controlled domestically by the Government of Canada. Departments and agencies must identify and designate all controlled goods in their possession.

The Treasury Board *Directive on the Management of Materiel* requires that materiel designated as controlled goods is given the level of protection necessary to prevent unauthorized examination, possession or transfer. More specifically, controlled goods must be safeguarded according to the requirements of the *Defence Production Act*, the *Controlled Goods Regulations*, the Treasury Board *Directive on the Management of Materiel* and the Treasury Board *Directive on Security Management*. The *Defence Production Act* stipulates that individuals and organizations must be registered in the PSPC Control Goods Program before they can legally examine, possess or transfer controlled goods (unless they are federal government employees or are otherwise excluded or exempted from registration).

Given the extensive security-related requirements surrounding controlled goods, custodians should work closely with their departmental security colleagues to ensure the safety of the controlled goods under their administration.

For additional information, departments and agencies should refer to Annex B ("Mandatory Procedures for the Management of Controlled Goods") of the Treasury Board *Directive on the Management of Materiel*. The Treasury Board *Guide to the Management of Controlled Goods* is currently being developed.

11.17.3 Weapons and ammunitions

Departments and agencies should use lockers, racks, safes, adapted shelving or vaults to store weapons and ammunition. It is recommended to render firearms inoperable with a secure locking device and to store them in a vault, safe or room that has been specifically constructed or modified for the secure storage of the type of firearm. Ammunition should be stored in a distinct container.

11.17.4 Explosives

The 2013 Explosives Regulations are administered by National Resources Canada and contain the requirements for the storage of explosives, including the need for licences, a security plan, a fire safety plan and a key control plan.

11.17.5 Attractive assets

For the application of this document, attractive assets are assets that are particularly vulnerable to theft. They are often small and expensive. Examples of attractive assets would be jewelry and electronic equipment.

A variety of physical barriers, safes, and secured cabinets exist and can be used to provide extra protection for those assets. Privacy screens can be used to hide assets from unauthorized people. RCMP-approved cabinets are required to store classified and Protected C federal government information and assets.

11.17.6 Seized or forfeited property

These assets require a higher level of security and should receive the same level of protection as attractive assets. Disclosure of information on seized or forfeited assets should be on a need-to-know basis, and employees managing seized or forfeited assets should have the appropriate security clearance.

Assets are seized or forfeited following court proceedings, and custodians should ensure to comply with any regulatory requirement applicable to these assets.

11.18 Health and safety

The *Canada Labour Code*, Part II, governs the health and safety of employees in the federal government. Its purpose is to prevent workplace-related accidents and injury, including occupational diseases.

The general duty clause in Part II of the *Canada Labour Code* requires every employer (managers/supervisors) to provide their employees with a workplace that is free from potential hazards that could cause harm (physical and/or psychological).

Departments and agencies should be aware of the requirements that are applicable to their specific activities. Managers should consult with their departmental OHS adviser to help identify the requirements[39].

As a rule, department and agencies should provide a safe work environment, to provide adequate tools and protective equipment, and to deliver appropriate training and supervision. Even if it is impossible to identify requirements that would be applicable to all activities, some are common to several warehousing activities, such as:

- materiel handling equipment
  - Training specific to the type of equipment used is required to operate a powered industrial truck, such as a forklift.
  - Operators need clear instructions and adequate supervision.
  - Equipment is to be inspected and maintained.
  - Inspection reports are to be completed.

- machinery, equipment and tools
  - *Canada Labour Code*, Part II, 125(1)(t): Ensure that the machinery, equipment and tools used by the employees in the course of their employment meet prescribed health, safety and ergonomic standards and are safe under all conditions of their intended use.

- docks, ramps and dock plates
  - Refer to section 2.11, *Canada Occupational Health and Safety Regulations* (SOR/86-304).

- hazardous products and controlled products
  - WHMIS contains the requirements for hazardous products and controlled products, namely for handling and storage, employee education, investigations, ventilation requirements, control of hazards and labelling.
  - MSDS-Material Safety Data Sheets required for any hazardous products or chemicals in the storage facility

- transportation of dangerous goods
  - Requirements are included in the *Transportation of Dangerous Goods Act* and regulations.

Besides the above requirements, departments and agencies should also consider the following:

- Develop and enforce clear rules for the type of personal protective equipment required to enter the storage facility.
- If employees have to work alone in a storage facility, a work-alone policy should be developed.
- Radio-communication equipment should be provided to allow employees to get help in case of accident.
- When fuel-operated vehicles are used in the facility, ensure proper ventilation and install carbon monoxide detectors.
- Adapt emergency procedures to include emergency responses to the risks that are specific to warehousing operations.

[34] Building components, such as doors, windows, air delivery systems and electrical wiring, that are permanently affixed to the structure of a building are not considered materiel assets.

[35] Requirements in other TBS documents applicable to materiel during its life cycle apply to materiel and inventory as defined in this document.

[36] The TBS Annex on Inventory provides best practices for the physical tracking of materiel assets. Detailed information on IMSs is contained in section 7 of that annex.

[37] A word on shipping:

1. Departments and agencies may have more than one option for shipping materiel. Palletizing and regrouping shipments allows the use of freight services instead of a courier, which may be more cost-effective.
2. Departments and agencies should pay close attention to terms of use and contract arrangements in place with shipping contractors. Many vendors will charge additional fees for services such as signature, power lift gate, repeated delivery charges, and inside delivery vs. loading dock. These additional fees can often exceed the actual transportation costs and should be minimized wherever feasible.
3. Departments and agencies should also identify and comply with any restriction or regulation applicable to the materiel shipped. For instance, the transportation of dangerous goods is subject to a strict regulation. Air freight is also subject to specific restrictions.
4. Another aspect to consider is the capacity of the recipient to accept the shipment. For example, certain locations do not permit skid freight, when others are open only during limited hours.

[38] This is not an exhaustive list of training. Other training may be required, depending on warehousing activities.

[39] This document does not identify all legislative requirements responsibility. Departments and agencies should consult their OHS advisers to determine the requirements applicable to their specific activities.

The Canadian Centre for Occupational Health and Safety (CCOHS) is a useful resource for health and safety in the workplace.

12 Annex E: Additional Guidance for Remotely piloted aircraft systems

12.1 Introduction

The aim of this annex is to detail the materiel management specific to remotely piloted aircraft systems. This annex follows the life-cycle management principles outlined in this guide. When no additional direction has been provided, the normal materiel management processes detailed in the guide will apply.

12.2 Definitions

12.2.1 Personal information bank

Under the *Privacy Act*, a collection or grouping of personal information is referred to as a personal information bank.

12.2.2 Privacy impact assessment

A policy process for identifying, assessing, and mitigating privacy risks. Government institutions are to develop and maintain privacy impact assessments for all new or modified programs and activities that involve the use of personal information for an administrative purpose.

12.2.3 Remotely piloted aircraft

As defined in the *Canadian Aviation Regulations*, remotely piloted aircraft means a navigable aircraft, other than a balloon, rocket, or kite, that is operated by a pilot who is not on board.

12.2.4 Remotely piloted aircraft system

As defined in the *Canadian Aviation Regulations*, remotely piloted aircraft system or RPAS means a set of configurable elements consisting of a remotely piloted aircraft, its control station, the command and control links, and any other system elements required during flight operation. RPASs may be commonly referred to as drones, quadcopters, or quadrotor helicopters.

12.3 Life-cycle management

12.3.1 Assessments and planning

12.3.1.1 When planning for the use of RPASs, departments and agencies should ensure that proper registration and certifications, for both the device and the operator, are obtainable from Transport Canada.

12.3.1.2 RPAS pilots follow the rules in the *Canadian Aviation Regulations* (CARs). Part IX – Remotely Piloted Aircraft Systems contains most of the rules that apply to RPASs up to 25 kilograms. These regulations should be read in full before flying an RPAS for the first time.

12.3.1.3 RPAS pilots should carry a valid drone pilot certificate, issued by Transport Canada.

12.3.1.4 Departments and agencies should fly only RPASs that are marked and registered according to Transport Canada specifications. Most RPASs for program requirements will require the device to be registered. Markings should indicate that it is Government of Canada property, and should

show the relevant department or agency. However, for an RPAS that is less than 250 grams, neither registration nor a drone pilot certificate is required.

12.3.1.5 When planning for RPAS use, departments and agencies should take into account environmental considerations, which include but are not limited to low-emission devices, sustainable energy sources and ecologically friendly divestiture.

12.3.1.6 All pilots should have appropriate training and certification requirements, according to Transport Canada requirements. Transport Canada may be able to assist with locating an RPAS training facility, if needed.

12.3.1.7 When conducting financial planning for RPASs, departments and agencies should plan their budgets for the entire life cycle of the device, from acquisition costs to divestiture cost.

12.3.2 Acquisition

12.3.2.1 RPASs are to be procured and acquired using standard Government of Canada procurement methods, such as electronic tendering.

12.3.2.2 Transfer of an RPAS between departments and agencies requires re-registering the RPAS with Transport Canada under the new user or organization. Department or agency decals identifying the transferring department or agency will be removed as needed; Government of Canada decals can remain.

12.3.2.3 Loans: When lending RPASs between departments and agencies, ensure that there is no conflict in the departmental mandates; the development of memorandums of understanding is recommended to ensure clarity, funding and operational parameters.

12.3.3 Operations for RPASs

12.3.3.1 Departments and agencies should always operate airborne RPASs with appropriate legal and regulatory approval. When considering the use of RPASs, departments and agencies should:

a) understand their legal requirements when flying drones
b) understand the difference between basic operations and advanced operations
c) fulfill the necessary knowledge requirements
d) choose the appropriate RPAS
e) follow the RPAS manufacturer's instructions
f) survey the flight area as set out in the *Canadian Aviations Regulations*
g) take note of any obstacles, such as buildings and power lines
h) conduct advanced operations only; to operate in controlled airspace (Classes C, D or E), RPAS flight authorization from NAV Canada is required

12.3.3.2 Departments and agencies should ensure that RPASs are used for program requirements only. Personal use or use outside of approved contexts is prohibited.

12.3.4 Maintenance

C.3.4.1 All RPAS should be maintained in accordance with the manufacturer's inspection and maintenance procedures.

C.3.4.2 All maintenance, repairs and modifications shall be recorded in an RPAS maintenance log, in accordance with Part IX of the *Canadian Aviation Regulations*.

12.3.5 Divestiture

12.3.5.1 RPASs are to be divested of using normal processes developed by the Government of Canada, including GCSurplus.

12.3.5.2 General recommended guidance for divesting:

a) RPASs are to be divested of following the Treasury Board *Directive on the Management of Materiel*.
b) When transferring an RPAS between departments and agencies, the asset should be deregistered and re-registered under the new department or agency. The Certificate of Registration should be in the new department's or agency's name.
c) When divesting, departments and agencies should consider environmental impacts.

12.3.5.3 Security protocol should be followed before divesting of an RPAS to the public through an outlet such as GCSurplus. Hard drives, solid state drives and other digital data storage devices are to be wiped to CSEC specifications on divestiture and those components containing sensitive information should be destroyed.

12.4 General good practices

12.4.1 Storage and transportation

12.4.1.1 When RPASs are not in use, they are to be stored as components to prohibit inappropriate usage and be secured to ensure controlled access. During transportation, RPASs should be kept in a secure container to prevent unauthorized access or accidental environmental contamination.

12.4.2 Tracking

12.4.2.1 Non-capitalized RPAS assets will be treated as attractive materiel and accounted for annually.

12.4.2.2 RPAS assets that have components that are considered controlled goods are to be treated and managed appropriately as controlled goods.

12.4.3 Logs and audits

12.4.3.1 Users of RPASs should maintain activity, maintenance and purchase logs to allow for a proper audit trail.

12.4.4 Insurance

12.4.4.1 Federal employees are covered under the *Policy on Legal Assistance and Indemnification* in the use of RPASs in their work. Furthermore, the federal government generally self-

insures and thus no insurance is required for the use of RPASs by departments and agencies willing to take on this risk within Canadian airspace.

12.4.4.2 Departments and agencies should procure third-party liability insurance through PSPC for operation of RPASs outside of Canadian airspace (similar to on-road motor vehicles, ATVs and other equipment).

12.4.4.3 Contractors that operate RPASs to complete work on behalf of the Crown should have their own third-party liability insurance.

12.5 Privacy considerations

12.5.1 RPASs can easily collect personal information inadvertently. Departments and agencies should develop a privacy policy for the use of RPASs to ensure that all personal information collected by an RPAS, whether desired or not, is stored and handled in a safe and secure manner.

12.5.2 Departments and agencies should consult Transport Canada's *Privacy Guidelines for Drone Users* for an introduction to the regulatory framework for RPASs and privacy.

12.5.3 Departments and agencies should complete privacy impact assessments before introducing new or redesigned programs and services that handle personal information, including programs that use RPASs. If an RPAS is selected for a program, personal information bank management strategies should be created to ensure the safe handling of private information.

12.5.4 If possible, ensure that an RPAS is collecting only required information for program purposes. If this is not practicable, departments and agencies should limit the collection of personal information by considering the following:

a) Users of RPAS should not retain personal information for longer than necessary and ensure its secure destruction.
b) Users are to ensure that the public's privacy and legal rights are protected and respected during the use of an RPAS.
c) Using RPASs for surveillance of individuals should generally be limited to law enforcement and will likely require prior judicial authorization or statutory authority.

12.5.5 Departments and agencies may consult the Office of the Privacy Commissioner's Government Advisory Directorate (scg-ga@priv.gc.ca) for advice on programs and initiatives that involve personal information.

12.5.6 Inexperienced operators can place the department's or agency's RPAS and its data at risk if they do not follow established procedures for securing the RPAS before, during and after flight. Both transmitted and stored data are vulnerable when the device, its components or its transmission feed are not properly secured by the operator.

13 Annex F: Warehousing

13.1 Introduction

This document is an annex to the Treasury Board of Canada Secretariat (TBS) *Guide to Management of Materiel* and *Directive on the Management of Materiel*.

13.2 Background

Departments and agencies require materiel to support the delivery of their programs according to their departmental mandates. Sound stewardship of materiel may require the materiel to be stored in a warehouse or other storage facility. Departments and agencies may also be responsible for warehousing other types of materiel, such as IT system builds, construction material, and seized or forfeited assets.

This annex provides guidance and additional information on warehouse management and storage of inventory in a storage facility. In the context of this document, a storage facility can be a warehouse or any section of a facility used for storage such as a caged area, a car compound, or a combination of the above. This annex is complemented by the TBS Annex on Inventory.

This annex should be read in conjunction with TBS materiel management directives, policies and guidelines.

13.3 Purpose

The purpose of this annex is to assist federal materiel management practitioners in implementing the Treasury Board's materiel management policy instruments by providing guidance and best practices in warehouse management, without creating additional policy requirements.

This document is intended to guide departments and agencies in their warehousing operations to ensure adequate planning, receipt, storage and removal of inventory. It also provides guidance for the processes, stock-taking, planning, resources and various requirements related to warehousing. This document is to be read in conjunction with the regulations in place and internal departmental policies and procedures.

13.4 Definitions

13.4.1 Materiel

The TBS *Policy on the Planning and Management of Investments* defines materiel as "All movable assets (excluding money, records and seized assets) acquired by Her Majesty in right of Canada."

In this document, the terms materiel, materiel assets and assets are used interchangeably to describe movable assets used by departments and agencies to deliver programs and services.

Below is a non-exhaustive list of materiel assets[40]:

- furniture such as desks, chairs and shelving
- fixtures such as plants, light fixtures and clocks
- artwork, gifts and other accountable memorabilia
- consumable items such as ammunition, rations, fuel and lubricants (including energy reserves)
- IT equipment such as mobile telecommunication devices, computers and servers
- office equipment such as printers, scanners and shredders
- scientific and laboratory equipment

- machinery and the associated tools
- animals
- land vehicles, watercraft and aircraft

However, when those components are removed from the building, they would be considered materiel assets. If they are identified as valuable assets, they should be tracked.

13.4.2 Inventory[41]

Inventory is materiel held in stock at storage facilities, including materiel that is undergoing repair or is in the supply system.

Simply, inventory is any item held in stock or in a storage location that is not immediately issued for use or consumed in the delivery of the departmental programs, for which tracking for quantity, location or condition is necessary. Proper valuation of this materiel is necessary to support accurate financial accounting.

Inventory should include any goods purchased and held in storage for the delivery of programs, such as ammunition, consumable stores, spare parts and materials held for issue at a later date. It may also include tangible capital assets that are not currently in use but are stored or parked for future use.

It also includes goods maintained in strategic stockpiles of reserves, such as energy reserves (e.g. oil), for use in emergency or other situations.

Any materiel asset that is kept in storage for future use is also considered inventory.

In the context of this annex, inventory also includes seized and forfeited assets and any other asset in the custody of a department or agency for which there may be a need for warehousing.

13.4.3 Warehousing (storage)

TBS *Guide to Management of Materiel* defines warehousing and storage as follows:

"Warehousing and storage are the processes of properly storing and handling materiel that is not in use or is waiting to be shipped to various locations, i.e., furniture, heritage assets, maintenance supplies. Operationally, warehousing covers areas such as receiving, distribution, organization and order fulfillment."

Section 5.3 of the *Guide to Management of Materiel* contains considerations for warehousing and storage, which are reiterated in more detail in this document.

13.4.4 Inventory Management System

A departmental Inventory Management System (IMS)[42] supports all aspects of materiel management from planning to disposal. An IMS is crucial to ensuring that the right materiel is where it needs to be to support operational mandates. It is also a source of information for financial management, financial reporting, life-cycle costing, maintenance and operations.

13.5 Preliminary assessment

Departments and agencies should consider all options before deciding to keep items in a storage facility. Warehousing and its associated costs and logistics may well exceed the benefits of keeping those items. Any warehousing should be supported by a feasibility and options analysis that

demonstrates that warehousing is the right choice to support departmental mandates and operational requirements and offers value for money. Immediate divestiture and future purchase of an item if required may be more cost-effective.

Departments and agencies should consider expiry dates, technological compatibility (obsolescence), item retrieval, management fees, maintenance costs and warehouse rental fees, among other factors. Departments and agencies should maintain auditable records of the costing analyses that were used to justify their decisions.

13.6 General requirements

Warehouse management is a component of materiel management. Goods are stored to meet materiel asset requirements through a planning method, inventory control management and an internal ordering and distribution process. **Warehouse management covers various aspects such as accessibility, security, safety, human resources and processes.**

Departments and agencies should maintain and conduct their warehousing activities in accordance with:

- efficient use of space
- appropriate use of equipment and labour
- accessibility of materiel, equipment and facility
- protection of staff and materiel in storage
- efficiency of operations
- health and safety

When making any decisions concerning warehousing, departments and agencies should comply with regulatory obligations at all levels of government and with the *Greening Government Strategy*.

13.7 Options for warehousing

The use of a government-owned or leased storage facility is a common approach for warehousing. However, when departments and agencies have limited inventory to be stored, for convenience, timing, or lack of resources, it may be easier, quicker and cheaper to store it in a private facility.

When using a private facility, departments and agencies retain ownership of the inventory, but the custody is transferred to a third party.

Departments and agencies must conduct contracts and contracting processes to ensure that warehousing activities comply with relevant policies, including materiel management, and support all departmental operational requirements.

When departments and agencies outsource their warehouse activities to private facilities, they should:

- ensure that the facility can offer the adequate level of protection/security for the inventory
- require the supplier to have appropriate insurance coverage for the value of the inventory under its control
- ensure that receipt/return of items is documented in writing or electronically and respects the chain of custody, if required.
- ensure that more than one person is present during the transfer of assets

- keep documents on file in accordance with departmental record-keeping policy
- maintain inventory records of materiel in storage and ensure departmental access to the facility for audits of physical inventory levels
- ensure that the supplier's employees have the required security clearance

13.8 Storage facility: Requirements for a government-owned or leased storage facility

A storage facility can be a warehouse or any section of a facility used for storage such as a caged area, a car compound, or a combination of the above. This is where materiel is kept for future use and stored before going for distribution within a logistical process.

A storage facility should provide easy, controlled access to employees, clients and stakeholders. The need for access should be consistent with the role of the facility and depends on several factors, such as floor space costs, type of inventory stored and pick frequency.

Facility design is based on several factors, such as the role or objective of the warehouse, the types and dimensions of inventory to be stored, the logistics of stock intake and removal, the duration of storage and the material handling equipment to be used.

Departments and agencies should consider the following factors when selecting a storage facility:

- right-sizing for an organization's needs: a space requirement analysis should be conducted to ensure that storage facilities are wisely selected to meet program needs and mandate
- allowances for overflow or "flex" space based on operational risks
- appropriate environmental conditions, such as temperature and humidity levels, to protect the materiel being stored
- security: storage facilities must meet all departmental security requirements, i.e., alarms, security cameras and access control

13.9 Facility planning

Determining the **layout** is the first step in designing a facility. Departments and agencies should define the goals, objectives and expectations of the warehouse or storage space and establish a clear understanding of the primary and supporting activities before specifying space requirement.

Planning criteria should include the definition of the mission or function of the warehouse, space constraints, product characteristics, business rules and processes, frequency of stock turnover, storage aids, materials handling equipment, environmental conditions, and safety and security.

The general layout of a facility should include:

- efficient use of space
- easy access to the stored product
- adequate flexibility in the positioning of products
- security of Crown property, inventory and employees
- operational feasibility
- accessibility
- ergonomics
- future flexibility, adaptability to business changes
- business continuity planning (see section 11. Business continuity planning)

Departments and agencies must ensure to comply with any regulatory requirement. The warehouse should be planned in consultation with the departmental occupational health and safety (OHS) adviser, or the Canadian Centre for Occupational Health and Safety (CCOHS) and the security department. There may also be other requirements at the federal, provincial or municipal level that have an impact on planning.

Private-sector consulting services can advise on the most appropriate layout. The cost of such a service may easily pay for itself in realized efficiency savings.

Departments and agencies can also contact Public Service and Procurement Canada (PSPC) Real Property Services (RPS) for assistance. RPS are real property professionals specializing in workplace accommodation, architecture, engineering, real estate, and asset and facility management. They are involved in all aspects of real property, from initial investment strategies and the construction and leasing of facilities, to the maintenance, repair and disposal of real property assets.

13.9.1 Warehouse design

A warehouse is a system where various components impact each other. Therefore, warehouse design depends on the type and quantity of materiel to be stored and the type of material handling equipment used. The shape, volume, weight or unique storage requirements for assets, as well as the operational needs, will affect the warehouse layout and often dictate the type of material handling equipment required. Aisle widths and shelving will vary depending on the type of material handling equipment used, as turning radius, maximum reachable height and lifting capacity vary between equipment types.

Warehouse design should also meet the operational needs for material handling and be aligned with the warehousing logistics to facilitate an efficient flow of inventory.

In a warehouse design, priority is generally given to storage volume. Open sections are optimal for storing inventory because a higher ceiling and open areas provide more storage volume and allows a safer use of material handling equipment. Offices, locker rooms, rest rooms and charging stations are often in more confined sections with a lower ceiling or close to columns or other physical obstacles.

Ergonomics is also an important factor to consider. Departments and agencies should considering the human element in the design of a new warehouse to increase the workers' ability to perform material-handling tasks efficiently and reduce injuries.

13.9.2 Warehouse design elements

A warehouse's components vary depending on needs, but the following are the main warehouse functions that should be considered.

13.9.2.1 Loading docks

A storage facility that receives and ships loads by truck on a regular basis should be equipped with one or several loading docks able to accommodate a wide variety of truck sizes and types. When required, loading docks should be equipped with a dock leveler system to provide a smooth transition for forklifts and prevent drop-off accidents. Dock seals or curtains on the side and top of the loading dock should be installed, specifically for wider-loading docks. Seals block the gaps beside trailers and prevent accidents, help maintain the warehouse temperature, and prevent unauthorized entry. Other factors in dock design are weather protection, energy use, security and construction cost.

Loading dock door dimensions should be adapted to the type of vehicle and dimensions of materiel to be unloaded. Provincial regulations limit the maximum dimensions of vehicles, but within those limits the actual width, length, depth and height will vary. The dimensions of a standard tractor-trailer will not exceed a width of 2.60 metres, with a maximum height of 4.15 metres. Loading dock floor height is commonly between 1.2 metres and 1.3 metres to accommodate most trucks. Loading docks have standard size specifications, and suppliers can advise on the products available.

A flush loading dock with a trailer parked at 90 degrees from a building is the most common loading dock, but it requires a lot of parking space. An angled loading dock design, commonly called a "sawtooth" loading dock, is another option. A reduced angle for the loading dock, 45 degrees for example, allows vehicles to be parked closer to the building, which is useful when a site does not have a lot of manoeuvring area between the dock and the nearest obstruction or street. This layout can help make better use of outside parking space. The major disadvantage of this dock type is that it uses twice as much building space while reducing dock space.

An enclosed loading dock can be used when product protection, climate control, security and overhead lift capabilities are needed. This type of dock needs proper ventilation and air exchange because truck exhaust fumes occur inside the building.

13.9.2.2 Triage/receiving/packaging/shipping

The triage/receiving section of the warehouse is where material is received, the documents and material are reviewed and processed, and the material is identified, tagged, repalletized and inventoried. The size, location and layout of this section should support the business processes and logistics. The planning should start by identifying all tasks to be accomplished in this section.

The following are some factors to consider when planning a triage/receiving section:

- proximity to the loading dock, receiving area or office
- need of space for material handling equipment
- enough space for processing and to repalletize inventory if needed
- proximity to wrapping, dunnage, scale or other equipment
- located in an area separate from the current inventory to avoid confusion
- minimal movement of assets
- the frequency of inbound and outbound deliveries
- the dimensions of the materials from inbound/outbound deliveries
- time lapse required to complete all receiving tasks (before put-away in storage area)
- weather elements
- air quality
- sound insulation
- ergonomics
- security
- privacy

- accessibility
- need for a physical barrier for truck drivers

The same section is often used for the packaging and shipping of outbound inventory. If a separate section for packaging/shipping is required, the same principles apply. The location of this section should support the flow of material and limit the movement of inventory to minimum.

13.9.2.3 Office section

Office space is convenient to perform administrative duties.

The following are some factors that departments and agencies should consider when designing an office section:

- proximity to access door or the triage/shipping/packaging/receiving area
- using an area that is not optimal for storage use
- wherever possible, ensure pedestrian traffic lanes within the facility do not intersect with routes used by material handling equipment
- monitoring/supervision of warehouse activities
- distance from inventory or other sections of the warehouse
- security monitoring
- weather elements
- air quality
- sound insulation
- access to power and connectivity

In a facility where floor space is important, departments and agencies may consider an office on a mezzanine, even if this option may be a challenge for accessibility. Modular offices also exist and may be an interesting alternative to the construction of an office.

13.9.2.4 Storage

The storage section is where inventory is placed in the facility for a variable amount of time. It should be designed to make the most efficient use of available space, support logistics, and limit handling and travelling.

Departments and agencies should consider the following aspects in designing and operating their storage section:

- making optimal use of racking/shelving
- using the appropriate types and sizes of storage aids, pallets, bins, triwalls, etc.
- planning the location and layout of the storage section for a smooth flow of equipment between the triage/receiving section and the packaging/shipping section
- limiting the movement of materiel to a minimum
- ensuring easy identification of the rows, aisles and sections based on the inventory location system for easy put-away and retrieval of inventory
- safeguarding inventory, protection from elements, rodents, theft, etc.

- building higher to get more storage room while respecting the limitations of the materiel handling equipment
- considering width requirements for the circulation of materiel handling equipment
- complying with specific storage requirements, such as refrigeration
- ensuring privacy and security requirements
- protecting health and safety
- ensuring ergonomics
- ensuring adaptability for special needs or for changes in business processes or volume

The need for storage space can be reduced through various strategies:

- Reduce or better plan for the materiel entering the facility: Obtain advanced shipping notifications. Negotiate with the supplier to receive materiel that will meet operational requirements based on a set agenda. Consider a "just-in-time" approach, which consists of receiving materiel in smaller amounts aligned with the demand, as close as possible to their pick up time. A "just-in-time" strategy minimizes inventory and increases efficiency.
- Increase the inventory leaving the facility: Review the inventory to identify materiel that could be released earlier. Reassess the need for keeping materiel in inventory. Divest any unnecessary inventory.
- Review processes and resources: Identify improvements that could reduce processing time. Improvements include increasing the workforce, reducing processing steps, or providing more suitable tools or equipment. By modifying the roles of employees or providing better training and instruction, the workforce could become more efficient. Consider using technology or better IT tools.

There are a lot of publications on continuous improvement and operations optimizing. Various training and certifications also exist.

Departments and agencies could also contact organizations like the Canadian General Standards Board (CGSB) to assess and certify quality management systems for conformance to the ISO 9001 standard.

In addition to the above, the following concepts may also help make the most efficient use of the facility:

- Fill the empty gaps in racking/shelving.
- Reorganize and repalletize. It might be possible to dismantle some of the inventory and repackage it in a more efficient way. Double-stacking some inventory might also be an option. Keep in mind the health and safety of employees and the protection of materiel, as double-stacked materiel may not be as stable.
- Gather the materiel in bins, triwalls or other containers. Use a size and mode of containment best suited to the inventory. Right-sizing the container is important, as a full box takes the same amount of space as an empty box.
- Build higher racking or add shelves to the existing shelving.
- Use more adapted racking and shelving, or a better warehouse configuration.
- Consider outsourcing some of the storage services.
- Use temporary storage such as a tractor-trailer or a sea container.

13.9.2.5 Racking and shelving

A racking system is a storage aid designed to store materiel on pallets for optimum organization. There are many different types of racking systems, but all types allow for the storage of palletized items in horizontal rows with multiple levels. All types increase storage density in the most organized way possible. Racking and shelving should be adapted to the size and characteristics of inventory.

Various types of racking systems are available. In order to select the one best suited to operational needs, departments and agencies should consider the following:

- amount of storage
- floor space and building height
- inventory accessibility
- location of access doors, columns or other obstacles
- inventory rotation
- load sizes and weights
- characteristics of inventory, including the type and size of pallets or storage aids used

The benefits of racking/shelving are:

- maximizes space utilization by taking advantage of vertical space
- helps prevent damage to products on the ground from pests, moisture, impacts, etc.
- allows for retrieval of pallets and materiel more quickly and easily
- adaptable to needs

Some racking is specifically made for a type of asset. For example, cantilever racking is the most appropriate way to store bars and pipes. A reel rack is excellent for the storage and dispersal of wire, rope and tubing. Many products exist on the market, including automated vertical and horizontal carousel storage machines.

Racking is subject to health and safety regulations. Departments and agencies should consult their OHS adviser during planning.

Regular inspections of racking and shelving is required to identify visible damage that could affect the load capacity or performance of the structure.

It is important to maintain the integrity of the racking structure. Adding racking protectors or bollards is suggested to protect them from the material handling equipment.

13.9.2.6 Pallet (skid)

A pallet (commonly called a skid) is a low, portable platform that supports assets during handling, storing or moving. It is designed to be lifted by a variety of material handling equipment, such as a forklift or a pallet jack.

Pallets and containers exist in various types, load capacities and formats, but the most common dimensions in North America are:

- 40 x 48 inches (W x L) pallet
- 20 x 48 inches (W x L) half-pallet

The number of pallets that a storage facility can contain is useful information when the inventory stored is palettized. This number can be used as a unit measure for the capacity of a warehouse, be used to establish key performance indicators, and helps to plan warehouse activities. Standard pallets dimensions can also used as the basis of an inventory location system.

As information, a standard 53-foot-long semi-trailer can normally hold 26 pallets or 52 double-stacked pallets, when double-stacking is possible. This estimate of the capacity of a semi-trailer may be useful when planning shipping logistics.

13.9.2.7 Items required for health and safety

Various types of health and safety equipment may be required in a storage facility, depending on the nature of the business and the inventory stored. Examples of equipment are emergency showers, eyewash stations, first aid stations, column protectors, fire suppression equipment, carbon monoxide detectors and traffic barriers.

The departmental OHS adviser can help identify requirements and recommend the type of equipment needed and how to integrate this equipment in the design. Section 18 of this document also provides more information on health and safety.

13.9.2.8 Inventory location system

An inventory location system's base function is to provide logical, quick and easy access to assets located in the warehouse. Easy retrieval of inventory is essential to the efficient operations of a facility.

A good inventory location system will support warehouse operations and logistics, and optimize warehouse functionality by reducing retrieval time.

The most common inventory location system is to divide storage into aisles, rows, sections, shelves, parking numbers, etc. Departments and agencies can use the most appropriate system for their specific needs.

The system should:

- be logical
- have the various sections clearly and visibly identified
- facilitate an easy retrieval
- adapt to the type of inventory
- be compatible with the IMS
- be consistent with the costing model (for example, bigger vehicles are often charged by linear feet)
- be flexible

13.9.2.9 Charging station

Forklifts and pallet trucks are often battery-operated and require a charging station. The charging station should be in a convenient location that provides adequate space, adequate ventilation, appropriate plumbing and proximity to appropriate emergency equipment.

13.9.2.10 Materiel handling equipment

Departments and agencies must consider many characteristics before choosing a particular piece of equipment for a facility. Often, several methods or types of machinery can be used to perform the required work, and the facility's layout is often the final determining factor between the various methods or types of machinery.

Department and agencies might consider the following factors:

- applicability of the equipment to the solution of the problem
- versatility and ability of the equipment to perform all required tasks (such as working outside a building)
- equipment size and lifting capacities (weight, height)
- reliability and maintenance requirements
- any requirement related to propulsion mode (need for a charging station or storage of propane)
- purchase price and operating costs (parts and service)
- flexibility of equipment in case of business change
- training required
- health and safety

13.10 Security requirements

The TBS *Policy on Government Security* and *Directive on Security Management* outline how to manage government security in support of the trusted delivery of Government of Canada programs and services; protect information, individuals and assets; and assure Canadians, partners, oversight bodies and other stakeholders regarding security management in the Government of Canada.

These documents describe the roles of various government departments and agencies and provide requirements with regards to several aspects of security, such as:

- security incidents or security events
- security screening
- security threats
- business continuity management
- emergency procurement and emergency accommodation
- security services and contract security
- base building security
- physical security

Departments and agencies must consider these aspects in their warehouse activities and in the development of their three-year departmental security plans.

The policy requires that departments and agencies establish risk-based and standardized security practices and controls for the protection of information, individuals and assets.

Departments and agencies should proactively analyze risks/threats and develop a business continuity plan to ensure the capacity to deliver their mandate in case of threats, risks, events or natural disasters (see section 11. Business continuity planning).

The policy also outlines the security screening requirements. Warehouse employees must have and maintain the security clearance appropriate to the type of inventory stored.

If the department or agency is required by contract to store sensitive government information and assets, it should contact the PSPC Contract Security Program.

The following are some security recommendations:

- Controls should be in place for personnel who need access to the facility.
- Valuable items may require more stringent security controls, and those assets can be stored in a separate section within the storage facility. Physical barriers may need to be installed to hide some types of assets, like attractive items and seized or forfeited assets.
- The storage facility can be structured so that different security clearance is required to access different sections of the facility.
- Sensitive information on attractive assets and seized or forfeited items, or on any subject that requires confidentiality, like details on the security system, should be controlled and disclosed on a need-to-know basis only.
- Security screening, access card readers, security cameras, or other security measures should be used to deter theft.
- Employees should not be left alone with valuable or attractive assets.
- Information should be protected with an appropriate segregation of duty.
- Alarm codes, access cards and safe combinations should be replaced regularly in accordance with departmental policies. Safe combinations should be provided to employees only on a need-to-know basis, and it is recommended to change them every year, every time an employee knowing the combination leaves, or in accordance with departmental policies.
- Use the appropriate mode of containment, such as an RCMP-approved safe.

13.11 Business continuity planning

A business continuity plan (BCP) is required by the TBS *Policy on Government Security*. Further requirements appear in Appendix D: Mandatory Procedures for Business Continuity Management Control of the *Directive on Security Management*. Other requirements can also exist at the departmental level.

Departments and agencies should develop a BCP specific to their warehousing activities. It should be integrated with the BCP of the organization. Departments and agencies should ensure that their BCP protects assets and employees and ensures the continuity of government operations and program delivery in the case of various threats.

Departments and agencies should perform a business impact analysis to identify the critical activities and resources needed to maintain their service delivery, identify allowable downtime and develop substitution options.

In their planning, they should consider any type of threat that may cause unforeseen disruption and develop strategies adapted to various situations.

Departments and agencies should consider the following scenarios:

- loss of access to a facility and/or its inventory
- loss of the entire facility and/or its content

- loss of access to any document essential to warehouse activities, such as inventory list, delivery/pick up schedule, contact information, bill of lading
- loss of contact information of employees, supervisors, managers or stakeholders
- loss of power, heat, air conditioning or refrigeration capacity
- loss of internet access, security system or phone connectivity, which would not only inhibit communications, but may also result in loss of access to inventory lists and block warehousing and distribution tasks
- loss of capacity to maintain assets under certain conditions (refrigeration, heat)
- storage facility becoming unsafe as a result of structural damages to the building or storage racking, or through an industrial accident such as a spill
- climate emergency
- any threat or security incident

Storing inventory that is essential to mandate delivery in various locations may be a good mitigation strategy for several potential threats. A containment strategy should be developed in the event that a storage facility becomes condemned.

If a storage facility is unable to operate for a long period of time, departments and agencies may consider redirecting shipments or subcontracting services to another storage facility.

For normal warehousing activities, a generator may be sufficient to maintain a minimal level of service in case of power failure.

A power loss may render the security systems ineffective. An uninterruptible power supply (UPS) system provides immediate backup power and helps keep the security system running, normally a few hours. UPS system rental trailers and mobile generators can also be used. Custodians might consider using a security guard, or installing a temporary alarm system to protect valuable inventory.

13.12 Warehouse operations/logistics

Sound stewardship involves planning warehouse activities ahead of time based on expected items received, shipped and picked up.

Departments and agencies should develop a smooth, consistent process that minimizes movement and disruption and that can be adjusted according to the variations of flow, speed or business changes. A warehouse management flow chart should be prepared.

For a warehouse with a fast flow of materiel, departments and agencies should determine and aim for the optimal percentage of storage capacity of the warehouse for inventory. The number should allow for maximum use of space with minimal disruption.

Departments and agencies should have clear rules on the type of items receivable (materiel that needs to be refrigerated, live animals, dangerous goods, controlled goods, etc.) and consider declining materiel for which proper and safe storage cannot be assured, or employees do not possess the training required by regulations.

The following elements can help departments and agencies better manage activities:

- Supervisors should provide clear instructions on how to handle inventory (receiving, storage, shipping, returns, etc.).
- To assist planning, obtain an advance shipping plan from customers, shippers and other Government of Canada facilities, whenever possible.
- Obtain, review and validate documentation prior to receiving materiel.
- Use government documents whenever possible. A consistent document makes the information easier to extract and ensures better control of the information requested.
- Resolve any issues with an item before receiving it at the storage facility or at time of receipt.
- Always have a witness when receiving materiel at the storage facility.
- Obtain a signature from the shipper.
- Whenever practicable, receive items according to a schedule that is shared with all employees.
- Enter materiel in the IMS at the time of receipt. The IMS should contain all the information needed for inventory management, such as factors influencing management costs, contract number, etc.
- Affix a unique reference number to all assets received. The reference number must be able to stay on the asset throughout the management period, but it should be removable when the asset is disposed outside of the government domain.
- Be vigilant before signing any document from a third party as it can create a legal obligation. Refer to the supervisor in case of doubt.
- Always practise continual improvement when reporting and resolving any problem with the delivery in terms of packaging, scheduling and documentation. Adapt methods to prevent similar issues in the future.
- When receiving materiel, ensure that packaging meets the contract requirements. If not, consider refusing the shipment, especially if it does not meet health and safety standards or is damaged. Seek immediate help from contracting/project authorities and ensure that remedies are in place.
- Be open, clear and transparent in communication with all stakeholders.
- Ensure that information is available to everyone at all times. Absent employees should not disrupt normal operations. A generic mailbox or a shared calendar might be a good option to consider.
- Set aside some time in the planning for reviewing methods/processes.
- Keep copies of all delivery documents in accordance with departmental standards.
- Provide the appropriate equipment, adapted to the type of work, to help employees work safely and efficiently.
- It is generally more efficient to move a small number of larger goods than a large number of smaller goods.
- Develop a departmental risk-based stock-taking program. Refer to the Annex on Inventory for more details.
- Establish a quality assurance system or process.
- Keep auditable records for all activities and respect the retention periods.

A good IT system is essential to managing a warehouse efficiently. Departments and agencies need to use software and hardware that is appropriate for the scale and nature of their warehouse operations. Departments and agencies should consider bar coding or any innovative approach that fits the situation and budget.

13.13 Materiel/inventory handling

13.13.1 Moving materiel

Loading, off-loading and moving materiel inventory inside or around the warehouse are necessary at various stages of warehouse operations. Certified and well-trained employees using the right equipment are the best way to improve productivity, protect materiel and prevent accidents. Equipment must always be certified and in good condition. It is important to ensure that the floor of the storage facility, vehicles, trailers and containers can support the weight of the forklift or pallet truck and the materiel. The floor surface should be clean, even, level and non-slip.

Materiel exceeding the capacity of equipment or that can represent a risk by its inappropriate packaging, instability, or any other reason should never be moved. The materiel should first be secured and the right equipment should be used.

Materiel should be kept as low to the ground as possible to minimize the likelihood and impact of accidents. Store heavy materiel on the floor or on the lower sections of shelving.

A government-owned forklift should always be operated by a government employee with the proper credentials and training. In tight areas or when their vision is blocked, forklift operators may need to use convex safety mirrors or get help from a colleague with experience with forklifts.

A storage facility may not be equipped with the right equipment, such as a loading dock, to allow the loading/unloading of some types of materiel. Departments and agencies may need to consider using equipment such as:

- mobile loading ramps and forklift ramps
- elevating scissor dock lifts
- walk ramps

13.13.2 Receiving materiel

Section 5.2 *Receipt and receiving of materiel* of the *Guide to Management of Materiel* provides useful and detailed contractual and financial information on receiving materiel.

In the day-to-day operations, receiving materiel consists of:

- identifying the materiel and ensuring that it is at the right destination
- providing the adequate level of materiel protection (appropriate space, ventilation and safety considerations are in place for the protection and humane treatment of live animals. Without adequate protection, materiel may have to be refused)
- reviewing and matching delivery documents with the materiel received (verify description, numbers of items, contract number, etc.)
- inspecting the condition of the materiel received
- documenting and reporting any problem or damage. To avoid liability problems for damages caused during the transportation, agree with a transportation company representative on condition of damaged materiel received. Photos should be taken. Deal with the situation without any delay
- identifying materiel with specific requirements (shelf life, valuable asset, etc.)
- adding materiel to the IMS to convert the materiel to inventory
- preparing the materiel for storage (packaging, reorganization, dunnage, etc.)
- affixing an inventory number if required. This number should be visible and secure enough to stay on the item for the entire storage time

- determining the warehouse location (consider specific requirements and shelf life)
- making copies of delivery documents
- identifying any suspect package and initiating security measures

13.13.3 Put-away of inventory

Put-away is the process of moving materiel from the receiving area to the most optimal warehouse storage location. Materiel should be moved to a location that optimally supports the flow of materiel.

Some factors that departments and agencies should consider are:

- optimal warehouse space utilization
- minimal labour and travel time
- storage strategy should be linked to the type of item, storage time and removal strategy
- limited movement of inventory
- expected pick frequency and storage time
- a strategy for items with a shelf life
- items with specific requirements (attractive asset, animals, etc.)
- easy finding, tracking and retrieving of inventory with visible inventory numbers
- protection of inventory (temperature, humidity, protection from elements, etc.)
- safety of goods and employees
- security requirements

It is a common strategy to store certain items in a specific location, such as a lane or a pick position, to make it more efficient to handle those items. However, this strategy can create gaps (honeycombing), as there will almost never be the exact number of items to fill the location entirely, resulting in an inefficient use of the storage area. Those gaps could be used for other items, or items could be moved to another location, but it would decrease handling efficiency. It also would complicate retrieval, and the same item might have to be moved multiple times. A decision has to be made between prioritizing storage efficiency or handling efficiency.

13.13.4 Storage

Storage is the step when inventory is placed in its most appropriate warehouse space. The objectives are to optimize the storage space available, support logistics, and limit the materiel handling required.

Inventory in storage should meet the following requirements:

- Rows and aisles are clearly identified in accordance with the inventory location system.
- Inventory can be located at all times.
- An accurate inventory is maintained at all times.
- Inventory that has reached its end of life can be identified.
- Inventory is protected (temperature, humidity, protection from elements, etc.).
- A strategy exists for items not picked up.
- Inventory is verified through stock-taking.
- All health and safety requirements are complied with.

13.13.5 Removal

13.13.5.1 Picking

Picking is the process of collecting inventory items to give to clients or other stakeholders. Departments and agencies should focus on achieving high accuracy in minimal time.

Departments and agencies should consider the following:

- Establish a clear process. Several picking methods exist (zone, batch, wave, cluster, etc.). Identify the method that best suits needs and minimizes travel.
- Organize inventory to be picked in an efficient manner. Consider establishing a separate picking or order consolidation area.
- Inspect inventory and stock levels prior to picking or shipping.
- Deal with issues prior to inventory being picked up.
- Document any issue.
- Use a standardized picking document.

13.13.5.2 Shipping

Prior to shipping[43], the materiel is brought to staging lanes for packaging. Departments and agencies should ensure to use the appropriate packing to best protect the materiel. Packaging should be light enough not to unnecessarily increase the materiel weight and minimal enough to control packaging costs. Departments and agencies should consider all options before shipping materiel that is likely to be damaged during transportation.

Departments and agencies should consider documenting the condition of materiel before shipping and taking photos, especially when preparing materiel for pick up by a third party.

When shipping, departments and agencies should:

- schedule pick ups – allow specific times for pick up to avoid wasting time
- obtain, where appropriate, signature of acceptance of materiel and verify the identity of the person picking up the item
- be cautious when signing a bill of lading or any document related to a shipment to ensure not to assume any unjustified responsibility regarding transportation or payment
- remove item from inventory
- ensure client satisfaction

13.14 Lending materiel

All materiel loans will be administered according to the *Public Property Loan Regulations*.

Material loans are covered in the *Guide to Management of Materiel*.

13.15 Inspections

Regular workplace inspections are required by OHS and are an essential part of every health and safety program.

Some materiel handling equipment, such as a forklift or a lift truck, require a daily inspection and an annual comprehensive safety inspection. Other equipment like dock levellers, extinguishers and carbon monoxide detectors must be inspected in accordance with a defined schedule. The departmental OHS adviser can advise on specific requirements applicable to the equipment used in your storage facility.

Security inspections must also be conducted by authorized persons with defined processes and timelines, in accordance with departmental security requirements.

Inspections may also be required by other regulations, depending on the type of storage facility and inventory stored.

For instance, weighing and measuring devices used for trade in Canada must meet stringent standards under the *Weights and Measures Act*, administered by Measurement Canada. Operations that use scales should periodically have those scales tested and calibrated to ensure accuracy and maintain safety and compliance with Measurement Canada requirements.

Besides the regulatory requirements, departments and agencies should perform regular inspections of the storage facility to:

- reassess the operations/logistics and the flow of materiel
- assess the condition of inventory
- ensure that the conditions (temperature, humidity, security, etc.) are adequate for the type of inventory
- verify and correct inventory (see Annex on Inventory)
- verify the condition of the building, racking and shelving
- assess the condition of equipment used and the need for new equipment
- ensure compliance with security requirements
- ensure compliance with health and safety requirements
- review employees' compliance with processes in place

Inspections should be focussed on process improvement, health and safety of workers, and the identification of corrective actions.

13.16 Training

Departments and agencies should ensure that employees have the appropriate expertise and experience to manage and handle the inventory under their custody. This is particularly important in a warehouse environment where there are several risks for the health and safety of employees. Training also helps employees better accomplish their tasks.

TBS has developed the Government of Canada Materiel Management Community Competencies, and the Canada School of Public Service provides training recognized by the Certification Program for Procurement and Materiel Management Communities in the Government of Canada.

Through the *Certification Program for Procurement and Materiel Management Communities in the Government of Canada*, employees can become Certified Federal Specialists in Materiel Management. Information on this program is available to government employees at ASAS CMO - Home - GCpedia.

There are several required trainings[44] for employee health and safety:

- Operators of materiel handling equipment such as a forklift, a lift truck or an electric pallet jack must complete the appropriate training and be certified.
- All workers who work with a hazardous product or may be exposed to a hazardous product in the course of their work activities are required to complete a Workplace Hazardous Material Information System (**WHMIS) training.**

- **Other training may be required for the management of other types of materiel.**

Departments and agencies can obtain more information about required health and safety training from departmental OHS advisers or the Canadian Centre for Occupational Health and Safety (CCOHS).

13.17 Requirements for specific types of materiel

13.17.1 Dangerous goods and hazardous materials

Some types of materials or chemicals used at work can risk the safety and health of workers.

WHMIS was created to prevent injuries, illnesses, deaths, medical costs and fires caused by hazardous materials. It is a comprehensive system for providing information on the safe use of hazardous materials in Canadian workplaces.

Information is provided by:
- product labels
- MSDS-Material Safety Data Sheets required for any hazardous products or chemicals in the storage facility
- worker education programs

Storing hazardous products in the workplace should be based on workplace-specific factors, including:
- the hazards of the product (health, fire and reactivity)
- the amounts in storage
- types of containment (bulk or smaller containers)
- the way the product is used

It is also important to know that there may be specific containment requirements, such as ventilation, and that some materials are incompatible and cannot be stored together.

More information on applicable acts and regulations can be obtained through WHMIS. The transportation of dangerous goods is strictly regulated under the *Transportation of Dangerous Goods Act, 1992* and the *Transportation of Dangerous Goods Regulations*.

When planning to ship or receive dangerous goods, departments and agencies should be aware of existing provisions concerning signage, documentation, training, containment and other safety and security requirements. Requirements apply to those importing, offering for transport, handling or transporting any dangerous goods.

In case of an emergency involving dangerous goods, custodians can call CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone.

13.17.2 Controlled goods

Controlled goods are defined in Part 2 of the *Defence Production Act*, and any item that appears on the Controlled Goods List of the *Defence Production Act* is deemed to be a controlled good. Generally, these are goods, including some components and technical data, that have military or national security significance and are controlled domestically by the Government of Canada. Departments and agencies must identify and designate all controlled goods in their possession.

The Treasury Board *Directive on the Management of Materiel* requires that materiel designated as controlled goods is given the level of protection necessary to prevent unauthorized examination, possession or transfer. More specifically, controlled goods must be safeguarded according to the requirements of the *Defence Production Act*, the *Controlled Goods Regulations*, the Treasury Board *Directive on the Management of Materiel* and the Treasury Board *Directive on Security Management*. The *Defence Production Act* stipulates that individuals and organizations must be registered in the PSPC Control Goods Program before they can legally examine, possess or transfer controlled goods (unless they are federal government employees or are otherwise excluded or exempted from registration).

Given the extensive security-related requirements surrounding controlled goods, custodians should work closely with their departmental security colleagues to ensure the safety of the controlled goods under their administration.

For additional information, departments and agencies should refer to Annex B ("Mandatory Procedures for the Management of Controlled Goods") of the Treasury Board *Directive on the Management of Materiel*. The Treasury Board *Guide to the Management of Controlled Goods* is currently being developed.

13.17.3 Weapons and ammunitions

Departments and agencies should use lockers, racks, safes, adapted shelving or vaults to store weapons and ammunition. It is recommended to render firearms inoperable with a secure locking device and to store them in a vault, safe or room that has been specifically constructed or modified for the secure storage of the type of firearm. Ammunition should be stored in a distinct container.

13.17.4 Explosives

The Explosives Regulations are administered by National Resources Canada and contain the requirements for the storage of explosives, including the need for licences, a security plan, a fire safety plan and a key control plan.

13.17.5 Attractive assets

For the application of this document, attractive assets are assets that are particularly vulnerable to theft. They are often small and expensive. Examples of attractive assets would be jewelry and electronic equipment.

A variety of physical barriers, safes, and secured cabinets exist and can be used to provide extra protection for those assets. Privacy screens can be used to hide assets from unauthorized people. RCMP-approved cabinets are required to store classified and Protected C federal government information and assets.

13.17.6 Seized or forfeited property

These assets require a higher level of security and should receive the same level of protection as attractive assets. Disclosure of information on seized or forfeited assets should be on a need-to-know basis, and employees managing seized or forfeited assets should have the appropriate security clearance.

Assets are seized or forfeited following court proceedings, and custodians should ensure to comply with any regulatory requirement applicable to these assets.

13.18 Health and safety

The *Canada Labour Code*, Part II, governs the health and safety of employees in the federal government[45]. Its purpose is to prevent workplace-related accidents and injury, including occupational diseases[46].

The general duty clause in Part II of the *Canada Labour Code* requires every employer (managers/supervisors) to provide their employees with a workplace that is free from potential hazards that could cause harm (physical and/or psychological).

Departments and agencies should be aware of the requirements that are applicable to their specific activities. Managers should consult with their departmental OHS adviser to help identify the requirements.

As a rule, department and agencies are to provide a safe work environment, to provide adequate tools and protective equipment, and to deliver appropriate training and supervision. Even if it is impossible to identify requirements that would be applicable to all activities, some are common to several warehousing activities, such as:

- materiel handling equipment
  - Training specific to the type of equipment used is required to operate a powered industrial truck, such as a forklift.
  - Operators need clear instructions and adequate supervision.
  - Equipment is to be inspected and maintained.
  - Inspection reports are to be completed.
- machinery, equipment and tools
  - *Canada Labour Code*, Part II, 125(1)(t): Ensure that the machinery, equipment and tools used by the employees in the course of their employment meet prescribed health, safety and ergonomic standards and are safe under all conditions of their intended use.
- docks, ramps and dock plates
  - Refer to section 2.11, *Canada Occupational Health and Safety Regulations* (SOR/86-304).
- hazardous products and controlled products
  - WHMIS contains the requirements for hazardous products and controlled products, namely for handling and storage, employee education, investigations, ventilation requirements, control of hazards and labelling.
  - MSDS-Material Safety Data Sheets required for any hazardous products or chemicals in the storage facility
- transportation of dangerous goods
  - Requirements are included in the *Transportation of Dangerous Goods Act* and regulations.

Besides the above requirements, departments and agencies should also consider the following:

- Develop and enforce clear rules for the type of personal protective equipment required to enter the storage facility.
- If employees have to work alone in a storage facility, a work-alone policy should be developed.
- Radio-communication equipment should be provided to allow employees to get help in case of accident.

- When fuel-operated vehicles are used in the facility, ensure proper ventilation and install carbon monoxide detectors.
- Adapt emergency procedures to include emergency responses to the risks that are specific to warehousing operations.

[40] Building components, such as doors, windows, air delivery systems and electrical wiring, that are permanently affixed to the structure of a building are not considered materiel assets.

[41] Requirements in other TBS documents applicable to materiel during its life cycle apply to materiel and inventory as defined in this document.

[42] The TBS Annex on Inventory provides best practices for the physical tracking of materiel assets. Detailed information on IMSs is contained in section 7 of that annex.

[43] Shipping remarks:

1. Departments and agencies may have more than one option for shipping materiel. Palletizing and regrouping shipments allows the use of freight services instead of a courier, which may be more cost-effective.
2. Departments and agencies should pay close attention to terms of use and contract arrangements in place with shipping contractors. Many vendors will charge additional fees for services such as signature, power lift gate, repeated delivery charges, and inside delivery vs. loading dock. These additional fees can often exceed the actual transportation costs and should be minimized wherever feasible.
3. Departments and agencies should also identify and comply with any restriction or regulation applicable to the materiel shipped. For instance, the transportation of dangerous goods is subject to a strict regulation. Air freight is also subject to specific restrictions.
4. Another aspect to consider is the capacity of the recipient to accept the shipment. For example, certain locations do not permit skid freight, when others are open only during limited hours.

[44] This is not an exhaustive list of training. Other training may be required, depending on warehousing activities.

[45] The Canadian Centre for Occupational Health and Safety (CCOHS) is a useful resource for health and safety in the workplace.

[46] This document does not identify all legislative requirements responsibility. Departments and agencies should consult their OHS advisers to determine the requirements applicable to their specific activities.

14 Annex G: Inventory

14.1 Introduction

The objective of the *Directive on the Management of Materiel* is that materiel is planned, acquired, operated, maintained and divested in a manner that supports the delivery of programs and services to Canadians, while ensuring best value to the Crown.

The *Guide to Management of Materiel* requires departments and agencies to demonstrate sound stewardship in the management of materiel assets during their life cycle. Sound stewardship requires departments and agencies to retain information on the materiel assets in their custody.

This document provides best practices to the materiel management community for the **physical tracking** of materiel assets. This annex is a complement to the Treasury Board of Canada Secretariat (TBS) Annex on Warehousing and is applicable to materiel and inventory, as defined in this document.

The document is to be read in conjunction with the TBS directives on accounting standards, which contain dispositions for specific types of materiel, such as tangible capital assets and heritage assets, and with any other regulation concerning materiel assets.

14.2 Objectives of inventory management

The main objective of inventory management is to have the right materiel at the right place at the right time in the right condition to be able to support departmental operational mandates. The objective of this document is to provide foundational information on various aspects of inventory management to assist the materiel management community in the physical tracking of assets under their custody.

The expected outcomes or benefits of inventory management are:

- improved planning
- minimized costs
- less waste or losses
- controlled stocks
- accountability
- enhanced logistics
- optimized productivity

14.3 Definitions

14.3.1 Materiel

The TBS *Policy on the Planning and Management of Investments* defines materiel as "All movable assets (excluding money, records and seized assets) acquired by Her Majesty in right of Canada."

In this document, the terms materiel, materiel assets and assets are used interchangeably to describe movable assets used by departments and agencies to deliver programs and services.

Below is a non-exhaustive list of materiel assets[47]:

- furniture such as desks, chairs and shelving
- fixtures such as plants, light fixtures and clocks
- artwork, gifts and other accountable memorabilia
- consumable items such as ammunition, rations, fuel and lubricants (including energy reserves)

- IT equipment such as mobile telecommunication devices, computers and servers
- office equipment such as printers, scanners and shredders
- scientific and laboratory equipment
- machinery and the associated tools
- animals
- land vehicles, watercraft and aircraft

14.3.2 Inventory

Inventory is materiel[48] held in stock at storage facilities, including materiel that is undergoing repair or is in the supply system.

Simply, inventory is any item held in stock or in a storage location that is not immediately issued for use or consumed in the delivery of the departmental programs, for which tracking for quantity, location or condition is necessary. Proper valuation of this materiel is necessary to support accurate financial accounting.

Inventory should include any goods purchased and held in storage for the delivery of programs, such as ammunition, consumable stores, spare parts and materials held for issue at a later date. It may also include tangible capital assets that are not currently in use but stored or parked for future use.

It also includes goods maintained in strategic stockpiles of reserves, such as energy reserves (e.g. oil), for use in emergency or other situations.

Any materiel asset that is kept in storage for future use is also considered inventory.

In the context of this annex, inventory also includes seized and forfeited assets and any other asset in the custody of a department or agency for which there may be a need for warehousing.

14.4 Considerations

Departments and agencies are accountable for managing the materiel they need to support the delivery of programs according to their mandates. Information on materiel and inventory is required to exercise sound stewardship during all phases of an asset's life cycle.

In order to adequately manage their materiel, departments and agencies should be able to:

- provide an auditable list of the materiel in their custody
- identify:
    a. need for replacement
    b. any warranty applicable to a product
    c. maintenance schedules for a given asset
    d. surplus assets
    e. types of stock or items in inventory
    f. departmental reporting needs for proper inventory illustration
    g. information specific to inventory, such as date in, date out
- maintain:
    a. any required financial information and track the costs associated with assets, if required (amortization of capital assets, betterments, leasehold, etc.)
    b. timely records of the inventory in storage or in transit
- determine the location of the materiel, including assets in transit

- document any information pertaining to batch, lot or shelf life
- retain all pertinent information, such as the condition of the asset, for an efficient use of materiel during its life cycle
- extract any information required

Departments and agencies should track and control inventory to monitor inventory costs and risks such as loss, theft, obsolescence and damages. This will help with the ongoing and systematic assessment of the physical condition, functionality and use of materiel assets, and eliminate excess inventory. It will also ensure that the materiel assets in inventory fully, effectively and efficiently meet the intended program requirements they support and that, when feasible, materiel assets are repaired, refinished, serviced and reused before they reach the end of their expected useful life.

Departments and agencies should adopt a risk-based approach when making any decisions about inventorying assets and respect the principles of the *Policy on the Planning and Management of Investments*, its associated documents, generally accepted accounting principles (GAAP) and any other pertinent regulation. Departments and agencies should focus on a good control of stocks, and the level of effort should be consistent with the benefits.

14.5 Sound stewardship

Section 1.4.4 of the *Guide to Management of Materiel* states: "Departments and agencies are responsible for safeguarding public materiel. This responsibility includes implementing measures to protect materiel assets and detect losses."

To fulfill this obligation, departments and agencies should establish adequate controls during the life cycle of their inventory, including an appropriate segregation of duties.

Departments and agencies should adopt a risk-based approach, and if, based on size of the organization or other factors, the same person holds several functions, then leadership should put in place extra audit controls to mitigate risks[49].

14.6 Inventory management strategies

There is a lot of literature on how to best manage inventory. Various inventory management strategies[50] exist, and different names are used to describe those strategies and techniques. The terms push strategy; pull strategy; first in, first out; just-in-time/just-in-case are often used, but there is a variety of other existing strategies. Departments and agencies should take the time to identify their needs and adopt strategies that will best support their program delivery, while limiting storage time and costs.

Departments and agencies should pay special attention to high-risk commodities, where the lack of certain materiel may impede delivery of programs, especially in circumstances where there could be a supply shortage.

14.7 Inventory management system

Inventory management refers to the process by which departments and agencies manage the materiel in their custody during the materiel's life cycle.

An inventory management system (IMS) will provide accurate and viable information for the planning, procurement, operations, maintenance and disposal of materiel, in addition to information that may be needed by the department or agency.

A departmental IMS enables all aspects of materiel management from planning to disposal and is crucial to ensuring that the right materiel is where it needs to be to support operational mandates. It is also a source of information for financial management, financial reporting, life-cycle costing, maintenance and operations. Refer to sections 3.7 and 5.1.3 of the *Guide to Management of Materiel*.

14.7.1 Government of Canada Enterprise Resource Planning (ERP) system[51]

The Government of Canada, through TBS's Digital Comptrollership Program (DCP), has adopted an Enterprise Resource Planning (ERP) system to be used by all departments and agencies for procurement, financial management and materiel management. This software enables substantial process efficiencies, particularly when integrated with planning, procuring, financial management and control, materiel management and maintenance.

To manage the materiel, the ERP system offers a full range of transactions and reporting capabilities in support of the operational mandates, including:

- procurement of goods and services
- life-cycle financial tracking
- inventory and materiel management
- shipping and receiving
- maintenance
- reporting
- historical transactions and archives

More information about the DCP is available at DigitalComptrollershipProgram - GCpedia.

Departments and agencies allowed to move forward with an ERP system other than the system prescribed by the TBS's DCP should identify the most cost-effective solution to meet their requirements. Regardless of the system chosen, all records in an IMS should be auditable and defendable. The parameters should enable the demonstration of sound stewardship and good decision-making.

Some factors to consider when choosing and defining an IMS are:

- user-friendliness
- adaptability to the needs of the organization
- accurate tracking of materiel
- proper identification of materiel location
- real-time data
- tracking of information by asset or group of assets (financial, attractive items, essential assets, etc.)
- tracking of asset status when required (under management, forfeited, lost, damaged, loan, etc.)
- flexibility to respond to any regulatory requirements (controlled goods, production defense, seized assets)
- production of reports and response to audit requirements
- life-cycle management
- tracking of asset movements, if required
- adequate level of security for protected or secret information (seized assets, controlled goods)
- information-sharing

- back-up availability for business continuity in emergency situations
- quality assurance
- compatibility with other systems to allow information transfer
- extraction of information for ATIPs or corporate requests
- easy research by various criteria
- compatibility with management needs (associate costs or client to a particular item)
- possibility to add notes, files, photos
- tracking of data entry (user, date and time)
- possibility to associate items with attributes, such as colour, size, expiry date, periodic maintenance of vehicles, etc.
- exception handling
- use of bar codes or QR codes
- duplication checks

14.7.2 Protection of information and assets

In some circumstances, the ERP system may contain protected or classified information, such as the consignee's name and contact information. Custodians should ensure that their system protects classified or sensitive information. Departments and agencies should consult with their security departments, if required. Security requirements apply not only to sensitive information, but to assets as well.

Record-keeping and destruction of information should always be conducted in compliance with records retention policies.

14.8 Materiel identification

Materiel identification involves properly identifying an item in the system of record. The attributes of the materiel are identified such as name, descriptor, unit of issue, type of materiel/materiel class, price, etc. The materiel is also to be assigned a stock record number. This stock record number is what is used to order, demand, issue, receive, move and track the materiel. This process and these master records are the foundation of the IMS.

A stock record number is to be assigned before materiel can be entered into the IMS. Best practice is that the stock record number should be available before the materiel is procured. If the department or agency is using an IMS, the purchase order should be raised for that stock record number from within the IMS. In some cases, the stock record number will be the same as the UPC or UNSPSC codes, or other government-mandated identifiers, and in other cases it will be system-generated. For those instances that require NATO stock numbers (NSNs), they can be requested through the National Codification Bureau and should be an attribute of the stock record.

The stock record number is to be clearly affixed to the outside packaging of the item. For some items, this will be with a sticker or label and, for other items, it may be etched into the equipment. All Government of Canada identification numbers should be removed, erased or destroyed prior to divesting an asset.

14.9 Materiel to inventory

Departments and agencies are responsible for the form and type of IMS they maintain. Every asset defined as inventory is to be recorded in an IMS.

Departments and agencies should pay special attention to the following materiel, for which a complete detailed inventory[52] should always exist:

- all tangible capital assets
- all types of land vehicles, watercraft and aircraft
- emergency or strategic stockpiles
- controlled goods
- weapons, weapon parts and ammunition
- materiel representing a risk and for which control is necessary
- attractive or pilferable items, or any item with a higher risk of loss or theft
- high-value items
- heritage and cultural assets
- Indigenous artifacts
- items essential to the delivery of departmental mandates and operations
- non-functional assets that can be repaired
- seized or forfeited assets
- hazardous materiel assets, especially those with toxic substances
- materiel that has expiry or warranty requirements (identified by lots or batches)
- materiel for which the disappearance would affect the department's or agency's reputation
- loans of materiel (refer to section 5.11 of the *Guide to Management of Materiel*)
- office electronics and electrical equipment (refer to section A.5 of the *Guide to Management of Materiel*)
- scientific and laboratory equipment (refer to section B.6 of the *Guide to Management of Materiel*)
- whenever required by a policy, a directive or a guide, or whenever a regulatory requirement exists

In general, departments and agencies need to have information on the materiel that is in their custody or that is being used for the day-to-day activities to deliver their programs. The IMS provides this information for sound decision-making.

However, sometimes keeping the materiel in the IMS is not cost-effective. This is usually reserved for materiel that is low-dollar value, immediately expensed (financially) and for which knowing the quantity and location are not a requirement. Examples of this would be office supplies. However, this risk-based approach should be limited to certain types of materiel.

Below are suggested criteria that departments and agencies could use to justify their decision-making:

- The materiel has a limited value.
- There is no accounting requirement or other regulatory requirement to maintain an inventory (capital assets, controlled goods).
- The materiel has no symbolic or heritage value.
- It is easy to plan without a formal inventory.
- It does not affect operations.

Departments and agencies may also adopt a different risk-based approach for stock-taking of these assets[53].

14.10 Record-keeping

All items under the control of a department or agency, under the protection of the Crown or whose title has passed to the Crown[54] should be included in the department's or agency's inventory[55]. In the context of a warehouse, any item kept in storage should be recorded.

The *Directive on Accounting Standards – GC 3150 Tangible Capital Assets* describes two methods for defining capital assets for the purposes of capitalization and amortization: whole asset and component. Data entry should be consistent with accounting requirements.

If an organization is dismantling all or part of an item or asset to put parts into spares (cannibalization) or to enable repairs to another item or asset, then all records need to be updated appropriately.

This includes updating items to serviceable/unserviceable, increasing and decreasing quantities and amending associated financial records, especially if it is a tangible capital asset.

Items should be removed from the inventory records when they are written off, which is the formal documentation process to record the disposal of assets. Accurate documentation regarding the disposal or loss of assets is required to adjust the inventory record and to support information provided to Public Accounts.

All asset movements should be recorded in the IMS. The following are some actions that would change the quantities of an asset recorded in the IMS.

Departmental internal transactions: For all the following activities, the departmental records should be amended and the quantities increased or decreased accordingly:

- when an item's status is changed from storage to use or use to storage
- when assets are used to create a new asset
- when assets are cannibalized

Items are consumed: Records should be reduced accordingly

Lost/damage/obsolescence/destruction/theft: Recorded quantities should be reduced appropriately and any investigations commenced

Loan of assets: Conducted in accordance with the Public Property Loan Regulations. Departments and agencies should keep a record, including where the materiel has been loaned to and when it is to be returned

Divestment: When assets are:

- transferred between departments, assets should be removed from the exporting department's inventory and added to the recipient's inventory
- sold, donated, recycled, converted to waste, records should be reduced accordingly

Custodians are to comply with their departmental record-keeping requirements prior to disposing of any records.

14.11 Stock-taking

Stock-taking is the physical verification[56] of the quantities and condition of items held in an inventory against the records in the IMS.

Section 5.4 of the *Guide to Management of Materiel* outlines detailed requirements for stock-taking[57].

The basic principle is to regularly validate whether the physical holdings match the departmental records.

The goal is to:

f) identify assets through validation of their location and condition
g) identify overages and shortages and investigate the cause of any discrepancy
h) review items with a warranty and shelf life
i) validate materiel usage and requirements
j) identify items that should be repaired or divested

Stock-taking also enables departments and agencies to monitor their inventory management performance, find areas for improvement, and help management determine the best allocation of resources and support. It should lead to concrete corrective actions when necessary.

Stock-taking schedules can be developed in a risk-based approach that deviates from annual stock-taking if legislative and policy requirements are met, safety issues are addressed, and high-risk and high-value items are considered. IMSs can have multiple cyclical count indicators that range from monthly to every several years and can be assigned to materiel based on a departmental risk-based plan. This risk-based plan is an auditable document and should be included in the internal departmental policy suite on materiel management.

Multi-year cyclical stock-taking (also called cycle counting), a perpetual inventory auditing procedure, is a good process for reviewing inventory. It involves performing a regular count and recording the adjustment of specific items.

Stock-taking requires planning as it interferes with normal warehousing activities and can lead to significant warehouse operational downtime. Stock-taking should be performed by independent stock-takers to ensure objectivity. It is important to immediately address any discrepancy in inventory records revealed by the stock-taking.

In addition to the usual stock-taking exercise, the *Guide to Management of Materiel* also requires that all government-owned furniture and equipment located outside the department's or agency's work office be tracked annually.

14.12 Inventory discrepancies

This subject is covered in paragraph 5.4.3 of the *Guide to Management of Materiel*. All discrepancies revealed by the stock-taking should be amended in the IMS as soon as possible so that records and physical balances match. An investigation should be conducted to determine why the discrepancy occurred so that corrective actions can be taken as necessary.

If theft is suspected, then the proper police and/or security forces need to be notified to investigate or be informed of the loss. In addition, a broader stock-taking should occur to determine if additional materiel may have been pilfered. Depending on the materiel missing, such as controlled goods, other organizations may have to be informed for security reasons.

Custodians should also proactively inspect their inventory and correct their records on an ongoing basis during their normal activities to ensure that the inventory reflects actual stock balances. Anomalies can be discovered outside of a stock-taking exercise, and corrective action can be taken immediately.

Common practices to avoid inventory discrepancies include:

- Record all stock movements in real time.
- Establish adequate policies, processes and procedures.
- Properly train staff.
- Immediately investigate any causes of discrepancies.

14.13 Reference documents

Policy on the Planning and Management of Investments defines the general requirements for asset management.
Directive on the Management of Materiel defines requirements on management of materiel, including the requirement to put in place a materiel management information system.
Guide to Management of Materiel defines the requirements for a management information system and provides instructions for Stock-Taking.
Annex on Warehousing provides good practices for inventory management.
Directive on Accounting Standards: GC 4200 Inventories defines inventory requirements from an accounting perspective
Directive on Accounting Standards: GC 3150 Tangible Capital Assets contains the Generally Accepted Accounting Principles

[47] Building components, such as doors, windows, air delivery systems and electrical wiring, that are permanently affixed to the structure of a building are not considered materiel assets.

However, when those components are removed from the building, they would be considered materiel assets. If they are identified as valuable assets, they should be tracked.

[48] Requirements in other TBS documents applicable to materiel during its life cycle apply to materiel and inventory as defined in this document.

[49] More than one person should be present during key activities. This will increase the accuracy of record-keeping, provide better accountability for the materiel during warehousing and inventory processes, and ensure a safer work environment.

[50] The strategy chosen will significantly influence the planning processes to meet materiel and inventory requirements and has a direct feedback loop to materiel planning processes, as noted in the assessment and planning section of the *Guide to Management of Materiel* (section 3).

[51] Any department or agency seeking an exception to the required ERP system will need an endorsement from the Office of the Comptroller General (OCG), according to sections 6.1.1 and 6.1.2 of the Standard on Enterprise Resource Planning Systems (archived) or will need to present a business case to the Government of Canada Enterprise Architecture Review Board (GC EARB). For more information on the Investment Alignment Endorsement process, visit https://www.gcpedia.gc.ca/wiki/InvestmentAlignment.

[52] Materiel remains in the departmental accounts until such time as it is removed from the accounts through a transfer, donation, sale or destruction, normally through a surplus or end-of-life process.

[53] Additional materiel management requirements may be mandated by legislation. An example would be a MSDS-Material Safety Data Sheet, which is a document that lists information relating to occupational safety and health for various substances and products. This is required by the Workplace Hazardous Materials Information System (WHMIS). Departments and agencies should identify the inventory requirements specific to their activities.

[54] Materiel that is in the custody of the Crown but not owned by the Crown should be kept separate from other stock. This materiel should not be included as part of the value of the inventory.

[55] In all cases, sound stewardship is required for all materiel while in the custody of a department or agency, and a record should be kept for all physical assets under the protection of the Crown until they leave departmental custody.

[56] The department or agency assumes the risk for not conducting an annual stock-taking exercise.

[57] The *Guide to Management of Materiel* recommends departmental stock-taking programs for both annual and multi-year cyclical stock-taking based on a risk management approach.