



THE CORPS OF
ROYAL CANADIAN ELECTRICAL
AND MECHANICAL ENGINEERS (RCEME)

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STRATEGIC MANAGEMENT PLAN

THE CORPS OF ROYAL CANADIAN ELECTRICAL AND MECHANICAL ENGINEERS
(RCEME)

OFFICE OF DIRECTOR RCEME
NDHQ – 101 Colonel By Dr
Ottawa ON K1A 0K2

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D RCEME and Corps SM Foreword

As Director and Sergeant-Major of the Corps of RCEME, presenting the Strategic Management Plan (SMP) as one of our first orders of business is important. It highlights both where our focus needs to be now and how we must orient ourselves toward future goals that align with Canadian Army Operational realities.

Within this plan, we have identified key lines of effort and sub-efforts that encompass critical areas such as the human dimension, equipment readiness, training/certification, and structures. Each section reflects the Corps' shared goals, objectives and desired outcomes, demonstrating the resolve to enhance effectiveness in these key areas. The SMP is a roadmap, guiding and prioritizing efforts as we navigate challenges and seize opportunities that lie ahead.

Our most important asset will remain our people. Together, we will overcome challenges, embrace innovation and fulfill our mission to provide outstanding maintenance, technical support and engineering capabilities to the Canadian Armed Forces. We must leverage the diversity and collective strength of the entire RCEME community, including the Regular Force, Reserve Force, Guild, Light Aid Detachments (LADs), Cadets, the Foundation, DND Civilians, Contractors and retirees. Together, we form a united front as practitioners of the Land Equipment Management System (LEMS). While LEMS is indeed what we do, *RCEME is who we are*.

We would like to express our gratitude to all those who have contributed their insights, ideas and expertise developing the SMP. It will serve as a guiding compass for the next ten years.

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Colonel
Director RCEME

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A.G. Auger
Chief Warrant Officer
RCEME Corps SM

Context

The Corps faces an unprecedented crisis, with a depleted workforce, a persistent culture of harmful misconduct, dated training methodologies, and a growing number of domestic and global security threats. As a Corps, we must take immediate action to address these issues and prepare for the nature of current and future operations, or risk becoming obsolete in a rapidly changing global landscape.

The Canadian Armed Forces (CAF) have entered a period to recover, rebuild, and reconstitute owing to nearly a decade of reduced intake and retention issues, compounded by the COVID-19 pandemic and the ongoing culture crisis. The weakened workforce is most noticeable at the mid-leader level, creating a "hollow middle" that affects both junior and senior leadership. We must adapt to social norms and expectations to recruit, train, and retain diverse talent to compete against the private sector's demands for specialized, highly skilled trades and remain a career of choice.

At home is the growing security threat in the Arctic, where competing nations see it as a location to exploit natural resources and transit. In addition, climate-related emergencies are occurring with an increasing trend of domestic operations through civilian authorities seeking military aid to civil power. The CAF's response to domestic natural disasters was engaged 31 times between 2010 and 2020, where it was deployed once in 2010 and seven deployments in 2020. Climate change has led to increased demand for CAF resources and support, even as a force of last resort. Canada has faced more harm from these emergencies recently than from any foreign aggression.

Abroad, the global security environment is constantly changing, becoming increasingly dangerous with new and complex threats, shifting power dynamics, a rapidly changing global climate, resource scarcity, and rapid advancements in military technologies. The environment has seen the return of great power competition, causing instability and conflict in several regions of the world, particularly after the Russian invasion of Ukraine in February 2022. New threats and technologies are prompting Canada to review its military capabilities, which include the proliferation of uncrewed vehicles, autonomous weapons systems, and long-range systems; cognitive warfare; and emerging threats in space, artificial intelligence, and cyber. In addition, many state and non-state actors use grey-zone tactics, which are activities just below the threshold of armed conflict conducted through disinformation, foreign influence, cyber and espionage. Canada is not immune to these threats, and as a Corps, we must remain vigilant and ready to participate with like-minded countries to contribute to global peace and security. The Corps must not make the mistake of focusing on past threats but focus on how we can prepare for the nature of current and future warfare. History is replete with examples of failures in this regard; we ignore the need to modernize at our peril.

The Corps of RCEME finds itself on fertile ground for change where bold moves must be taken across the CAF to face these challenges, presenting significant areas of opportunity to progress the objectives and priorities of the Corps. What we have held as immutable truths for decades may have to change as we honestly assess where we are and where we need to be to meet future needs. The Corps will seize and exploit these opportunities for the betterment of the RCEME community, the Canadian Army (CA), and the CAF. The Corps of RCEME is ready to face these challenges. It is through the incredible enduring quality and leadership of our soldiers within the Corps that we can envision future success.

Vision Statement

To see the Corps of RCEME as the cutting-edge technical and engineering force that maximizes landpower for Commanders on operations. An unyielding, adaptable, combat-capable force that will excel on the modern battlefield. Our foresight and ingenuity allow us to respond quickly to emerging situations, providing critical engineering solutions to keep equipment fit for purpose and in the fight.

We are soldier-technicians with a relentless soldier spirit rooted in our heritage, history, and tradition of overcoming challenges. Additionally, we remain committed to the professional and personal well-being of RCEME soldiers and leaders, providing varied experiences and opportunities for continued growth while using compassion and empathy to shape our policies and decision-making, ensuring that people remain at the center of everything we do.

Mission Statement

The Corps of RCEME will provide technical leadership and land equipment engineering expertise to keep equipment fit for purpose and in the fight to sustain successful CAF operations.

Centre of Gravity. People.

Vital Ground. Relevant technical and engineering expertise of RCEME soldiers.

Role. To provide the necessary LEMS and technical leadership to enable success in CAF operations across the spectrum of conflict.

Main Effort. LoE 1: Human Dimension.

Success Criteria. The Corps of RCEME is a diverse, adaptable, skilled team with an indomitable fighting spirit that is ready to enable effective land equipment management in the modern and future battlefield.

CAMPAIGN PLAN

Purpose

The Strategic Management Plan (SMP) is a cornerstone document for The Corps of RCEME, providing direction and guidance for the next bound. By aligning the efforts of Corps leadership, staff, and members at all levels – from tactical to strategic – the SMP ensures that the Corps is able to take deliberate steps towards improving the Corps today and positioning itself to support the Army of Tomorrow.

Through the harmonization of efforts, priorities, and initiatives, the SMP serves as the Corps "compass" toward a brighter and more prosperous future. With a clear focus on continuous improvement and preparedness, this document will outline the Corps' key lines of effort and identify the necessary outcomes and objectives to be successful.

Strategic Approach

The SMP is a comprehensive strategy that includes both tangible objectives and intangible concepts and aspirations. While it is not feasible to achieve all objectives simultaneously, the Corps will prioritize those listed within this document. To ensure focused and deliberate efforts, Director RCEME (D RCEME) will assign priorities to direct Corps Staff and leadership. However, this does not preclude grassroots efforts throughout the Corps from taking action to implement, experiment, or progress with the objectives listed within the SMP. In fact, this document serves as an enabling tool to guide and align grassroots objectives toward strategic priorities.

To ensure accountability and progress, the SMP will provide a foundation for assigning senior RCEME leaders and RCEME council members as Offices of Primary Interest (OPIs) for specific efforts or objectives. These OPIs will be accountable to Corps Council for their progress. Additionally, the SMP will guide the action of Corps Staff in investigating, analyzing, recommending, and implementing initiatives. They will also support OPIs and may become OPIs themselves for specific sub-efforts or objectives.

Campaign Plan

An associated campaign plan will be developed to enable the Corps to achieve the items listed within this document in a systematic and manageable way. This iterative tool will outline the intended work done by Corps Staff and leadership on an 18-month horizon, to be published and briefed each Spring Council. OPIs, Corps Staff, and Corps leadership will collaborate with DLEPS 3-5 to identify specific deliverables, deadlines, triggers, and decision points for inclusion within the campaign plan.

Lines of Operations and Objectives

There are four Lines of Effort (LoE):

LOE 1 – Human Dimension;

LOE 2 – Equipment Readiness;

LOE 3 – Structures; and

LOE 4 – Training and Certifications.

Line of Effort 1: Human Dimension

Overview. This Line of Effort centers on the people who are the essence and most crucial element of our Corps. It aims to enhance RCEME work environments by fostering positive cultures and subcultures and promoting the health and well-being of the RCEME workforce. Additionally, it seeks to improve communication within the Corps, both vertically and horizontally, and forge stronger connections across the RCEME community. Moreover, it will strengthen the RCEME reserves' relevance and support the Corps' professionalization through certification, accreditation, and the development of engineers, technologists, and maintenance practitioners' technical expertise.

Sub-efforts. This LoE is divided into five main areas of focus: Culture; Attraction, Recruiting, and Retention (A2R); Communications; Reserves; and Professional Development.

Outcomes. The LoE aims to optimize the integration, motivation, development, and support of Corps organizations and personnel. The Corps culture will become more diverse, ethical, and innovative, with members taking pride in the Corps' heritage, history, and traditions. The workforce will recover and excel, with all trades being "green" and possessing professional, exceptional talent. Communication will be intentional, readily accessible, and dispersed across all levels, supporting Corps members, priorities, and efforts. The RCEME reserves will constitute a competent, valued, and capable force supporting domestic, deployed, and institutional mandates.

Sub-Effort 1.1 – Culture

Background. The CAF and Corps of RCEME are currently experiencing a staffing shortage exacerbated by unprofessional conduct and culture. Our esprit de corps, which has traditionally been a strength of the Corps, is now threatened by systemic misconduct and the inability of leadership to be seen as effectively addressing these issues. Furthermore, for the Corps to maintain technical relevancy, credibility, and be postured towards future operations, it must create a culture of innovation, inclusion, and diversity to attract talent and enable CAF mission success. We must evolve to sustain the Corps and make it an occupation of choice. In light of the 2022 Russian invasion of Ukraine, it is essential to nurture a steadfast warrior mindset and unwavering resilience within our Corps, preparing them to effectively confront modern warfare.

Scope. This effort aims to improve the cultures and sub-cultures within the RCEME community, including RCEME organizations, workshops, Light Aid Detachments (LADs), and work environments.

Objectives

- a. Enhance and sustain esprit de corps and pride;
- b. Foster a respectful, diverse and inclusive culture. This includes reviewing how diverse groups experience Corps programs and policies;
- c. Cultivate a tenacious combat mentality and robust resilience within the Corps, preparing RCEME soldiers for the challenges of the modern battlefield;
- d. Develop a culture of innovation and change acceptance. This includes encouraging and rewarding experimentation and curiosity, even when efforts are not successful; and
- e. Improve transparency in career planning, remove barriers (real and perceived) for career opportunities, and penalties for pursuing an atypical career path.

Sub-Effort 1.2 - Attraction, Recruiting, and Retention (A2R)

Background. The Corps faces challenges in attracting, recruiting, and retaining personnel due to processing delays, inefficient policies, and competition with the private sector for skilled trades. These challenges have resulted in staffing shortfalls, notably in the leadership ranks ('the hollow middle'). This situation threatens the Corps' ability to support the CA and CAF in garrison and on operations. Therefore, rebuilding the health of the Corps is an overriding priority for the foreseeable future, and it will require a multi-year effort with support and collaboration from organizations across the CA and CAF.

Scope. This effort will cover all Corps activities related to attracting, recruiting, and retaining RCEME personnel to create and sustain a healthy workforce. While the Corps is not directly responsible for attraction and recruitment, it will rely on strong linkages with key stakeholders and identify areas where it can enhance their efforts. For retention, the Corps maintains influence in many areas that impact the well-being, job satisfaction, and desire to remain in the RCEME community. All Corps activities must be viewed through the lens of A2R.

Objectives

- a. Develop a clear and compelling RCEME value proposition for joining the Corps and actively communicate it through outreach efforts supported by Canadian Forces Recruiting Centres (CFRCs), Reserves, Corps Governance, and Corps Staff. This includes developing recruitment strategies targeting the Reserves, Cadets, colleges, universities, and industry to join the Reg F;
- b. Improve awareness of among departing Reg F members to the opportunities within the Res F;
- c. Expand eligibility and access to Non-Commissioned Members Subsidized Training and Education Plan (NCM-STEP), and decrease timelines to the PLAR process to accept more skilled and semi-skilled recruits;
- d. Develop strong linkages and collaboration with key stakeholders within organizations such as Mil Pers Com, Canadian Forces Recruiting Group (CFRG), and CA G1 to enhance recruitment efforts; and
- e. Develop tools to measure and better understand the reasons for member departures, from releases and occupational transfers, to guide retention efforts.

Sub-Effort 1.3 – RCEME Reserves

Background. For many years, the RCEME Reserves has faced many challenges: limited availability and unpredictability of availability of technicians; training availability; skill fade; poor infrastructure; unavailability of Special Tooling and Test Equipment (STTE); limited access to Defence Resource Management Information System (DRMIS); and limited access to vehicles and equipment.

Nevertheless, the RCEME reserves remain almost 1000 members and are full of potential to benefit the CA and the Corps. However, past initiatives have only made minor improvements; achieving the desired outcome will likely require revolutionary change.

Scope. The RCEME Reserve Force is a CA structure, and efforts to improve capacity, capability, and employability will remain an influence operation with CA and Reserve Service Battalions (Svc Bn). In addition, the Corps maintains direct influence in interconnecting the RCEME reservists, their training model, and support through the Corps Governance structure. All Corps activities that could potentially impact the RCEME Reserves must view them as a primary consideration.

Objectives

- a. Develop a viable and compelling value proposition for RCEME Reserves to support the CA and international and domestic operations. This includes exploring, experimenting or trialling significant changes to the RCEME reserve structures within their available resources;
- b. Facilitate formalized/institutionalized relationships between RCEME Reserve and Regular Forces;
- c. Consider and integrate RCEME Reserves into all Corps governance, activities, and initiatives;
- d. Facilitate access to DRMIS, Information Technology (IT), tooling, equipment, vehicles and infrastructure by both championing procuring new resources and improving access to existing resources;
- e. Strengthen the RCEME Reserves communications network to enhance collaboration, experimentation, and sharing of best practices; and
- f. Improve speed and effectiveness of Prior Learning Assessment and Recognition (PLAR) process to acknowledge civilian credentials and experience. Track unique civilian expertise.

Sub-Effort 1.4 - Communications

Background. The Corps of RCEME uses several communications platforms to support internal governance and Corps situational awareness. However, these platforms have had limited success in effectively reaching all members of the RCEME community, resulting in underutilization of Corps benefits, lower awareness of Corps initiatives, and detachment between the tactical and the strategic levels. In addition, Corps communications on social media and other public communications lack formal structure or objectives.

Scope. Communication efforts will focus on engaging all members of the RCEME community, including the Regular Force, Reserve Force, Cadets, the Guild, LADs, the RCEME Foundation, Retirees, CAF stakeholders, and the general public. This will be achieved through social media, websites, e-mails, communiques, SharePoint, videocasts, posters/placemats, MS Teams Tech Net, the Land Equipment Management Systems (LEMS) Journal and other future transmission methods. Communications need to meet people where they are to be successful, not relying on them to come to us.

Objectives

- a. Improve the distribution and awareness of Corps decisions, activities and initiatives to all members of the RCEME community;
- b. Strengthen two-way communications and linkages (RCEME Network) between tactical and strategic levels, including regional representatives, chains of command and LEMS practitioners;
- c. Increase the audience and positive engagement with Corps members, the CA, CAF, Canadian society, and allied partners through social media and other means; and

- d. Promote esprit-de-corps and recognition of RCEME organizations and soldier achievements.

Sub-Effort 1.5 - Professional Development

Background. Career management, succession planning, and formal Individual Training and Education (IT&E) are the key pillars behind our members' current development concept. While secondary opportunities for continued professional development exist through technical programs managed by external agencies, local unit initiatives, mentorship, and civilian courses, these opportunities are not well-synchronized and often depend on a member's willingness to self-develop and the involvement of their local chain of command. Furthermore, The Corps has been successful in developing senior leaders but less successful with junior leaders and technicians. To address this issue, the Corps aims to identify promising talent earlier in their careers and provide them with the resources and experience to develop themselves outside the CAF Individual Training and Education (IT&E) system.

Scope. This effort focuses on improving our members' professional development framework outside the CAF IT&E system. This effort focuses on improving the Corps' professional development framework outside the CAF IT&E system to develop technical skills and leadership competencies by instilling professional curiosity and lifelong learning, including Informal Professional Military Education (IPME) and Structured and Guided Self-Development (SGDS).

Objectives

- a. Develop and promote resources to support officers and NCMs in pursuing accreditation, certification and other development opportunities;
- b. Reinforce and support members pursuing second official language (SOL) training and postings to locations where their SOL is spoken early in their career to develop bilingualism and expand employability opportunities; and
- c. Explore and develop mentorship and coaching programs.

Line of Effort 2: Equipment Readiness

Overview. Historically, Western militaries have relied on technological superiority to maintain a military edge. However, this advantage is narrowing with the rapid advancement and widespread availability of technology. In addition, emerging and Disrupting Technologies (EDTs), such as space, cyberspace, AI, and quantum computing, are changing how militaries operate, and as LEMS practitioners, it is our responsibility to ensure that our Corps is adaptable and capable of utilizing these technologies to improve our LEMS processes and maximize equipment readiness. In addition, the introduction of increasingly complex vehicles and equipment requires specialized resources that are not always available on distribution, leading to a shortage of essential tools, infrastructure, and technical training.

Sub-efforts. This LoE is divided into five main areas of focus: Equipment Culture, Business Intelligence, Land Materiel Assurance, Fleet and Equipment Integration, and Future Technology.

Outcomes. The Corps is digitally enabled, using analytics to measure, analyze, accelerate, and enable decision-making processes. The Corps is proactively engaged in procuring and implementing new vehicles and equipment to ensure technicians have all the tools, technical knowledge, and infrastructure required to succeed. The Corps leadership regularly "scans the horizon" for EDTs to anticipate, innovate, and improve Corps processes and support. Support for landpower and equipment is a total force effort, with equipment being fit for purpose, available and safe for use.

Sub-Effort - 2.1 Equipment Culture

Background. The CA and CAF have faced a persistent downward trend in equipment serviceability, driven by resource and time limitations, with little improvement expected in the near future. The Corps must shift CAF culture toward greater equipment consciousness to address these challenges. Simply expecting technicians to work harder and longer is not sustainable; novel methodologies and empowering operators to play a more active role in preventative and corrective maintenance are critical to reversing this trend.

Scope. This sub-effort aims to improve equipment culture across all environments, maximizing equipment availability, serviceability, and operational readiness. The primary focus will be on influence operations at the tactical level, emphasizing responsible maintenance practices and promoting user ownership and stewardship.

Objectives

- a. Empower the user community to perform better self-recovery operations, operator maintenance, and limited corrective maintenance:
 - i. Define Accountabilities, Responsibilities, and Authorities (ARAs) between operators and maintainers;
 - ii. Develop task and tool lists and parts kits for operators;
 - iii. DRMIS system knowledge and expertise; and
 - iv. Identify training opportunities and analyze training evolution, such as driving training, Training Support Coordination, Unique Specialty Qualifications (USQs) to teach necessary skill and knowledge areas for expanded responsibilities;
- b. Encourage a broad culture of equipment stewardship, pride, and responsibility;

- c. Leverage DRMIS to better track operator/preventative maintenance. This should provide insightful feedback, being able to compare and contrast equipment readiness, VOR, and preventive maintenance plans; and
- d. Explore expanding operator responsibilities in preventative and scheduled maintenance plans.

Sub-Effort - 2.2 Business Intelligence (BI)

Background. To support the Army of Tomorrow, the Corps will require greater utility, speed of action and technical ability. The Corps must maintain the ability to operate forward but be enabled through a digital backbone that provides the necessary data and information to make agile, timely and accurate engineering decisions. Our technicians spend considerable time inputting data and completing standard repair actions. Currently, we do not have access to exploit the information for Maintenance planning or Maintenance Material provisioning. The Army sits predominantly in the first and second generation of maintenance (reactive and preventative); the aspiration is to move through the third (conditions-based) and onto the fourth generation (predictive). Key enablers are required to unlock 4th generation maintenance by exploiting equipment information such as machine learning and artificial intelligence.

Scope

- a. Data collection and transmission. We must drive "what" is to be sensed and how it is to be transmitted to ensure the digital architecture is appropriately set. All data relating to our equipment must be as accurate as possible.
- a. Data exploitation. Harnessing the data and using available and emerging tools to analyze, provide insight and inform decision-makers.
- b. Information cadence and latency. Ensuring insight is generated in time for decisions to be made and is as current as possible.
- c. Automation. Removing time-consuming manual collection and visualization and creating readily available, intuitive, adaptable and constantly evolving products.

Objectives

- a. Ensure the data contained within DRMIS is accurate, consistent and relevant. This includes exploring the standardization of target fields in DRMIS, standardized maintenance actions, and defining the data requirements to inform the effective use of conditions-based maintenance and predictive maintenance;
- b. Utilize BI and explore Artificial Intelligence (AI), Machine Learning (ML), and other emerging business intelligence technologies to provide advanced decision-making tools;
- c. Promote experimentation and implementation of equipment sensors and data collection to prepare for predictive analytics for maintenance, recovery, and material requisitions.
- d. Develop and encourage RCEME members to understand and use BI tools and enablers effectively.

Sub-Effort 2.3 - Land Materiel Assurance (LMA)

Background. The LMA program enables evidence-based, risk-informed decision-making by leaders across the Defence Team to assure that land and common materiel contribute to mission success. The program is based on four pillars: safety, fitness-for-purpose, availability and serviceability, and compliance with applicable statutes, regulations, policies, instructions, and directives. As a partnership between the technical authority, Director General Land Equipment Program Management (DGLPEM), and the operational authority, usually the Commander of the Canada Army (CCA). From the strategic level to the individual technician repairing equipment forward at the tactical level and everywhere in between, RCEME members are crucial contributors. The Corps began to shape this transformation by introducing six new tactical-level tasks for officers and land equipment technologists: advise, plan, modify, investigate, analyze and develop. This sub-effort seeks to integrate LMA into the Corps and ensure its alignment with the organization's overall mission.

Scope. This sub-effort aims to integrate LMA into the RCEME Corps, focusing on developing and implementing LMA-related activities, training, and engagement of RCEME personnel.

Objectives.

- a. Develop and advertise a RCEME-LMA value proposition to Corps members, operators, and the CA;
- b. Integrate LMA into RCEME training, publications, and core activities;
- c. Leverage opportunities for RCEME Post-Graduate Training (PGT) and Professional Development (PD) (e.g. Systems Safety, Reliability Engineering, Risk Management, AFV Design, Guided Weapons Systems) to improve outcomes that contribute to LMA; and
- d. Develop and review engineering ARAs and delegations of authorities for RCEME positions.

Sub-Effort 2.4 - Fleet and Equipment Integration

Background. New equipment is delivered without considering or providing the full spectrum of maintenance requirements necessary to sustain the fleets, resulting in inadequate infrastructure, tooling, and training to support the equipment upon arrival. This delay in providing the required resources can last for years or, in some cases, not occur at all. To address this issue, the RCEME Corps needs to take a more active role in integrating new land-focused fleets and equipment across the CAF, including updating policies and reducing the reliance on external stakeholders to facilitate these transitions.

Scope. This effort focuses on improving the timelines and ensuring proper resourcing in implementing new equipment and fleets. This will be achieved through early engagement of RCEME-specific needs within Director Land Requirements (DLR) and Director General Major Project Delivery (DGMPD).

Objectives

- a. Establish RCEME responsibility with appropriate ARAs to advise on LEMS and RCEME requirements for all land projects and equipment acquisitions;
 - i. Able to speak on behalf of the RCEME Corps and provide input earlier in the project development cycle, including Personnel, Research and Development, Infrastructure and Organization, Concepts, Doctrine and Collective Training;

Information Management; Equipment; and Generation of Forces (PRICIE+G) considerations for vehicles and equipment expected to be under the responsibilities of RCEME technicians;

- ii. Advise on in-service support realities and constraints for future land fleets and equipment acquisitions;
 - iii. Define and maintain generic High Level Mandatory Requirements (HLMRs) and sustainment requirements that align with the Land Equipment Management System (LEMS) to directly aid DLR and Capital Project Teams; and
 - iv. Formal reach-back to RCEME community and conduit to in-service EMTs; and
- b. Provide a coordinator between other elements for the exploration of support of future land fleets and equipment to the Royal Canadian Air Force (RCAF), Royal Canadian Nave (RCN), and Special Operations Forces (SOF).

Sub-Effort 2.5 - Future Technology

Background. The future operating land environment is characterized by rapid technological change, in which increasingly sophisticated and lethal technologies will be present on the battlefield. To succeed in this environment, it is essential to understand and adapt to changing conditions more quickly than adversaries. As managers of equipment and leaders in the sustain domain, the RCEME Corps has a pivotal role in the modernization of the Army. This involves adopting advanced manufacturing technology and information management tools while maintaining a deep awareness of technology in development. To fulfill this role, the Corps must demonstrate greater curiosity, experimentation, and a commitment to technical excellence. Several future technologies that are particularly important to assess and develop include autonomous systems, robotics, advanced manufacturing, AI, ML, blockchain, and low code/no code solutions. The Corps of RCEME is uniquely positioned to understand and contribute to achieving the Army's modernization goals due to the technical focus of our technicians, technologists, and officers.

Scope. This involves enhancing the Corps' ability to identify and assess emerging technologies that have the potential to improve the land force's operational effectiveness. It also requires the development of a culture of curiosity, experimentation, and technical excellence to ensure that the Corps can provide the Canadian Army with expert technical advice. RCEME Officers and technicians of all trades must be invested in professionally developing themselves in the fields of electronics, digitalization, automation, artificial intelligence/augmented reality and new energies.

Objectives

- a. Raise Corps membership awareness and improve integration into the Army Capability Development process;
- b. Establish and sponsor a community of innovators to identify, explore and advise on emerging and future technologies. This includes providing support for their engagement in innovation programs to experiment and deepen understanding in these areas; and
- c. Maximize the use of PGT, university partnerships, and event participation to acquire expertise in emerging engineering and technological fields and change management.

Line of Effort 3: Structures

Overview. This line of effort focuses on the various structural components that underpin the RCEME Corps' ability to provide maintenance support to CAF on operation and in garrison. The current structures and how the Corps postures are dated, sometimes as far back as WW2. The dating of these items is itself not disqualifying, but the need for a detailed analysis to ensure that the current employment processes, policy, doctrine and TTPs are postured for the future remains. The updating of these structures will be thrust upon the Corps through larger CA and CAF initiatives and the deliberate effort, recommendations, and activities of Corps leadership.

Sub-efforts. This LoE is divided into four main areas of focus: Employment; Structures; CAF Integration; and Doctrinal and Publication Development.

Outcomes. The RCEME employment concept is modernized and can support CAF operations now and in the future. RCEME structures are in-line and support relevant GoC and CAF policy and modernization initiatives. RCEME leadership across the CAF is integrated and synchronized to support Corps priorities and personnel. Important policy, doctrine, and TTPs are updated to reflect changes and are in line with the requirements of the Corps, the CA and the CAF.

Sub-Effort 3.1 - Employment

Background. The current maintenance echelon and lines of maintenance system in the field are based on the four-hour Soviet-era targeting cycle. However, with the 2022 Russian invasion of Ukraine, targeting cycles have evolved to as short as 15 minutes. This significantly impacts how the Corps operates and our tactics, techniques, and procedures. The invasion has also highlighted the importance of alliances and the need for the Corps to operate effectively with North Atlantic Treaty Organization (NATO) and other like-minded nations. Additionally, there is an increasing need for RCEME personnel at home through increased deployments on Domestic Operations to support disaster relief efforts and increased focus on ensuring Canadian arctic sovereignty. Therefore, the Corps must revitalize and update its employment concepts to continue providing effective maintenance support to landpower in the CAF.

Scope. This effort includes garrison and CAF operations, including workshop processes and procedures; new equipment; capabilities; technologies; requirements; performance management; and doctrine. The Corps of RCEME does not have direct command over maintenance support personnel nested in units across multiple L1s, but maintains influence and freedom of movement within larger initiatives through Corps governance, Corps leadership and DGLEPM.

Objectives

- a. Review the role of the Corps in the evolving security climate, to include domestic and international humanitarian and disaster relief interventions;
- b. Review garrison maintenance employment, tasks, and requirements to better meet the needs of the CA, RCAF, RCN, and SOF;
- c. Identify and implement activities and processes to improve interoperability and interchangeability with Five Eyes (FVEY), NATO, and other like-minded nations. This includes expanding responsibilities for those on Outside Canada (OUTCAN) to provide feedback, lessons learned, interoperability/interchangeability opportunities, and opportunities more broadly to improve the Corps;
- d. Review engineering and maintenance considerations of adverse environments (e.g. arctic, nuclear) to identify requirements and update support/employment models; and

- e. Identify and recommend low and no-value tasks for potential elimination in support of Op RECONSTITUTION.

Sub-Effort 3.2 - Structures

Background. The RCEME Corps is an integral component of the broader equipment support system within the CAF. As such, it is susceptible to the various elements, directives, and policies that can significantly affect its members and how it carries out its core responsibilities. Additionally, the CAF and CA are in a phase of modernization to adapt to shifts in operational environments, including space, cyber, information, and other emerging domains, while simultaneously grappling with a depleted leadership structure and personnel shortages. Consequently, the Corps must continually adapt its policies and directives to meet anticipated future demands and respond to changes within the larger policy landscape.

Scope. This effort encompasses all RCEME institutional frameworks, objectives, and Corps policies. This includes RCEME organizational structures, Corps foundational documents (e.g., occupational specifications), and other policies and directives directly influencing RCEME personnel and activities. However, this does not extend to technical documents.

Objectives

- a. Review all CAF and subordinate organizations policies, orders and directives that directly identify and affect RCEME, ensuring they are catalogued and regularly reviewed (e.g. Canadian Army Orders (CAOs));
- b. Identify, catalogue, and consistently review Corps, foundational policies, specifications, and directives;
- c. Formalize ARAs for timely and consistent Corps involvement in other structural, policy, doctrinal or organizational updates (e.g. Force 2025); and
- d. Execute Military Employment Structure (MES), explicitly identifying and updating relevant non-RCEME policies and implementing TSCs.

Sub-Effort 3.3 - CAF Integration

Background. The Corps of RCEME has 4000 Regular Force and 900 Primary Reservists employed throughout the CAF. Despite the significant number of RCEME personnel, the Corps only maintains one RCEME unit, the RCEME School. Consequently, the Corps has limited direct authority over the vast majority of RCEME personnel and depends on the professionalism, influence, dedication, and leadership of RCEME members to achieve Corps objectives and priorities. While the Corps possesses governance structures to help connect the larger RCEME community, it requires additional support to better capitalize on opportunities for the advancement of the Corps

Scope. The scope of this integration includes the RCEME Council, Corps Staff, Corps members in essential organizations or key appointments, and to a lesser extent, the entire RCEME community.

Objectives

- a. Formalize processes, ARAs of key RCEME postings and Corps leadership to exert influence across the CAF to achieve Corps objectives and priorities;
- b. Leverage RCEME personnel posted at critical and non-traditional organizations to support Corps objectives and priorities (e.g. CFRG, DLR, RCN); and

- c. Routinely review and update Corps advisory, decision-making, and governance structures.

Sub-Effort 3.4 - Doctrinal and Publication Development

Background. RCEME and LEMS publications constitute a comprehensive suite of doctrine, policy, and technical manuals covering the entire spectrum of equipment management. These materials are designed to support land equipment from the manufacturing stage to deployment in operations worldwide. Doctrine includes capstone (e.g., Land Operations), keystone (e.g., Battlegroup in Operations), functional (e.g., LEMS), supporting (e.g., LEMS in Static and Deployed Operations), and TTPs (e.g., RCEME recovery and Mobile Recovery Team TTPs). The LEMS publication architecture is divided into the B-Series (operations/tactical), C-Series (technical), D-Series (engineering), and L-Series (logistics). A small team of personnel within DGLEPM, assisted by technical SMEs across the Corps, leads its development.

Scope. This effort concentrates on doctrine and technical publication development in specific B-Series, C-Series, D-Series, L-Series and Canadian Forces Technical Orders (CFTO) as per the LEMS publication architecture. Due to resource constraints, strict prioritizing needs to ensure the most urgent documents are developed in a timely and relevant fashion. This effort also supports other CAF agencies in developing long-term LEMS and maintenance concepts.

Objectives

- a. Routinely identify, catalogue, review, update and distribute RCEME TTPs, doctrine and publication architecture;
- b. Champion LEMS policies and publications, to include supporting recurrent review and updates;
- c. Formalize ARAs on leads and supports to RCEME doctrine development and recurrent review; and
- d. Ensure RCEME initiatives and updates are institutionalized through updated publications.

Line of Effort 4: Training and Certification

Overview. RCEME credibility in operations and maintenance must be underpinned by a modern and robust training system. This LoE focuses on formal IT&E and implementing a certification process via EE. Training includes all recognized courses by the CAF throughout a member's career that encompasses career courses Development Period 1 ((DP1) to DP4), USQs, Common Specialty Qualifications (CSQs), Primary Combat Function (PCF), Initial Cadre Training (ICT) certifications, and all other RCEME School delivered courses. Certifications confirm an ability to perform a specific task, which will play a role in the EE program.

Sub-efforts. This LoE is divided into five main areas of focus: Technical Development; LEET Training; Officer / LEE Training; RCEME Reserves Training; and Training Approach.

Outcomes. The Corps of RCEME is well-trained for any tactical or technical challenges at home or abroad. Foundational training leverages a systems-based approach to maintaining CAF equipment. Computerized and continuing education courses on equipment are available to enhance technicians' technical ability. The training and certifications processes are well synchronized with civilian industry and colleges. Training methodologies are modernized, highly effective, and minimize the impact on soldiers' time away from home. The training between components is compatible, facilitating the component transfer process and aiding in operationalizing the reserves.

Sub-Effort 4.1 - Technical development

Background. A decade ago, RCEME technical training was reviewed and reduced to increase throughput, resulting in the creation of the formal OJT program and a 25-50% reduction in the duration of training delivered at the RCEME School. However, over time, the decline in training and the adoption of increasingly complex equipment led to a significant gap in the legacy training program's ability to meet the needs of RCEME technicians. This gap prompted an Occupational Validation Analysis of RCEME Training, conducted by DPGR, which outlined the necessary realignment of technician training to the Canadian Forces Individual Training and Education System (CFITES) through adopting an Employment Experience model and certification process. This process, currently called "RCEME Training Modernization," is a substantial ongoing endeavour at the RCEME School. Finally, with the introduction of LEET, the Sergeant rank has become the occupational technical expert, necessitating a comprehensive review of technical training from RQ Private to RQ Sergeant.

Scope. This effort aims to enhance the technical development of technicians while preparing them to become LEMS advisors. This includes formal career courses (RQ Private to RQ Sergeant), USQs, and technical certifications. It also encompasses ICT and familiarization training provided by Project Management Offices (PMOs) and Original Equipment Manufacturers (OEMs).

Objectives

- a. Develop RQ Pte to RQ Sgt for all occupations to develop technical expertise appropriate for each stage, with technical experts being established at the rank of Sgt;
- b. Implement an Employment Experience (EE) program to support MESIP and provide greater flexibility in recognizing technical experience and expertise;
- c. Develop a certification program to support EE, including standards, acquisition, tracking, and loss of certification; and
- d. Regularly review RCEME common training to meet emerging employment concepts, field standards, and TTPs.

Sub-Effort 4.2 - LEET Training

Background. In January 2016, Director RCEME wrote a Problem Definition Paper (PDP), defining the problems, issues, and challenges facing the Corps. The PDP concluded with a recommendation for an Occupational Structure review, specifically looking at the WO and MWO level task distribution and the introduction of the "artificer role" at the WO level. This initiated a study in July 2016 that ultimately led to the approval and the creation of Land Equipment Engineering Technologist (LEET) in 2018. The MES review was completed in 2019, with the trade being formally implemented on 31 May 2021. LEET WOs and MWOs will require new training to equip them as well-rounded workshop managers of all RCEME trades and the broader aspects of advising on LEMS domains.

Scope. This effort will implement the vision established through the MES Review by providing training at both the WO and MWO level. The WO RQ course will focus on bringing RCEME feeder trades to the baseline knowledge required by LEET, emphasizing all aspects necessary to perform the tasks of a Production WO, Platoon WO, and LEMS Staff. The WO RQ will concentrate on LEET tasks of testing and advising. The MWO RQ course will prepare maintenance managers to contribute to the full range of LEET tasks in LEMS workshops at the unit and formation levels. Notably, it will build on the foundational advice function and introduce the adapt and customize, and design tasks.

Objectives

- a. Develop RQ WO to RQ MWO to develop broad technical expertise, leadership, and management appropriate for each stage;
- b. Develop Land Equipment Engineering Technologists capable of performing the tasks of Advise, Plan, Adapt and Customize, Investigate, Test, and Design. This includes ensuring a common level of technical knowledge regardless of feeder trade origin;
- c. Evaluate and leverage opportunities to intersect LEET training with Officer/LEE training to provide practical technical experience to a command team; and
- d. Leverage opportunities to reaffirm and develop desired behaviour leadership competencies within LEET training;
- e. Explore accreditation opportunities to further professionalize and develop the LEET occupation.

Sub-Effort 4.3 - Officer / LEE Training

Background. Through the training modernization, RCEME Officer training will model a progressive approach to developing Land Equipment Engineers that balances just-in-time training with the continuous development of knowledge and skills. Although the Corps has traditionally generated excellent tactical sustainment officers, there has been a shortfall in technical competency and knowledge of the equipment they are expected to support. Additionally, as the CA modernizes, RCEME Officers will be expected to provide more advanced land equipment engineering expertise within tactical organizations to empower commanders.

Scope. This effort will implement the vision established through the training modernization initiative and MES Review. This sub-effort encompasses all RCEME Officer occupational training and professional development towards becoming LEE.

Objectives

- a. Review DP 2, including establishing a pre-Maint O DP 2.1 and the modernization of RAOC, DP 2.2. This review will include covering the knowledge gap for those entering Maint Officer and Equipment Program Management (EPM) positions;
- b. Develop Land Equipment Engineers capable of performing the tasks of Advise, Plan, Adapt and Customize, Investigate, Test, and Design;
- c. Improve participation and accreditation within the Project Management Capability Development (PMCD) program;
- d. Leverage opportunities to reaffirm and develop desired behaviour leadership competencies within officer training; and
- e. Enable the delegation of authorities within the LMA program.

Sub-Effort 4.4 - RCEME Reserve Training

Background. RCEME Reserve training has undergone several iterations. In 2013, the primary goal of the training was to support domestic operations, which led to shortcomings in training quality and depth. In addition, the challenges in training structure and content resulted in low throughput and high attrition. In 2018, D RCEME ordered a redesign to address these issues and meet the new Strengthening the Army Reserves (StAR) mandate of the Canadian Army. Despite implementing a new model hastily, several issues remain unresolved, including scope, depth, documentation, and desired proficiency levels based on time constraints.

Scope. This effort encompasses all RCEME Reserve elements, including potential revolutionary changes to restructure the RCEME Reserve value proposition down to its foundation. These efforts should involve concurrent iterative improvements to the existing structure while investigating more significant actions. Consistent communication with key stakeholders, such as the CCA, CA HQ, Director General Army Reserves, RCEME Reservists, and the wider RCEME community, is crucial.

Objectives

- a. Develop a new Qualification Standard and Training Plan (QSTP) and training package in support of RCEME reserve evolution;
- b. In the interim, as per CAO 24-08, adopt the Regular Force QSTP with the Essential / Supplemental model to facilitate PLARs and Component Transfers;
- c. Evaluate and update the reserve instructor and summer training model to ensure the availability of reserve training; and
- d. Facilitate decentralized training, including access to training material, identifying the resource requirements, and building the business case to CA leadership to support and resource these activities.

Sub-Effort 4.5 - Training Approach

Background. RCEME training has historically been delivered using traditional, instructor-led classroom methods. Past attempts to change this methodology failed due to lack of training development resources, IT resources, organizational acceptance, and proper training aids. The COVID pandemic exposed weaknesses in the legacy training structure, forcing the RCEME School to innovate

and adopt virtual or hybrid approaches for some courses. The pandemic also emphasized the need for in-person training with actual equipment, training aids, and an instructor for some aspects of RCEME training. The RCEME School must continue to innovate to meet the needs of the Canadian Army, Op RECONSTITUTION, the Corps, and the RCEME community.

Scope. This effort focuses on modernizing the RCEME training approach. This may include computerized training, experiential learning, distributed training, partnerships with civilian colleges, courses delivered at the unit, or a combination of these with traditional training.

Objectives

- a. Implement the use of training analytics to improve demand forecasting, increase throughput efficiency, and optimize resource allocation;
- b. Investigate and leverage self-directed, distance-learning, and distributed training models to minimize time away from units. This includes exploring the use of virtual and augmented reality, simulation, game-based learning, and virtual classrooms;
- c. Institutionalize recurrent review and update to QSTPs and training material, incorporating amendments to address new technologies, capabilities, best practices, and course AARs; and
- d. Improve communication and collaboration between RCEME School, DLR, PMOs, and EMTs.

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Colonel
Director RCEME

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A.G. Auger
Chief Warrant Officer
RCEME Corps SM

Annexes

Annex A Line of Effort Chart
Annex B Tactical Summary