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Future Role of the Training Support Centres

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FUTURE ROLE OF THE TRAINING SUPPORT CENTRES

AIM

1. The aim of this service paper is to explore the future role of Royal Canadian Electrical and Mechanical Engineers (RCEME) Training Support Centres (TSC) with a focus on support to the post Operational Function Point (OFP) Employment Experience (EE) of RCEME technicians.

INTRODUCTION

2. This service paper will review the former On-Job-Training (OJT) model for RCEME technicians during Development Period (DP) 1, discuss challenges to the OJT model that rendered it unsustainable, and explore considerations to support EE for DP 1 RCEME technicians through the implementation of a new TSC. The recommendations will include proposed roles, responsibilities, and composition of the future TSC in support of EE.

DISCUSSION

3. In 2019 the RCEME Corps conducted a Military Employment Structure (MES) Review with a focus on RCEME Non-Commissioned Members (NCMs). The aim of the MES review was “to provide the RCEME Corps a sustainable occupational structure that balances the service requirements with opportunities for members’ professional development and career progression”¹.

4. One of the four key changes that were proposed by the RCEME MES Review Team was adjusting the Occupational Functional Point (OFP) of four of the RCEME NCM trades (Vehicle Technician, Weapons Technician (Land), Material Technician, and Electronic-Optronic Technician) from DP 1.1 to DP 1.2. This change would allow newly DP 1.1 qualified technicians to continue to be posted, after the successful completion of their basic military occupation qualification (DP 1.1 course), to a Military Manning Overhead (MMO) position at one of the four OJT centres across the Canadian Armed Forces (CAF).

5. Unfortunately, the change proposal was not approved². This meant that DP 1.1 technicians would be recognized as hitting their OFP and could be posted as Trained Effective Strength³ (TES)⁴ to any maintenance organization’s Trained Effective

¹ RCEME MES TL, ‘Director RCEME Communiqué No 05/2019 - RCEME NCM Military Employment Structure’.

² DLEPS 3-5, ‘DRCEME Communiqué No 02/2020 RCEME MES Implementation Plan’.

³ ADM(RS), ‘Evaluation of Ready Land Forces (Draft)’.

⁴ Trained Effective Strength (TES): All military members who have attained the Operationally Functional Point and who are available to fill TEE positions. This includes those posted to non-accountable positions (e.g., on operations overseas), posted with a status of Military Manning Overhead (MMO), and on LWOP.

Establishment⁵ (TEE)⁶ across the CAF rather than to a non-accountable MMO position at an OJT centre. By no longer posting the DP 1.1 technicians to one of four locations, the role of the OJT centres, if still applicable, would need to change.

OJT Model

6. The Royal Canadian Electrical and Mechanical Engineers School (RCEMES) is responsible for RCEME specific individual training and oversight to the OJT centres. The RCEMES is a subordinate unit to the Combat Training Centre (CTC) unit and the Canadian Army Doctrine and Training Centre (CADTC) formation. RCEMES analyzes, develops, and leads individual training to meet the requirements of the Canadian Army (CA) and the CAF. With an aim to provide realistic and relevant training by using modern technologies and learning methodologies, it produces adaptive and agile soldiers, technicians, and leaders for the current and the future operating environment⁷. One of these learning methodologies is an apprenticeship training model which is rooted in the RCEMES OJT model.

7. The RCEME OJT model allowed DP 1.1 technicians to work, under direct supervision of senior qualified technicians (DP2 or higher), to leverage their newly acquired theoretical knowledge and apply it as hands-on experience. For each trade, a list of performance objectives (POs) was developed. As DP 1.1 technicians gained technical proficiency, their respective POs would be signed-off supervisors. According to the Qualification Standards (QS), the time to complete all the POs and successfully complete the DP 1.2 phase was assessed at 24 months⁸. Unfortunately, there were several reported cases of the DP 1.1 technicians taking longer than the expected QS period. The challenge identified as the root cause was the inability for DP 1.1 technicians to experience the breadth of employment needed to complete the necessary POs within the time allocated.

8. At the time, RCEME technician qualification time was tracked as a performance metric in the Canadian Army Equipment Readiness Directive (CAERD) dashboard⁹ which gained visibility and additional traction for OJT centres to bring on personnel and successfully request additional resources. OJT centres quickly grew to support the maximum throughput of DP 1.1 technicians.

9. The ability to post DP 1.1 technicians to MMO positions under OJT centres allowed OJT centre staff freedom to move DP 1.1 technicians to various unit maintenance platoons within the same geographical region. By having access to various

⁵ ADM(RS), 'Evaluation of Ready Land Forces (Draft)'.

⁶ Trained Effective Establishment (TEE): All accountable military positions within the system of record that are designated to be filled by military members who have attained the OFP in their occupation. This includes all functional (manning) positions, the ATL, secondments, Project Management Position Resource (PMPR), and equivalent accountable positions in the system of record for the classified establishments. The TEE is similar to the Preferred Manning Level (PML); however, the PML accounts for establishment changes that are planned for the future.

⁷ Canadian Army, 'Combat Training Centre'.

⁸ Chenard, 'Training Technicians to Meet the Army's Future Equipment Support Requirements'.

⁹ Chenard.

units, the DP 1.1 technicians were able to complete their POs, encounter different vehicles and weapons platforms, and further their overall breadth of experience.

10. Units within the geographical areas of OJT centres also benefited significantly from DP 1.1 technicians being posted to MMO positions under the OJT centres. Unit maintenance platoons would liaise directly with OJT centre staff to request DP 1.1 technicians. DP 1.1 technicians would then augment maintenance workshops based on scheduled tasks that could assist in POs completion, while maintenance platoon workshops essentially augmented their establishments with ‘free labour’ in the form of non-accountable semi-trained technicians and with no additional personal administration costs.

Challenges

11. The outcome of the MES review that saw the change in MMO positions to TES positions was a relatively small spark that illuminated other, perhaps previously overlooked, challenges in the OJT model and with OJT centres. First, concentrating DP 1.1 technicians to four OJT centres, saw a geographical influx of hundreds of non-accountable Pte/Cpls that requiring significant individual supervision and additional administration staff. Despite the OJT centres reporting to the RCEMES, personnel for the OJT centres were provided by the respective CA divisions. The highly controlled resource of new full-time equivalent person-year (PY) positions was extremely difficult for a training sub-sub-unit to compete with operational units in the respective divisions, limiting further OJT centre growth. Limits to further OJT centre staff growth coupled by limited supervisors in the geographical area created sustainability concerns on the DP 1.1 technician output.

12. The next challenge would be ownership of the outcome. By cycling dozens of DP 1.1 technicians through different units, neither the immediate supervisor nor the maintenance platoon leadership were able to build working relationships with the individual. Thus, personal investment was limited as responsibilities of the “teacher” or supervisor were shifted to the limited OJT centre staff.

13. The final challenge would be personnel and serviceability reporting. Maintenance platoons in OJT centre geographical areas were able to improve serviceability rates by utilizing the non-accountable DP 1.1 technicians. This is not inherently negative, but as the labour is not accounted for at the same rate as fully qualified technicians, the reported metrics can create vulnerabilities and falsely demonstrate that those organizations are capable to do more with less.

EE and Apprenticeship Training

14. The CAF defines EE as “the application and continued development of the skills, knowledge and attitudes acquired through training, education and self-development in the performance of assigned roles and duties, especially in operations and command”¹⁰.

¹⁰ CMP, ‘DAOD 5031-8, Canadian Forces Professional Development’.

15. Even with the potential elimination of the OJT centres and the nomenclature change from OJT model to EE, the need for DP 1.1 technicians to work, under direct supervision of senior qualified technicians (DP2 or higher), to leverage their newly acquired theoretical knowledge and apply it as hands-on experience will still exist. Only without the OJT centres, this responsibility will be held with the DP 1.1 technician's unit.

16. As the apprenticeship training model is “a relationship-driven learning model, based on actual day-to-day work, in which a novice gains hands-on knowledge from an expert to grow skills and act with increasing independence”¹¹ unit personnel can become more invested in the DP 1.1 technician and their outcomes as they will become a fully trained technician within their unit upon the completion of their “apprenticeship” or, in this case, completion of the POs. There also still exists a requirement to track EE progression and completion of POs for DP 1.1 technicians before they become fully qualified technicians in their trade. The need for a centralized standardization of POs remains.

17. By spreading out the DP 1.1 technicians across the CAF, a more desirable “one-on-one model of apprenticeship”¹² can be leveraged which allows the learning to happen “as a result of physical proximity and observation”¹³. A counter argument with a one-on-one model of apprenticeship would be the limitations or biases of the supervisor and the limited vehicles and weapons platforms assigned to the unit. To enable senior qualified technicians (DP2 or higher) to get to the next level of supervisor and become coaches and mentors to DP 1.1 technicians, they will also require guidance and training.

18. The future TSC should be responsible as the centralized control of the DP 1.1 technician EE, with the highly decentralized execution at the unit supervisory level. To facilitate the tracking process, EE should be tracked using online software applications, such as MonitorMass, which allows supervisors to sign-off on POs within the program. An online POs tracking software could enable civilian qualifications and allow DP 1.1 technicians the ability to complete their POs faster by reducing redundancies.

19. This change would also reduce training obstacles for DP 1.1 technicians posted to RCEME workshops outside of the CA. DP 1.1 technicians now have the potential to be posted to Royal Canadian Air Force (RCAF) or Royal Canadian Navy (RCN) bases or Reserve Force (Res F) RCEME technicians. By moving to a highly decentralized execution and online POs tracking, DP 1.1 technicians with limited experience on certain vehicles and weapons platforms could augment collective training exercises to gain familiarity on these fleets and equipment, whereas Res F DP 1.1 technicians could gain experience during parades or on weekend exercises.

20. Enabling units to facilitate the EE of DP 1.1 technicians reduces the limitations or bottle neck of an OJT centre construct and, with the proper institutional structure, could

¹¹ Christensen et al., ‘Reviving the Art of Apprenticeship to Unlock Continuous Skill Development’.

¹² Christensen et al.

¹³ Christensen et al.

provide additional accessibility in the delivery and support the EE to future fully qualified RCEME technicians.

Future TSC

21. The potential change or elimination of OJT centres sets an opportunity for future TSCs to not only pick up roles and responsibilities of the OJT centres, but to expand the training reach to senior qualified technicians (DP2 or higher) and to the two other RCEME trades (Land Equipment Engineering Technologists and RCEME Officers).

22. As indicated in the RCEME Strategic Topics for 2023, “the new TSCs are envisioned to serve as a knowledge hub, providing technical and Land Equipment Management System (LEMS) reach-back to those at the tactical level”¹⁴. There is also a requirement to provide additional training on certain fleets to close knowledge gaps between what the RCEME School provides and the fleet-specific needs of our equipment. This direction aligns with the visions of expanding roles and responsibilities to provide training to the RCEME Corps.

CONCLUSION

23. The aim of this service paper was to explore the future role of RCEME TSC with a focus on support to the post OFP EE of RCEME technicians. By reviewing the former OJT model for RCEME technicians during DP 1, discussing challenges to the OJT model and OJT centres that created sustainability challenges, and exploring considerations to support EE for DP 1.1 technicians through the implementation of a new TSC.

24. The implementation of a new TSC has the potential to expand to support training across all trades of the RCEME Corps and to include all four of the pillars identified in the Canadian Forces Professional Development System (CFPDS)¹⁵ continuous learning framework. By including education, training, employment experience, and self development the RCEME Corps can continue to foster a learning culture while still delivering highly capable soldier technicians and directly support the aim of the MES Review, which sought “to provide the RCEME Corps a sustainable occupational structure that balances the service requirements with opportunities for members’ professional development and career progression”¹⁶.

RECOMMENDATION

25. The following recommendations are made as primary considerations for future TSCs and should not be considered an exhaustive list moving forward:

¹⁴ DRCEME, ‘RCEME Corps Strategic Topics 2023, Topic #9 – Future Role of the Training Support Centres’.

¹⁵ CMP, ‘DAOD 5031-8, Canadian Forces Professional Development’.

¹⁶ RCEME MES TL, ‘Director RCEME Communiqué No 05/2019 - RCEME NCM Military Employment Structure’.

- a. Overall. It is recommended that the future role of RCEME TSC expand to include all four of the pillars identified in the CFPDS continuous learning framework across the six RCEME trades. By including education, training, employment experience, and self development the RCEME Corps can continue to foster a learning culture while still delivering highly capable soldier technicians.
- b. Propose roles and responsibilities of the future TSC. It is recommended that the TSC take on the following roles and responsibilities:
 - i. Conduct a gap analysis on the OJT centres to determine tasks that must remain with the TSC and tasks that can be delegated to the DP 1.1 technician's unit.
 - ii. Conduct a gap analysis between the remaining DP levels to identify knowledge areas of improvement and then propose additional training to better these areas.
 - iii. Establish training modules for supervisors of DP 1.1 technicians.
 - iv. Establish online platform integrated with pre-existing personnel training record software such as MonitorMass.
 - v. Online training modules, leveraging virtual reality or augmented reality to close training gap by available platforms. Could be established at the maintenance platoon level for training new vehicles and platforms expected in the next few years as part of Strong, Secure, Engaged (SSE): Canada's Defence Policy¹⁷.
 - vi. Liaise with the RCEME Culture Advisory Organization (RCAO) to help gain assistance in improving learning culture and promoting an environment where continuous learning and development are emphasized and supported at all levels.
 - vii. Liaise with Career Manager to explore areas of recognition on the annual Performance Appraisal Report (PAR).
- c. Proposed composition of the future TSC. It is recommended that the TSC be composed of the following:
 - i. DP 1 advisor section that administers and monitors EE progression for DP 1.1 technicians at a ratio of no more that 1 to 25. Tasks can be executed remotely between advisor, DP 1.1 technician, supervisor and an assigned senior NCM from the DP 1.1 technician's unit.

¹⁷ DND, 'Strong Secure Engaged'.

- ii. New capabilities section that would liaise with project teams to facilitate RCEME specific training for new vehicles and weapons systems.
- iii. Tactical/strategic transition section would build short module training to help prepare senior NCMs to work in the National Capital Region (NCR) in Equipment Management Teams (EMTs), as Life-Cycle Materiel Managers (LCMMs) or in Project Management Offices.
- iv. Ongoing occupation training which could link in with the established Occupational Advisors network to bridge gaps in trade specific competencies.

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