Capital Regional District

Emergency HAZMAT Team Review

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Hazardous Materials Response Team

Emergency Management Group

65 Cedar Pointe Drive, Suite 144
Barrie, ON, Canada L4N 9R3
705.719.9007 / 888.421.0665
info@emergencymgt.com / www.emergencymgt.com

EXECUTIVE SUMMARY

The Capital Regional District (CRD) oversees the management and function of the regional Emergency HazMat Team (EHT), collaborating with local fire departments. Initiated in 2006, the CRD has utilized the Central Saanich Fire Department as a contractor to supervise team training, maintain response equipment, and handle daily operational tasks. The team includes over 60 trained firefighters from various departments throughout the region. The goal of the EHT is to provide an efficient and professional response to hazardous material (HazMat) emergencies until the responsible party can take control of the situation. The EHT has the training and equipment to take offensive action to mitigate the incident, if necessary, with the focus being a short-term mitigation process until the responsible party assumes control of the scene.

The CRD is responsible for the administration and operations of the EHT program which includes contract management, budget development, equipment acquisition and maintenance, assets and record keeping, and service oversight. The CRD EHT Advisory Committee is made up of representatives from the 25 partnering fire departments that collaborate to provide advice and recommendations to the CRD on administration and operations of the EHT.

On June 26, 2023, the Central Saanich Council passed a resolution that the District of Central Saanich and the Central Saanich Fire Department serve notice to terminate the existing agreement with the CRD for the EHT effective February 19, 2024. Further to this, the Central Saanich Fire Chief sent correspondence (date unknown) to the CRD advising of the estimated cost of $177,000 for 2024 to align with the labour and operational costs to manage the program.

On August 24, 2023, the CRD sent correspondence to all participants of the CRD EHT advising them of the awarded contract to EMG to conduct a comprehensive service review of the regional emergency HazMat response service. As part of a contingency plan, the CRD issued notice to enter into a service agreement with Nucor Environmental Services (NES) to provide 24/7 emergency HazMat response and remediation services when and if required after termination of the contract.

This Service Review encompasses a comprehensive review of the program, cost effectiveness and compliance with current industry standards, as well as identifying whether the existing service delivery model is or is not suitable to meet the current and future needs of the CRD.

The recommendations provided have been developed based upon an extensive consultation process with the EHT Contractor, CRD Senior Manager, CRD Fire Services Coordinator, Contract Training Provider, EHT Team Leads, the 14 fire departments with team members, several fire departments in the region without team members, a third-party HazMat response provider, Nanaimo Fire Rescue, and a law enforcement representative of the Greater Victoria Emergency Response Team. In total, EMG

conducted 26 interviews, in-person or virtually, and each EHT Team Member/Technician was provided the opportunity for feedback through an anonymous survey, with 35 team members completing the online survey.

The consultants were able to gather information on existing processes and challenges to better understand the current roles, responsibilities, and liabilities. Based upon these interviews with fire service stakeholders in the CRD, EMG is providing recommendations on service delivery model options and service review recommendations, so the EHT can effectively respond to HazMat incidents in the CRD.

The recommendations in this review consist of three parts:

1) EHT Service Delivery Model Options
2) Supplemental EHT Service Delivery Recommendations
3) Service Review Recommendations

Supplemental EHT Service Delivery Recommendations

The additional recommendations are provided with the overall goal of moving the delivery of emergency HazMat response within the CRD forward into the future with a strategic focus.

1. HazMat Advisory Committee: An opportunity exists to leverage regional stakeholder interest, experience, and expertise to ensure a sustainable HazMat capacity in the region. Engagement of key fire service leaders through the formation of sub-committees and/or working groups collaboratively with CRD leadership would bring significant value. Utilizing the sub-committee/working group structure allows more time to focus on specific projects, investigate new areas of work, and involve local expertise.

2. Rapid Assessment Team**:** To align with industry best practices, the service delivery model for the EHT should be restructured to facilitate deployment of a Rapid Assessment Team (RAT) to all HazMat incidents. The EHT-RAT should consist of one chief officer and four Technicians able to respond within 30 minutes of notification. This would enhance incident management, resourcing, and mitigation. This approach to be included within whichever option the CRD pursues.

3. Communications**:** The transition to a different service delivery model must be communicated to all CRD fire departments and their municipal governments. Ongoing and regularly scheduled communications and engagement with all stakeholders will serve the EHT well. Over-communication in the realm of emergency services is often a must.

4. Staffing: Revise the minimum staffing for the deployed EHT to eight trained HazMat Technicians. This represents the true minimum staffing to cover required positions to perform a standard, 2 in/ 2 out entry. The EHT-RAT would comprise the initial element of this staffing model, which when deployed would only require the addition of four more Technicians. Positions required by regulation or implied responsibilities are:

    a. 1- HazMat Group Supervisor/ Team Leader/ HazMat Officer

    b. 1- Assistant Safety Officer HazMat

    c. 1- Technical Reference/ Science Officer

    d. 1- Entry Team Leader

    e. 2- Entry personnel

    f. 2- Back up personnel

Benefits of the Service Review

There are five key benefits of a review process which include:

1) Identifying gaps and having a clear vision of the future needs in terms of emergency HazMat response for the CRD.
2) Stakeholder engagement for feedback, input, and potential solutions for gaps.
3) Understanding the financial costs for the service delivery for the CRD.
4) Analyzing training and service levels and how they compare to current industry standards and best practices.

5) Identifying options for the CRD and how best to provide emergency HazMat response services.

The recommended service delivery options and recommendations within this Service Review document are aimed at assisting the CRD in making decisions relating to the efficient allocation of the EHT. The options and recommendations provide immediate and short-term solutions, as the existing contractual agreement with Central Saanich Fire Department expires on February 19, 2024.

Ultimately, the implementation of a service delivery option and recommendations will depend on the direction of the CRD and with consultation of the impacted fire departments within this service model.

Summary of Service Review Recommendations

Below is a summary of the recommendations within each of the key categories. Greater detail surrounding each recommendation can be found within the section from which it is derived.

Human Resource Management

- The CRD work with the EHT Advisory Committee to identify a recruitment strategy for the EHT.
- The CRD consider separating the Team Coordinator from the Contractor to schedule training, recruitment, administrator duties and maintaining training and response records for the EHT.

Administrative Practices

- The CRD should review recent Hazard Risk Vulnerability Assessments (HRVAs) conducted for the region and/or specific municipalities to ensure the level of service delivery being provided aligns with the hazard and risks identified.
- The CRD and EHT Advisory Committee should identify which data to collect and interpret as related to the delivery of HazMat incident response in the CRD.

Policies, Directions, and Operational Guidelines

- The CRD to create a working committee with the HazMat Advisory Committee to review the Operational Guidelines (OGs) and complete within a 12-month period. The CRD should also develop a Terms of Reference (TOR) for this committee.
- Operational Guidline 1-004 – it is suggested that “Feminine Sanitary Napkins” be added to page 7 of the check list in proximity to the coveralls, helmets, and radio vests.
- NFPA 1072 Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications (2017) and NFPA 472 Standard for

Competence of Responders to Hazardous Materials/ Weapons of Mass Destruction Incidents (2018) be incorporated into the training and operations of the CRD EHT.

- Operational Guideline 3-001 be revised to clarify the qualifications of the Incident Commander versus the HazMat Sector Commander.
- Revise OG 4-004 Incident Response to read, "The CRD EHT Incident Action Plan (IAP) should undergo thorough discussion, review, and approval by the Incident Commander before implementation. This requirement ensures that the IAP aligns with established protocols and is consistent with the overall incident, contributing to the effective and safe management of HazMat incidents."
- Revise OG 4-004 Incident Response org chart to include two (2) doffers in the warm zone, one (1) doffer in the cold zone, and one (1) EHT member in the warm zone to verify the effectiveness of the decon process.
- Revise OG 4-005 Decontamination Procedures to having civilians remove clothing.
- Revise OG 4-005 Decontamination Procedures to include the use of a Level 'C' TYVEK suit for patient transfer to BCAS.
- Revise OG 4-007 Personal Protective Equipment to incude two (2) twelve inches of ChemTape as part of the Level 'A' and 'B" inventory.

Response Trends/ Types and Response Capacity

- The CRD should regularly analyze the call volume, call types, and work with the EHT Advisory Committee to identify trends.
- The CRD EHT should focus efforts on response capacity within the CRD, and not look to provide services outside this geographic area. The capacity does not currently exist, and the systems are not in place for this model to be effective.
- The CRD should look to incorporate a wholesome approach to data analysis for the CRD EHT. This data should include Dispatch Time, Turn Out Time, overall Response Time, and Incident On-Scene Time. This will require careful data collection, attention to detail, access to statistical programs, and skills in result interpretation.
- The CRD should assess the feasibility of entering a relationship with a third-party contractor to support any future CRD EHT model. This third-party contractor could provide specialized technical support remotely, and/or become the designated and recommended incident mitigation service provider. This would allow the CRD EHT to transition site mitigation and clean up, thereby transitioning regional firefighting resources back into service sooner.

- The CRD should assess the feasibility of leveraging the on-duty firefighting personnel in the Region for initial response. Given the number of personnel required for an RAT, and the remainder needed for a base-level Technician-Level HazMat response, the deployment model could be transitioned to a layered one, with on-duty firefighting staff deploying initially and then requesting off-duty personnel as/when the need requires.
- The CRD should look to engage, through an RFP process, a fire department in the region interested and able to provide the CRD with an effective EHT. Administrative and operational oversight would be streamlined in this process, allowing the CRD to provide a strategic lens to the support it provides.
- Establish an agreed-upon approach that is consistent and clearly communicated across the region regarding team member availability and activation processes and protocols.
- Research and identify a communications solution to ensure any team member notification or activation is widespread and available to all team members.
- Ensure processes and protocols for the dispatching of resources are consistent and clear between both Saanich and Surrey dispatch centers.

Training

- NFPA 1072 (2017 edition) and NFPA 472 (2018 edition) be adopted and incorporated into the training and operations of the CRD EHT.
- Each community participating in the CRD EHT program conduct a community risk assessment relating to HazMat concerns. These assessments will be used to form the basis for specific training.
- Training in Level A & B suits be incorporated into the "Open Learning" sessions as well as combined with DECON training in the "Skills Maintenance Training."
- The responsibility of decontamination procedures should be assigned to the fire service requesting support.
- The development and delivery of training specifically for chemical propertiers and behavior be delivered into the "Open Learning" as well as reinforced at the "Skills Maintenance Training" sessions.
- Additional training be provided two times a year over a three-five day period and developed with input from EHT members and derived from Post Incident Action Reports. The first two-three days focused on skills with the remaining two days focused on scenario based learning.
- Training should be developed and delivered by team members with a 5:1 student/instructor ratio.

- The CRD engage other agencies such as EMS, police, and Non-Governmental Organizations to ensure open and transparent communication and work the possibility of encorporating them into the team, which in time could see the team become a chemical, biological, radioactive, nuclear, explosives (CBRNE) team.

Finance/ Asset Management & Procurement

- Meetings between the CRD and the Contractor to review the annual budget increase for the operational budget. Adjustments should not only meet but exceed inflation rates and account for the notable escalation in equipment costs.
- Schedule meetings with the CRD Contractor to identify the real costs for the self-contained breathing apparatus (SCBA) and Command Vehicle replacement scheduled for 2027.
- The CRD EHT implement an Asset Management Plan (AMP) for all HazMat response equipment. This should identify projected replacement dates and cost cycles for all hard and soft equipment and consumables. The AMP should be overseen by incorporating the Asset Manager role into the current Team Coordinator role, or other roles as deemed appropriate.
- Establish a Capital Expenditure Reserve with annual contributions. This will ensure the equipment required to support a robust HazMat response is funded and available. The amount for the annual contribution should be derived following an assessment of current equipment, lifespan, and expected replacement dates.
- Fire apparatus (vehicles) required to support the CRD EHT need to be a key aspect of the recommended AMP.

Surveys

- The CRD form a working group to address recommendations in this report.

Project Overview Steps

The following describes the actions carried out by the EMG team in developing the Hazardous Materials Team review for the CRD.

Central Saanich Fire Department and Participating Fire Departments

- Interviewing key stakeholders with the CRD that participate in the EHT.
- Interviewing fire departments with the CRD that utilize the EHT but do not have any members on the team.
- Interviewing NES representative regarding a HazMat response model.

- Interviewing Nanaimo Fire Chief regarding their operations level response capacity combined with a NES response.
- Identification of gaps in the existing service model.
- Identification of service model options.

Bylaws and Legislation

- Review of Bylaw No. 3322, a bylaw to establish and provide the service of responding to HazMat incidents in the CRD.
    - The boundaries of the service are within the boundaries of the CRD.
    - The electoral areas of Juan de Fuca, Salt Spring Island and the Southern Gulf Islands and the municipalities of North Saanich, Sidney, Central Saanich, Saanich, Victoria, Oak Bay, Esquimalt, View Royal, Colwood, Langford, Highlands, Metchosin and Sooke are in the participating areas for this service.

Operational Guidelines

- Review operational guidelines and policies.

Service Agreements

- Review of the existing service agreement (January 7, 2019) between the CRD and the District of Central Saanich.
- Review of the Emergency Services and Remediation Contract between NES Ltd., and the City of Nanaimo.

Finance

- Review the operational and capital budgets for EHT.

Reporting Relationships and Administrative Practices

- Review of response data analysis from 2009-present.

Organizational Structure

- Review of the organizational structure of the CRD EHT.

Service Level

- Review the existing service model to determine whether the existing model is suitable to meet current and future needs of the CRD and the broad range of fire service stakeholders.

Information Management

- Review of training and response incidents.

Insurance Coverage/Service Liability

- Identified with WorkSafe BC that the employer (responding fire department) is responsible to complete the necessary documentation and file with WorkSafeBC if a workplace injury occurs.

Training Program

- Personnel training standards, relevant credentials, and ongoing/future training/certification requirements.
- Retention and recruitment of firefighters for the EHT.
- Review of training records.

Asset Management and Procurement

- Inventory and maintenance best practices, annual equipment testing, the equipment's life span, replacement criteria, and supplies.

Human Resources Management

- Staffing of the EHT and records management.

Deliverables for the EHT Review

As noted in the CRD's RFP, the service review will:

1) Include input from members of the CRD and participating fire departments.
2) Be conducted using best practices, current industry standards, and applicable legislation related to HazMat response.
3) Review the effectiveness, cost efficiency, and call volume of the EHT.
4) Evaluate compliance with existing standards.
5) Identify gaps and strengths in the structure and governance of the team and make recommendations.
6) Address participating fire department input processes and potential partnerships. Review and make recommendations regarding the level and range EHT service delivery, including present and future requirements considering predicted growth and service delivery expectations.
7) Review existing bylaws and legislation. Consider the potential of mutual aid and/or automatic aid agreements with neighbouring municipalities.

8) Review reporting procedures and administrative practices.

9) Review the training program and records management and make recommendations regarding the training program.

10) Examine the procurement process and finances. Make recommendations regarding budgeting, procurement process, replacement cycles, and maintenance of equipment that are based on the present and future needs of the EHT.

11) Look into the human resource management. Make recommendations regarding staffing of the EHT including career and volunteer firefighters, recruitment and retention for the team, and remuneration of career and volunteer staff.

12) Examine service liability.

13) Use both quantitative and qualitative research methodologies to develop a strong understanding of current and future needs and circumstances of emergency HazMat response within the CRD, or other potential jurisdictions.

14) The final report to the CRD will include key findings, consultant analysis and recommendations, identification of implementation issues, financial implications, and recommended implementation timetable.

To accomplish the scope of requirements, EMG has:

- Reviewed the existing bylaw and applicable municipal, provincial, and federal legislations.
- Gathered information on operational requirements including past and current response statistics (call volumes) to analyze for trends, staff availability/ needs and response capabilities, etc.
- Reviewed service administration including staffing, organizational structure, policies and procedures, administrative support, record keeping and information management/technology, purchasing and inventory control.
- Conducted in-person and virtual meetings with the EHT Contractor, CRD senior manager, CRD Fire Services Coordinator, Contract Training Provider, EHT Team Leads, the 14 fire departments with team members, several fire departments in the region without team members, a third-party HazMat response provider (Nucor), Nanaimo Fire Rescue, and a law enforcement representative of the Greater Victoria Emergency Response Team.
- Examined equipment including the maintenance program.
- Reviewed fire service policies, procedures, and emergency response operational guidelines, training programs and records.
- Identified and compared industry best practices relating HazMat response.

- Reviewed the operational and capital budgets along with reserves.
- Based on the previously noted criteria, through meetings with participating fire departments and Leadership Team members, EMG was able to complete a thorough review of elements that are working well and areas requiring improvement within the EHT.
- Data provided was reviewed in relation to emergency responses from 2009 to the present.

Performance Measures and Standards

This review has been based upon (but not limited to) key performance indicators (KPIs) that have been identified in national standards and safety regulations such as:

- Fire Services Act
- WorkSafeBC
- BC Transport of Dangerous Goods Act
- BC Transport of Dangerous Goods Regulations
- BC Spill Reporting Regulation
- BC Environmental Management Act
- BC Hazardous Waste Management Program
- BC Ministry of Environment, Hazardous Waste Legislation Guide
- NFPA standards
- Transportation of Dangerous Goods Act, 1992
- Transportation of Dangerous Goods Regulations

Project Consultants

Although several staff at EMG were involved in the collaboration and completion of this EHT review, the overall review was conducted by (in order of involvement):

- Les Karpluk, Project Lead
- Brian Hutchinson, Fire Service Consultant
- Brent Sterling, Fire Service Consultant
- Lyle Quan, Fire Service Consultant/ VP of Operations - Project Lead
- Darryl Culley, President

Together, the team has amassed a considerable amount of experience in all areas of fire and emergency services program development, review, and training. The EMG team has worked on projects such as strategic and master fire plans and the development of emergency response programs for clients.

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ACRONYMS

AHJ	Authority Having Jurisdiction
AMP	Asset Management Plan
BCAS	British Columbia Ambulance Service
COR	Certificate of Recognition
CRD	Capital Regional District
DECON	Decontamination
EHT	Emergency HAZMAT Team
ENV	Ministry of the Environment and Climate Change Strategy
EMG	Emergency Management Group Inc.
ERF	Effective Response Force
HazMat	Hazardous material
HRVA	Hazard Risk Vulnerability Assessment
IAP	Incident Action Plan
ICS	Incident Command System
IFSAC	International Fire Service Accreditation Congress
JPR	Job Performance Requirement
KPI	Key performance indicators
MOE	Ministry of Environment
NES	Nucor Environmental Services
NFPA	National Fire Protection Association

OHSMS	Occupational health and safety management system
PPE	Personal Protective Equipment
PSAP	Public safety answering point
RAT	Rapid Assessment Team
RFP	Request for Proposal
SCBA	Self-contained breathing apparatus
TOR	Terms of Reference
VIHA	Vancouver Island Health Authority

SECTION 1

Capital Regional District & Hazardous Materials Response - Overview

SECTION 1: CAPITAL REGIONAL DISTRICT & EHT OVERVIEW

1.1 Capital Regional District Overview

In 1966, the CRD was established as part of the British Columbia Provincial Government's initiative to introduce the concept of 'regional districts' in local governments across the province. This regional territory coincides with the traditional lands of multiple First Nations, with eleven Indigenous communities possessing reserve lands within the capital area.

This governance model was designed to address the need for services that extend beyond the boundaries of individual municipalities and create an environment of collaboration to achieve cost efficiencies among municipalities. The CRD covers southern Vancouver Island and the Gulf Islands, and acts as the governing body for 13 municipalities and 3 electoral areas, serving an estimated population of 440,000.

The CRD provides over 200 services, financial partnerships, and infrastructure provisions with municipalities and electoral regions, which are categorized into three service types:

i. Regional Services: Covering all 13 municipalities and 3 electoral areas.

ii. Sub-Regional Services: Extending to a minimum of 2 jurisdictions.

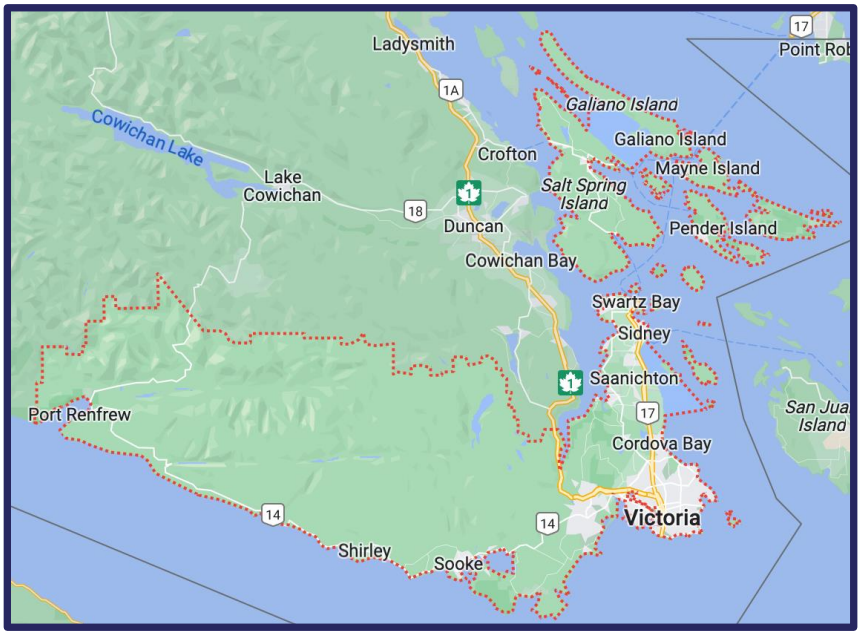
iii. Local Services: Specifically relevant to electoral regions where the CRD serves as the local administrative authority.

The CRD facilitates improved service delivery on a regional scale or through collaborative approaches amongst communities. As the governing body for electoral areas, the CRD oversees and implements projects and amenities for residents in these non-municipal areas.

The CRD has adopted a service establishing bylaw under the *Local Government Act* for the provision of a HazMat response system service within the service area defined in the establishing bylaw. Section 263(1)(b) of the *Local Government Act* R.S.B.C. 2015, c. 1, as amended, gives the regional districts the power to make agreements with a public authority, respecting activities, works and services within the powers of a party to the agreement, including agreements respecting the undertaking, provision, and operation of activities, works and services.

In 2006, the EHT was established in partnership with the region's fire departments. The Central Saanich Fire Department was contracted to coordinate team training, house operational response equipment, and coordinate the day-to-day response operations. The coordination for training and response capacity includes approximately 60 firefighters from different departments across the region.

FIGURE #1: CAPITAL REGIONAL DISTRICT



Map retrieved from Google Maps.

With a total land area of approximately 2,341 km^2, and a population of 415,451 (Canada 2021 census), the CRD has a population density of 177.7/km^2. The CRD has major highways and roadways that bring a large volume of transport trucks transporting goods across Canada, including unknown quantities of dangerous commodities on Trans-Canada Highway 1, including the Malahat Drive which runs 25 km along the west side of Saanich Inlet to the region surrounding it.

1.2 Contractor Responsibilities

The Central Saanich Fire Department consists of one fire station staffed by seven career firefighters and 57 volunteer members, with three firefighters being part of the EHT. From 2016 to 2023, the Central Saanich Fire Department call volume has increased by 28%, excluding HazMat incidents.

In 2006, the CRD established the EHT and contracted the Central Saanich Fire Department to coordinate team training, house operational response equipment, and coordinate day-to-day response operations. Before the existing service delivery model, the Surrey Fire Department provided HazMat response to the CRD. From the interviews, it was determined that the change to a CRD emergency hazardous response team was brought about by fire chiefs and communities wanting a timelier response to dangerous goods incidents.

As the Contractor, the Central Saanich Fire Department administers and coordinates the response of the CRD's HazMat team, as well as the ongoing maintenance of the equipment in accordance to the CRD HazMat OGs. In addition, the Contractor is responsible for the following:

- The appointment of a HazMat Coordinator, trained to Technician Level and recognized as a qualified trainer, and serve as an active member of the HazMat team.
- Produce complete post-incident HazMat Response Reports indicating date/time of call, duration, location, details of the hazardous materials, and parties responsible.
- Provide EHT support documentation to assist the CRD with invoicing individuals, companies, or transportation providers that have caused an impact to the environment due to releases or spills.
- Maintain accurate training and equipment records to assist the team in maintaining their status as a Certified Hazardous Materials Team.
- Schedule annual training necessary to maintain team competency and provide training opportunities in coordination with instructors, host facilities, partner training officers, and HazMat team members.
- Coordinate the development of HazMat Technician and HazMat operations level training documents for distribution through partner fire department training officers or other online training portals on an annual basis.
- Identify hazardous materials equipment vendors to ensure best pricing and to receive approval for purchases from the CRD prior to expenditure.
- Provide administrative support to the CRD EHT as necessary.
- Provide information on federal/provincial initiatives that pertain to hazardous materials teams to include funding opportunities.
- Maintain an active HazMat Technician Recruitment program, in partnership with the CRD and the Region's fire departments.
- Coordinate response protocols and training with other agencies such as, but not limited to police, ambulance, and medical facilities.
- Provide transportation for HazMat equipment and trailer to/from HazMat responses as required.
- Provide a 24-hour, on-duty HazMat Technician to coordinate team response as approved by CRD response protocols.
- Inventory, inspect and maintain all personal protective equipment (PPE), entry suits, gloves, and other HazMat response equipment in accordance with manufacturers' recommendations.

- Inventory, inspect, maintain, and calibrate field survey instruments in accordance with manufacturers' recommendations and at intervals recommended by the manufacturer.
- Provide, as requested, copies of all maintenance logs showing regular inventories, inspections, and proper maintenance as noted above.
- Liaise with the CRD Protective Services to develop annual work plan and budget for the HazMat response system service.

The Team Coordinator for the EHT is also a member of the Central Saanich Fire Department and is the liaison between the Equipment Contractor, the EHT Advisory Committee, Operations Working Group, Response Team Leaders, and the CRD.

1.3 Emergency HazMat Team Overview

The EHT was created in 2006 by the CRD to respond to hazardous materials incidents with the personnel, equipment, and training to mitigate an incident for the protection of life, property, and the environment. The EHT is composed of 25 fire departments with 50- 60 members of the team from 14 partnering fire departments.

Each of these 25 fire departments have a seat on the HazMat Advisory Committee that acts as a conduit for information between the CRD and the member municipal fire services. The existing EHT service delivery model is unique in Canada whereby 14 fire departments contribute personnel to the team composition. In addition, there are 11 fire departments that do not have members on the team but receive the response services offered by the CRD.

The EHT has two general components:

1) Under contract with the CRD, the Central Saanich Fire Department (Contractor) houses and maintains the HazMat equipment, HazMat truck, and HazMat trailer. The cache of equipment is checked regularly by the Contractor to ensure it meets industry standards and is in a state of readiness. As part of the equipment cache, basic level response spill kits have been distributed to each fire hall within the region.

2) The EHT funds and maintains between 50-60 HazMat Technicians for the EHT. These technicians are from 14 fire departments within the CRD. Each fire department is responsible to train their own staff to the awareness and/or operations level.

The goal of the EHT is to provide an efficient and professional response to HazMat emergencies until the responsible party can take control of the situation. The EHT has the training and equipment to take offensive action to mitigate the incident, if necessary, with the focus being a short-term mitigation process until the responsible party assumes control of the scene. The EHT does this by:

- Assessing unknown products.
- Providing technical advice on response.
- Providing information and recommendations on public safety around a HazMat incident.
- Providing information and recommendations on supportive actions outside the hot zone.
- Remaining on scene until a responsible party can assume control.

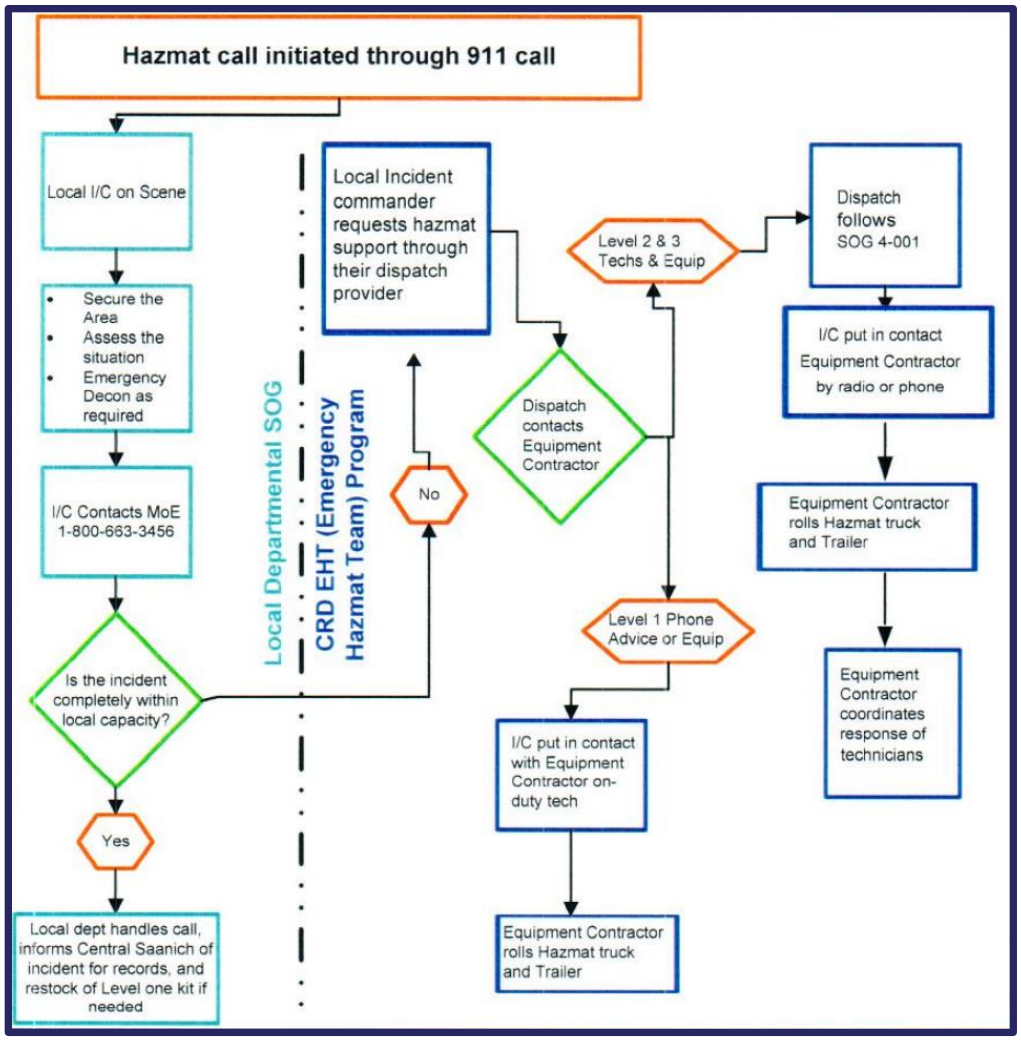
The EHT identifies the responsible party for most incidents through legislation, as follows:

- Police - for drug related incidents.
- Ministry of Environment and Climate Change Strategy (ENV) - responsible for all spills within BC.
- Chemical producers/ carriers – responsible for HazMat response to incidents involving their own product.

The ENV must be contacted and provided with details of an incident. An Emergency Response Officer will call back to the Incident Commander to determine long-term strategies or advise the Incident Commander that a third party may be contracted to assume control of the incident.

The CRD is responsible for the administration and operations of the EHT program which includes contract management, budget development, equipment acquisition and maintenance, assets and record keeping, and service oversight. The EHT can only be activated by the local fire department through their dispatch provider to the CRD. External agencies are not able to activate the EHT and must go through the local fire department.

FIGURE #2: EHT DEPLOYMENT FLOW CHART



The CRD Operational Guideline 4-001 identifies three levels of response for the EHT:

i. Level I Response – this level does not generally require specialized PPE other than regular firefighting turnout gear and SCBA. It can be managed by the resources of the first responding fire department. All HazMat incidents within the CRD are to be first dispatched as a Level I Response unless determined through a comprehensive pre-incident planning of specific hazards, facilities, and situations.

ii. Level II Response – determined by the on-scene Incident Commander to be outside of the responding fire department's capabilities and determined to require some degree of support

from the CRD EHT. As a rule, a Level II Response requires specialized technical competencies and HazMat PPE to control and stabilize the incident.

iii. Level III Response – these incidents are determined by the on-scene Incident Commander to pos a serious hazard and risk to the public and is outside the capabilities of the first responding agency, which requires a full deployment and response from the CRD EHT. The Level III Response generally requires:

- The creation of secure zones (hot, warm, cold)
- Specialized HazMat PPE (Level B or Level A suits)
- Specialized HazMat competencies of NFPA 472 Technician and Specialist level training responders.
- The creation of a "HazMat Group" under the Incident Command System.
- A full response of the CRD EHT.
- Response by specialized emergency responders and private contractors.
- May require the activation of the responding jurisdictions' EOC.

FIGURE #3: EHT RESPONSE CRITERIA RE OG 4-001

RESPONSE CRITERIA	LEVEL I	LEVEL II	LEVEL III
	• Readily controlled by first responders. • HAZMAT team provides technical help. • Normally does not require team response.	• Requires special resources for control and stabilization. • Limited team response.	• Requires special resources. • May require need for other agencies. • AUTOMATIC TEAM RESPONSE.
Container Size	SMALL (Consumer Package)	MEDIUM (Drum, Cylinder)	LARGE (Tanker, Bulk Tank)
Container Integrity	Container intact.	Damaged but containing product.	Heavy damage or large release.
Chemical Form	SOLID (Non-dangerous when wet.)	LOW VAPORIZING LIQUID	GAS / VAPORIZING LIQUID
Leak Severity	No apparent leak, small leak.	Greater than 5 gallons or 20 lbs. released.	May be uncontrollable.
NFPA "704" Rating	One (1) in any category.	Two (2) in any category.	Three (3) or four (4) in any category.
Special Hazards		Radioactive	Dangerous When Wet / Oxidizer
Threat to Life	LOW (Rural Area) No apparent health risk.	MEDIUM (Suburban Area) Possible health risk.	HIGH (Urban Area) Apparent or probable health risk.
Fire or Explosive Hazard	LOW (Non-Flammable)	MEDIUM (Combustible)	HIGH (Explosive, Flammable, Oxidizer)
Environmental Impact	MINIMAL	MODERATE	SEVERE
Chemical ID		DOT Placarded Explosive, Class 1.3, 1.4 Gases, Class 2.1, 2.2 Flammable Liquids, Class 3 Flammable Solids, Class 4.1 Toxic Substances, Class 6.1, 6.2 Corrosive Substances, Class 8 Miscellaneous Substances, Class 9 PCBs without Fire EPA Regulated Waste (UNKNOWN MATERIAL) WMD Threat Operating Drug Lab	Explosives, Class 1.1, 1.2, 1.5, 1.6 Poisonous Gases, Class 2.3 Flammable Solids, Class 4.2, 4.3 Oxidizing Substances, Class 5.1, 5.2 Radioactive Materials, Class 7 Chlorine, Flourine Anhydrous Ammonia Organic Pesticides DOT Inhalation Hazard Chemicals EPA Extremely Hazardous Substances Cryogenic Materials PCB's with Fire WMD Attack

Level I Response - Phone advisory, on-site advisory or on-site analysis with 1 to 2 trained HAZMAT personnel. Some on-site testing and hazard categorization. No hot zone activity.

Level II Response - Product ID and with on-site testing and hazardous categorization with 3 to 8 personnel. Hazard control as needed. Minimal hot zone activity.

Level III Response - Full resources with personnel as needed. Multi-team response available on large scale incidents. Hot zone activity.

TELEPHONE NUMBERS

PEP / MOE	1-800-663-3456
CRD HAZMAT	(250)-217-2237
Langford Dispatch	(250)-478-9555
Saanich Dispatch	(250)-475-6111

1.3.1 EHT Advisory Committee

The EHT Advisory Committee comprises of members representing their fire department who collaborate to present a unified voice for the fire services within the CRD EHT. This committee offers guidance and suggestions to the CRD regarding administrative and operational matters pertaining to fire services administration and operations within the EHT. Each fire department within the CRD electoral regions is entitled to one representative.

1.3.2 Team Coordinator

A non-operational position responsible for administrative duties only. The Team Coordinator is the liaison between the Equipment Contractor, the EHT Advisory Group, Operations Working Group, Response Team Leaders, and the CRD. The Team Coordinator is selected by peers and approved by the CRD to be the single voice for the Response Group Leaders and fulfill duties of a Response Group Leader when required.

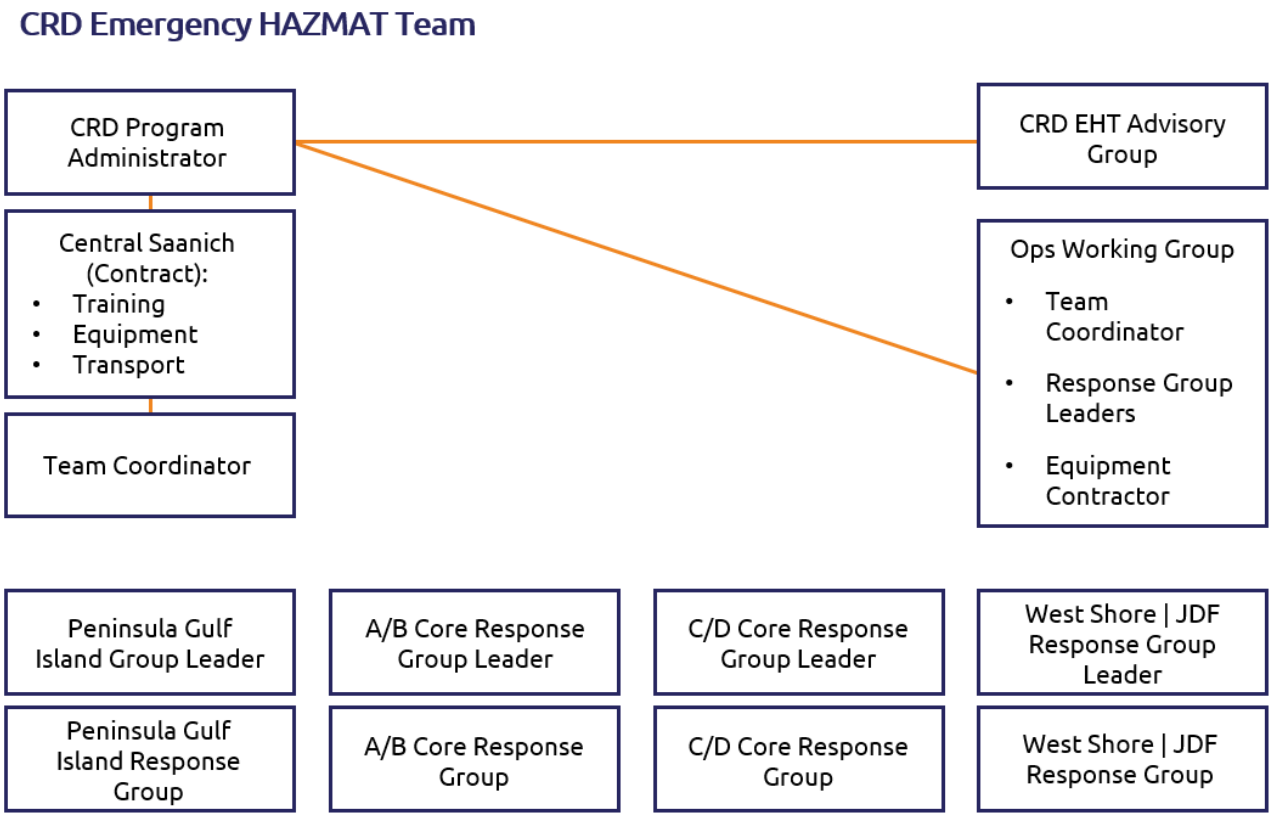
1.3.3 Response Group Team Leaders

Response Group Team Leaders are chosen from within each Response Group by members of that Response Group. There are four Team Leaders representing the needs of their Response Group along with the Team Coordinator that receive a monthly stipend with the condition that they attend Skills Maintenance Session Planning whenever possible. Typically, the Skills Maintenance Session Planning will take place in the afternoon prior to the scheduled training session.

1.3.4 Working Groups

Working groups are created through a motion of the Advisory Group to deal with a specific work/project and provide regular updates to the Advisory Group until such time as the work/ project is complete.

FIGURE #4: CRD EHT ORGANIZATIONAL STRUCTURE



1.4 Assessment of Current Bylaw

As part of this review process, bylaws were reviewed by EMG and where required, recommendations have been presented.

1.4.1 Capital Regional District Bylaw No. 3322

In accordance with the *Local Government Act*, the CRD established a bylaw for the service of HazMat emergency response in the CRD, which includes the electoral areas of Juan De Fuca, Salt Spring Island, and the Southern Gulf Islands, and the municipalities of North Saanich, Sidney, Central Saanich, Saanich, Victoria, Oak Bay, Esquimalt, View Royal, Colwood, Langford, Highlands, Metchosin and Sooke.

The bylaw identifies cost recovery and apportionment of costs by the requisition of money under Section 805 and 806 of the *Local Government Act* to be collected by a property tax value, based on land and improvements levied and collected under Sections 805.1 and 806.1 of the *Local Government Act.*

The bylaw does not identify the minimum level of service, training expectations, or levels of response within the CRD.

1.5 Human Resource Management

Recruitment and retention of EHT team members is multifaceted. The EHT is comprised of career and volunteer members which provides some advantages and disadvantages for the team. The CRD EHT model is unique where 25 fire departments have input into the EHT, with 14 of those departments contributing with assigned members. To maintain and ideal team size of 60 members, the fire department allocation is noted below.

TABLE #1: Fire Department EHT Member Allocation

Core Departments	Team Members
Victoria	13
Oak Bay	4
Esquimalt	2
Saanich	16
West Shore	
View Royal	2
Colwood	2
Langford	5
Sooke	3
Peninsula	
Central Saanich	3
North Saanich	2
Salt Spring Island	2
Pender/Southern Gulf Islands	2
Metchosin	1

In terms of recruitment for the EHT, there is no formal program in place. When a vacancy occurs, interested individuals generally advise their fire chief or team leader within the team that they want to be a member of the EHT.

During the consultation process, there was some frustration within the team regarding training attendance or emergency response. Career members are limited to responding to incidents while on duty while volunteer members are challenged to respond to incidents during the daytime hours from Monday to Friday. Training schedules do not always coincide with a volunteer members work schedule, whereas career members are challenged to attend weekend training due to work scheduling.

At the time of the consultation process, the EHT was short eight (8) members. This may be contributed to the existing recruitment and retention problem facing the fire service. Throughout Canada, it is becoming more of a challenge to recruit members within the fire service. As with many volunteer fire departments, the daytime hours from Monday to Friday are the greatest challenge for volunteer responses due to fact that many volunteer firefighters are attending their primary vocation, school, or taking care of family.

There are numerous potential reasons for leaving a fire department, including:

- No time to volunteer
- Conflicts within the organization
- Organizational leadership created an adverse atmosphere
- Too much training
- Attitude of existing personnel towards newcomers
- Criticism received from officers/ older members
- Lack of camaraderie

While some issues may be uncontrollable, other issues can be mitigated such as conflicts within the organization, leadership, training, attitudes, communication, and camaraderie. It was noted during the consultation process that many of the volunteer members were challenged to attend more than the minimum requirement of training.

Section 1 Recommendation

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 1 – Capital Regional District & EHT Overview				
1	The CRD work with the EHT Advisory Committee to identify a recruitment strategy for the EHT.	13-24 months	Committee Time	Ensuring that the EHT staffing is at full capacity improves the team response model and overall effectiveness.
2	The CRD consider separating the Team Coordinator from the Contractor to schedule training, recruitment, administrator duties, maintaining training, and response records for the EHT.	0-12 months	CRD to determine annual salary	Decreasing the administrative responsibility from the Contractor and revising the Team Coordinator position external to the Contractor will increase records keeping for the CRD.

Section 2

Response Capacity

SECTION 2: RESPONSE CAPACITY

2.1 Current EHT Response Capacity

The ability for CRD leadership to explain the value inherent within the CRD EHT is essential to ensuring the appropriate resources are allocated for emergency response, training, and prevention. Structured data typically are well organized and easily formatted in searchable databases and include incident information, such as incident numbers and response times. Data capture, procurement and preparation are fundamental to assuring sound analytics and data visualization.

There are currently no federal or provincial regulations that mandate the level of HazMat incident response that a municipality must provide. With that, the Province of British Columbia has provided guidance within the British Columbia Hazardous Material Response Plan (2013). This guidance provides that "Local governments with their emergency services...are responsible for operational support to the extent that expertise and resources are available and to the extent that the response functions are within their mandate" (2-2). It is left to the Authority Having Jurisdiction (AHJ) or in this case, the Region being the CRD, to determine the level of HazMat incident response required to address the hazards and risks present within the Region. Ensuring that service delivery aligns with an HRVA is a foundational component of program development and delivery. A regional HRVA should speak to the risks associated with hazardous materials in the region.

Each fire hall in the region has been provided a CRD spill kit. These kits are to be placed in frontline vehicles/ apparatus to assist with the immediate clean-up of minor events. If a fire department uses a kit, they are to contact Central Saanich Fire Department for a replacement.

2.2 Targets and Performance

At this time, little data has been collected to establish baselines, benchmarks, or to set targets and assess performance. The EHT service level targets are informed by industry standards, benchmarks, and leading practice. In British Columbia, and by extension within the CRD, as in many other North American municipalities, service level targets are primarily influenced by the NFPA.

The NFPA is a self-funded, not-for-profit organization based in the United States that delivers codes and standards with the mission of eliminating death, injury, property and economic loss from fire, electrical, and other hazards. Accordingly, two standards exist for response to HazMat incidents; the *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons*

of Mass Destruction Incidents and *NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications.*

Putting in place substantive measures related to assembly of an Effective Response Force (ERF) on-scene at HazMat incidents should be the first step. To this end, there are three basic components that should be used as foundational assessment tools of response capacity and performance for the CRD EHT. These components are availability, capability, and operational effectiveness.

i. Availability — The degree to which the resources are ready and available to respond.
ii. Capability — The ability of deployed resources to manage an incident.
iii. Operational Effectiveness — A product of availability and capability. It is the outcome achieved by the deployed resources or the ability to match resources deployed to the risks to which they are responding.

To thoroughly assess these aspects of HazMat incident response for the CRD EHT, the collection and presentation of data is necessary. This data, at a minimum, should include the type of call, times for crew dispatch, turnout times, arrival on scene, and termination of the response. These times are all significant in assessing performance and can be enriched by additional on-scene operational task times. At present, the full scope of data noted above is not being collected, compiled, and interpreted to the extent that it could be. Increasing efforts in this area could further support development of response capacity for the CRD EHT.

2.2.1 Availability

Under the current deployment model, the availability of the CRD EHT is difficult to quantify. The system relies on a call-out process that does not provide defined numbers of responding personnel, nor does it necessarily delineate the skillsets and experience that will arrive on-scene when personnel assemble. Having a team comprised of 60 personnel should equate to a high level of availability, however the actual availability of the team remains undetermined.

2.2.2 Capability

The CRD EHT provides a reasonable return on investment when it comes to capability. The current Contractor can provide advice remotely regarding response protocols to fire department personnel already on-scene at an incident. The Contractor can/will also respond with the requisite equipment for incident mitigation. It should also be recognized that the personnel who voluntarily join the CRD EHT do so out of a desire to contribute and bring their professionalism and dedication to the team. However, due to limited volume of incident responses, and minimal annual training requirements, a gap does remain within the realm of

capability. This directly correlates to uncertainty around level of training, experience, and expertise of responding personnel.

2.2.3 Operational Effectiveness

Given the current structure of the CRD EHT, a core component of the measure should be the timely on-scene assembly of an ERF. An ERF is defined as the minimum number of firefighters and equipment that must reach a specific emergency incident location within a maximum prescribed time. The maximum prescribed assembly time acts as one indicator of resource deployment efficiency and effectiveness. It is recognized that once on-scene, the CRD EHT has been successful in managing a wide array of HazMat incident types in the past. That said, receiving fire departments within the region are uncertain about who will be coming, when they will arrive, and what levels of expertise they will bring. Being able to convey to all stakeholders what they can expect from the CRD EHT during incident response will be enhanced by communicating expectations around an ERF. This ERF measure is not one currently being monitored, documented, or communicated for the CRD EHT.

In summary, incidents to which the CRD EHT are being deployed, are being mitigated and managed effectively. The approach being utilized is resulting in the protection of lives, property, and the environment.

There are areas for improvement. The ability to properly assess availability, capability, and operational effectiveness as a measure of overall response capacity and effectiveness for the CRD EHT is lacking, which leads to a level of uncertainty amongst all stakeholders. While discussions have occurred around the feasibility of the CRD EHT deploying outside of the current response areas on a fee-for-service model, until such time as the CRD EHT can meet defined parameters around operational effectiveness, these discussions should be deferred. Further, the CRD should look at employing the means to measure effectiveness as a key performance indicator for any future iteration of the CRD EHT.

Collection of this data moving forward will provide all stakeholders with the information necessary to make evidence-based decisions related to the capacity and capabilities of the EHT. This includes the establishment of agreed-upon KPI for the EHT. Many of these KPIs will be descriptive outputs, which can provide trend information related to HazMat incidents and their impacts. While this information can and will provide context, the most impactful performance measure for the EHT will be the speed with which a RAT can be assembled, deployed, and on-scene. Further assembly of an ERF comprised of all positions staffed as per NFPA for on-site Hazardous Materials Team should be employed.

The CRD EHT should prepare for increasing data integration into everyday activities. To gain greater data acuity for responsible decision-making, this should start with training metrics, response times, and incident mitigation stages.

2.3 Demand for Service

With its size and population, the CRD requires a coordinated effort from multiple agencies to effectively respond to emergencies such as HazMat spills. With that, the CRD EHT plays a crucial role in bringing local agencies together to prepare for and respond to these incidents of low frequency, but potentially high consequence.

The total volume of service calls for the CRD EHT was reviewed over a 15-year period (2009-2023). The annual volume of incident response is an average of 3.87 calls for service. The highest incidence of responses was in 2012 with 10 incident responses, and the lowest year was 2019 with 1. The past four years 2020-2023 have seen a steady occurrence of between 4 and 6 incidents per year.

TABLE #2: Number of Incidents per Year

Year	Number of Incidents
2009	2
2010	2
2011	3
2012	10
2013	2
2014	2
2015	4
2016	2
2017	4
2018	5
2019	1
2020	4
2021	6
2022	5
2023	6

Based on the 2023 public facing budget for the CRD EHT of $352,731.00 the result is a 15-year average cost per incident of $91,145.00. With that said, the cost per capita in the region for the delivery of this service, at a 2021 population estimate of 432,062 equates to less than a dollar per resident annually ($0.82). In contrast to the high dollar per incident rate, this per capita would appear to be a reasonable investment in the mitigation of HazMat incidents.

2.4 Benchmarking

Benchmarking identifies areas of needed improvement and strengths. It further helps by using data to make decisions and uncover innovative ways to elevate performance. Benchmarking also provides information that leads to greater accountability and transparency, encourages continuous improvement, and improves consistency. A peripheral comparison of the CRD EHT in comparison to HazMat services provided in Nanaimo, Surrey, Vancouver, and the three North Shore municipalities of North Vancouver City, West Vancouver, and District of North Vancouver was conducted as an initial benchmarking exercise.

The focus of this benchmarking comparison was on the scope of services provided, as well as the differences between their operating models. For the purposes of this analysis, the administrative and operational costs have not been included. This is primarily due to the lack of publicly available information to allow a reasonable comparison of relevant HazMat incident response teams/programs. Further, summary observations from this comparison highlighted the reality that different municipalities deliver HazMat incident response under significantly different models, making direct comparisons difficult and misleading in some cases. Also, the scope and volume of HazMat incidents vary significantly across jurisdictions.

While no one model fits exactly with the operating environment in the CRD, there are elements within each of the models reviewed that could add value and enhance effectiveness and efficiency of service delivery for the CRD EHT.

Nanaimo engages a third-party contractor for HazMat Technician Level responses. However, this model necessitates that Nanaimo Fire Rescue maintains a robust HazMat Operations-Level capacity internally. Initial response and incident mitigation is well within the scope of Nanaimo Fire Rescue, with the third-party contractor 'layering' their services on top of this capacity, to support Nanaimo Fire Rescue with releasing resources to focus on their core services.

Vancouver and *Surrey* are both full-time career urban fire services with personnel trained and assigned to this discipline 24/7/365. Vancouver Fire Rescue Services and the Surrey Fire Service both maintain an on-duty roster of HazMat Technicians, based out of dedicated fire stations. Both entities easily meet and exceed required staffing levels to field an ERF for HazMat incident response.

North Vancouver City, *West Vancouver*, and *District of North Vancouver* are commonly referred to as the *North Shore* municipalities within Metro Vancouver. As an outgrowth of their Shared-Services and automatic aid agreement, North Vancouver City provides HazMat response at the Technician Level for all three municipalities. In effect, this equates to having a dedicated HazMat team based out of a single location to better facilitate response and mitigation.

Given the varying models and the unique approach currently utilized for HazMat response within the CRD, it can be challenging to compare performance or benchmark services using key financial and operating metrics. As has been recommended elsewhere in this service review, regardless of the model used by the CRD, the establishment of relevant baselines and benchmarks should be established to measure performance and use data to support evidence-based decision making for the CRD EHT ensuring program effectiveness, efficiency, and sustainability.

2.5 Nucor Environmental Solutions

With the notice from the Central Saanich Fire Department to terminate the existing Hazardous Materials Response Service Agreement effective February 19, 2024, the CRD issued a Notice of Intent to enter into a service agreement with NES. As part of the project scope, EMG met virtually with a NES representative on October 5, 2023.

NES offers round-the-clock emergency response services to a diverse variety of industries. They have highly trained personnel and specialized equipment nationwide which empowers them to effectively address extensive and intricate incidents, whether on land or water.

NES Emergency Response team is able to deploy to industrial, commercial, institutional, marine, rail, and a wide variety of environmental emergencies, which include:

- Biohazard Response
- Confined Space Rescue
- Hazardous Material Response
- Land Spill Response
- Rail Response
- Safety Training & Consulting
- Water Spill Response

Biohazard- The NES team specializes in the implementation of proper decontamination procedures as well as biohazard cleanup work. They have safe work procedures that have been developed by NES Industrial Hygienist and have responded to biohazard responses across

Canada. They keep a current stock of hospital grade disinfectants for viruses, bacteria, moulds, and fungi.

Confined Space Rescue- The NES rescue team members help their clients perform confined space risk assessments, develop rescue plans, and staff confined space projects with trained whole watch and rescue personnel.

Hazardous Materials Response- The NES team works closely with their clients to provide rapid response and containment of HazMat releases, exposure incidents, and illegal dumps, which include:

- Field Level Identification & Risk Assessment
- Containment
- Remediation & Abatement
- Waste Packaging
- Transport & Disposal

Land Fill Response- NES has extensive experience managing land spills with their team capable of mobilizing within hours for large-scale spill response, including:

- Fixed facility incidents
- Rail incidents
- Highway and freight incidents
- Pipeline release

Rail Response- The NES team has extensive, specific, and ongoing rail training and have responded to numerous rail-based incidents across Canada.

Safety Training & Consulting- NES has the resources and ability to train and consult in a variety of subjects.

Water Spill Response- Their team has extensive experience managing releases affecting waterways, both inland and open water, including shoreline cleanup and can mobilize immediately for large-scale release responses, including, but not limited to:

- Oil & Fuel releases
- Damming & Diking
- Shoreline cleanup & management

- Containment boom deployment
- Water salvage operations
- Skimming operations
- Assets decontamination

Health & Safety- Health and Safety is the number one core value for NES and they recognize the importance of training and employing qualified and competent field personnel to ensure safe and healthy work sites. All field staff are trained to industry standards and receive ongoing training upgrades as part of NES's "Environmental, Health and Safety Program."

NES has a Certificate of Recognition (COR) which, as per WorkSafe BC, is "…a voluntary employer certification program intended to motivate employers to take a proactive role in occupational health and safety. The COR program recognizes and rewards employers who go beyond the current legal requirements, implement an effective occupational health and safety management system (OHSMS), and pass a certification audit to the standards set out by the Board."[1] Their COR certified team is highly trained and meets or exceeds relevant regulatory standards.

2.6 Nanaimo Fire Department and NES Agreement

On January 15, 2021, NES and the City of Nanaimo entered into an agreement for the provision of emergency services for the purpose of mitigating a HazMat event which cannot be brought under control by the use of local emergency services (Nanaimo Fire Department) and resources within the City of Nanaimo.
Key definitions within the contract include:

- Best Efforts-means all commercially reasonable efforts consistent with land-based emergency response industry practices and having regard to the information available to NES under the circumstances, the location of the site of the Spill in relation to NES available resources, the size and nature of the Spill or Other Emergency, and the extent of any other commitments NES may have to other parties at the time of the Spill.
- Dangerous Goods-has the meaning given to that term under Section 2 of the *Transportation of Dangerous Goods Act* (Canada), as amended from time to time.
- Emergency Services-Emergency Services means the provision of Emergency Services and Resources by NES to the City of Nanaimo for the purpose of mitigating a HazMat event

[1] "Certificate of Recognition (COR)," WorkSafeBC, Accessed January 3, 2024, https://www.worksafebc.com/en/health-safety/create-manage/certificate-recognition

which cannot be brought under control by the use of local Emergency Services and Resources within the City of Nanaimo.

- Mitigation means operations directed towards removing the immediate risk of exposing people and the environment to a Spill, including assessment and initial recovery of spilled material, and may or may not include incident Remediation.
- Remediation means the reduction of the long-term risk of exposure to hazardous materials, dangerous goods, or waste, to people and the environment, once an incident has been stabilized and mitigated, and includes operations directed towards assessment and final recovery of spilled material by means of waste disposal, site cleanup, and site restoration.
- Spill means a release into the natural environment of waste, contaminants, dangerous goods, or hazardous substances which is prohibited by applicable law.
- Stabilization means operations directed towards containment of a Spill, including detecting, assessing, stopping, and containing actual or potential Spills in order to reduce the risk of chemical exposure to people and the environment, and may or may not include incident Mitigation or Remediation.

The agreement further identifies that a post review be requested between the parties; this can occur to identify any gaps. The notification of NES is clearly identified within the contract. Further identified is that NES does not guarantee that its provision of Emergency Services will partially or fully ameliorate or remedy the hazardous conditions caused by the Spill or Contaminated Waste.

Operator responsibility, standards of performance, remediation work, and fees are also clearly identified within the agreement.

To better understand the working agreement between the City of Nanaimo and NES, EMG conducted a virtual meeting with an NES representative on October 5, 2023. EMG was informed of the scope of services that NES provided. A summary of the key points discussed in the meeting are identified below.

- There is a focus on “phone a friend” during a call and to assist them with advice, direction, or expertise to allow the Nanaimo Fire Rescue to return to their stations and resume normal duties and/or be response ready for an emergency. The teams on the lower mainland are more focused on derailments, vehicle rollovers (fuel trucks), etc.
- NES can leverage 20-25 responders in the field quickly and they also partner with other groups to pull resources from.

- It takes 60-90 minutes to be road ready. NES responds out of Maple Bay and not Nanaimo. They do have portions of their team that can be on the ground from Parkside and Nanaimo.
- The Malahat Road is a concern. The abatement team from Langford will be the boots on the ground initially.
- The best model would be a local team with immediate access to the CRD as a whole with the layer that NES is requested to take over the incident so the EHT can return to their normal duties.
- NES does not have equipment readily available for the Greater Victoria Area and they would have to have a trailer and resources placed there, but a localized team is in a better position to respond immediately.
- If NES were to be the primary responder to HazMat incidents, it would be huge shift and large impact to their existing call volume.

On the 16th of October 2023, EMG convened a virtual meeting with Nanaimo Fire Chief, Tim Doyle, with the objective of enhancing our understanding regarding the services rendered by NES. Chief Doyle provided the following valuable insights during the session:

- With over 100 firefighters, the Nanaimo Fire Rescue was never trained to the Technician Level and had to decide on adding another core discipline to their department with the stringent requirements required for Technicians.
- The Nanaimo Fire Rescue decided to train to and exceed the Operations Level of training. The Nanaimo Fire Rescue also has some HazMat equipment that would be required for Technicians, with Nanaimo Fire Rescue staff being trained and competent in their use.
- NES works with the City of Nanaimo for all their HazMat incidents, help with Parks and Rec, etc.
- Past experience with NES was positive as Nanaimo Fire Rescue conducted Operations Level response and NES conducted Technician and remediation services.
- Nanaimo Fire Rescue has invested heavily into their Operations equipment and has an extensive list of Technician equipment.
- Nanaimo Fire Rescue recognized that Technician Level training would be a significant requirement for staff.
- Nanaimo Fire Rescue is pleased with the costing model in the agreement.

2.6.1 Nanaimo and NES Synopsis

It is evident that NES is well versed in delivery of HazMat response, mitigation, and remediation. The model with the Nanaimo Fire Rescue and NES works very well as NES can respond quickly from Maple Bay. There is a question about potential incidents on the Malahat highway and the ability of NES to respond to the Greater Victoria Area. During the virtual meeting with the NES representative, there was not a clear path on where equipment would be housed/stored if NES were to be the primary responder for HazMat incidents for the CRD.

EMG strongly believes that the model used with the Nanaimo Fire Rescue is successful due to the robust training and equipment for an Operations Level of service and the ability for the NES team to be onsite from Maple Bay within a 60–90-minute timeframe.

During this consultation process, EMG believes that the NES response model for the Nanaimo Fire Rescue would be hard to replicate with the CRD. Exploring this option is identified as Option Four in the service level recommendations.

2.7 Dispatching Processes & Protocols

The ability for CRD EHT to effectively deploy in response to HazMat incidents relies on timely dispatch and notification. Having in-place a structured, standardized set of procedures that reduce risk and complexity allows responding resources such as the CRD EHT to provide critical support and incident mitigation. This is an area where efforts have been made to improve the processes and protocols, yet gaps continue to exist. Regardless of the deployment model selected for the CRD EHT, efforts should be directed at an analysis of the processes and protocols currently in use and contrasted with industry best practice and standards. Opportunities exist to incorporate current technology and to align approaches for consistency and continuity of service.

Currently, response to HazMat incidents will most often be initiated through the provincial public safety answering point (PSAP) E-Comm 911 service. The incident is then transferred to the respective municipal fire department via one of two fire dispatch services within the CRD – Saanich Fire Dispatch Centre or Surrey Fire Regional Dispatch. Once the host fire department receives the incident and responds with resources, as the AHJ and as a recipient of the CRD EHT services, a request can then be placed for activation/deployment of the CRD EHT. At this time, the typical process is to connect a HazMat Technician from Central Saanich with the on-scene AHJ representative to further assess and determine the appropriate resource deployment.

2.7.1 Saanich Fire Dispatch Centre

The Saanich Fire Dispatch Centre receives, processes and dispatches emergency and non-emergency calls for 18 regional departments, serving over 200,000 residents. A relationship exists between Saanich Fire Dispatch and E-Comm 911 that supports software and technology to manage the delivery of this service.

2.7.2 Surrey Fire Regional Dispatch

Surrey Fire Regional Dispatch provides call-taking and dispatch for the Surrey Fire Service and several other municipalities across British Columbia. The Surrey Fire Dispatch delivers dispatching services to multiple fire departments covering over 25% of the BC population for fire dispatch. Several municipal fire services within the CRD are Surrey Fire Service clients.

2.7.3 CRD EHT Activation

Following the incident being pushed to the responding AHJ, the actual activation and deployment of the CRD EHT at this point becomes more complex. There are gaps in terms of a consistent approach from regional fire departments around deployment of on-duty or off-duty career personnel, communications fan out to EHT members from Paid-On-Call/Volunteer Fire Departments, and the lack of a system to confirm both availability of personnel pre-incident and confirmation on who is responding. The infrastructure piece whereby actual dispatching of resources is done by two separate entities (Saanich & Surrey) can also add complexity to field deployment of a functional CRD EHT. Streamlining and clarifying the dispatch and notification process and communicating this to all stakeholders should be a priority for any future iteration of the CRD EHT.

Section 2 Recommendations

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 2 – Response Capacity				
3	The CRD EHT should focus efforts on response capacity within the CRD, and not look to provide services outside this geographic area.	0-12 months	CRD Staff Time	The capacity does not currently exist, and the systems are not in place for this model to be effective.
4	The CRD should look to incorporate a wholesome approach to data analysis for the CRD EHT. This data should include Dispatch Time, Turn Out Time, overall Response Time, and Incident On-Scene Time. This will require careful data collection, attention to detail, access to statistical programs, and skills in result interpretation.	0-12 months	CRD Staff Time	This recommendation applies what is industry best-practice for fire & emergency services to this specific service delivery area.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
5	The CRD should assess the feasibility of entering a relationship with a third-party contractor to support any future CRD EHT model. This third-party contractor could provide specialized technical support remotely, and/or become the designated and recommended incident mitigation service provider. This would allow the CRD EHT to transition site mitigation and clean up, thereby transitioning regional firefighting resources back into service sooner.	0-12 months	CRD/ Advisory Committee Time	This model is based on, yet differs slightly from, the model being used between Nanaimo Fire Rescue and NES.
6	The CRD should assess the feasibility of leveraging the on-duty firefighting personnel in the Region for initial response. Given the number of personnel required for a RAT, and the remainder needed for a Technician-Level HazMat response, the deployment model could be transitioned to a layered one, with on-duty firefighting staff initial deployment and subsequent request of off-duty personnel as/when the need requires.	0-12 months	CRD/ Advisory Committee Time	This model incorporates elements used in Vancouver and Surrey, where HazMat Team members at assigned fire stations comprise the initial deployment. Once assessments are complete, additional resources can be requested. This provides a level of certainty with who is coming, how many are responding, and anticipated response times.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
7	Through an RFP process, the CRD should look to engage a fire department in the region interested and able to provide the CRD with an effective EHT. Administrative and operational oversight would be streamlined in this process, allowing the CRD to provide a strategic lens to the support it provides.	13-24 months	RFP to Determine	This model mirrors the relationship in place on the North Shore of Metro Vancouver, whereby one fire department provides HazMat incident response for all three municipalities. It is believed there are fire departments in the CRD with the capacity to provide this service.
8	Establish an agreed-upon approach that is consistent and clearly communicated across the region regarding team member availability and activation processes and protocols.	0-12 months	CRD/ Advisory Committee Time	To reduce the complexity of deploying the EHT to incidents
9	Research and identify a communications solution to ensure any team member notification or activation is widespread and available to all team members	13-24 months	CRD/ Advisory Committee Time	Technology solutions exist to support this and can also support a dashboard that conveys member availability and response times.
10	Ensure processes and protocols for the dispatching of resources is consistent and clear between both Saanich and Surrey dispatch centers.	13-24 months	CRD/ Advisory Committee Time	To reduce the complexity of deploying the EHT to incidents.

Section 3

Administrative Practices

SECTION 3: ADMINISTRATIVE PRACTICES

The overall administration and operational management of the EHT resides with the CRD. This includes service oversight, contract management, budget development, finance approvals, equipment, assets, and record keeping.

This administrative process is significant and requires engagement and communication with 25 participating fire services/municipalities. Of this number, 14 are actively vested with the CRD EHT through the commitment of fire service personnel to the team, with the remaining 11 being involved as CRD EHT service delivery recipients.

Within the CRD EHT, there are three distinct levels of administration (CRD Program Administration, Primary Contractor, Team Coordinator). In addition, two advisory/ support functions provide input directly to the CRD, these being the CRD EHT Advisory Committee made up of all 25 participating entities, and the Operations Working Group with representation from CRD, Team Coordinator, Primary Contractor, and the Response Group Leaders. The final segment of this organizational structure is the four geographically allocated functional response groups, each with a designated Response Group Leader. The four response groups combined make up the 60 team members. The composition and size of the CRD EHT can lead to challenges with consistency, communications, and coordination.

Team Size

The CRD will endeavor to maintain a team strength of 60 members.

The distribution of team members will be as follows:

Group	Distribution of Team Members
Core Response	35
West Shore | JDF	11
Peninsula	10
Equipment Contractor	4
Total	60

Opportunities for improvements centered on inclusion, engagement, and communications exist within the current organizational structure. However, given some of the complexity within this structure and the natural inclination to segment operations by function, the presence of organizational silos may be impacting the overall vision and mission of the CRD EHT. Within this

report, service delivery options and subsequent recommendations seek to address and minimize these barriers to the success and sustainability of HazMat incident response in the CRD. Regardless of the direction taken in the future, the recommendation within this section can assist with streamlining these processes.

3.1 Operational Context

The EHT operates within the CRD, under the authority of Section 796 of the *Local Government Act* as articulated within the key document: Capital Regional District Bylaw No. 3322. This document is also referenced as the Capital Regional District Hazardous Materials Incident Response Service Establishment Bylaw No. 1, 2006. Following is an excerpt of the establishing bylaw:

> CAPITAL REGIONAL DISTRICT BYLAW NO. 3322
>
> NOW THEREFORE the Board of the Capital Regional District in open meeting assembled enacts as follows:
>
> **Service**
>
> 1. The Service of preparation for a hazardous materials emergency and providing for a system of response to hazardous material emergency incidents in the Capital Regional District is hereby established.
>
> **Boundaries**
>
> 2. The boundaries of the service are coterminous with the boundaries of the Capital Regional District.
>
> **Participating Area**
>
> 3. The electoral areas of Juan de Fuca, Salt Spring Island and the Southern Gulf Islands and the municipalities of North Saanich, Sidney, Central Saanich, Saanich, Victoria, Oak Bay, Esquimalt, View Royal, Colwood, Langford, Highlands, Metchosin and Sooke are the participating areas for this service.

This establishing bylaw for the EHT was adopted on October 6th, 2006.

While contract management is a key administrative process for the CRD EHT, efforts should be directed towards identifying, collecting, and interpreting data related to the delivery of HazMat incident response in the CRD. Oversight of service delivery should be an organizational priority. The use of data in this way will support evidence-based decision making to ensure effectiveness and efficiency of the CRD EHT.

Analyzing response data is valuable to the CRD as it lays the groundwork for improving future responses, optimizing resource allocation from participating fire departments, and enhances the overall performance of the EHT. Regularly reviewing past incidents allows the EHT to learn from their experiences which facilitates a continuous improvement in response and training. The collection of accurate data serves as legal documentation that demonstrates compliance to legislation and standards.

Section 3 Recommendations

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 3 – Administrative Practices				
11	The CRD should review recent HRVAs conducted for the region and/or specific municipalities to ensure the level of service delivery being provided aligns with the hazard and risks identified.	13-24 Months	CRD/ Participating Fire Depts Time	It is an accepted premise that the completion of an HRVA assists communities to make risk-based choices that thereby address local vulnerabilities, mitigate hazards, and respond to and recover from hazard impacts. Aligning the delivery of HazMat incident response to a regional HRVA is a best-practice.
12	The CRD and EHT Advisory Committee should identify which data to collect and interpret related to the delivery of HazMat incident response in the CRD.	0-12 months	CRD/ Advisory Committee Time	The collection of detailed data enables informed decision-making and contributes to continuous improvement in the management of the EHT.

Section 4

Policies, Directions and Operational Guidelines

SECTION 4: POLICIES, DIRECTIVES, AND OPERATIONAL GUIDELINES

4.1 Operational Guidelines Review

This section will explore the OGs of the CRD EHT. Analyzing the OGs of the CRD EHT in conjunction with the NFPA 472 *Standard for Competence of Responders to Hazardous Materials / Weapons of Mass Destruction Incidents*, 2018 as well as the NFPA 1072 *Standard for Hazardous Materials / Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications,* 2017 will identify existing gaps.

Examining the OGs in accordance with NFPA 472, which identifies the competencies essential for responders in HazMat incidents, will assist in pinpointing any deficiencies or areas in need of enhancement. It is imperative to ensure that the team's protocols align with the most recent edition of NFPA 472 to uphold current and effective response capabilities.

Furthermore, a comparison between the OGs and NFPA 1072, providing detailed professional qualifications for hazardous materials emergency response personnel, guarantees that team members adhere to the standards outlined in the 2017 edition. This involves verifying that personnel possess the requisite knowledge, skills, and abilities as stipulated by NFPA guidelines.

Policies and guidelines have immense value for an emergency service. They are the critical foundation for the emergency services success.

- A policy is a high-level statement that expects consistent compliance. It permits very little to no flexibility.
- A guideline is a standard with an acceptable level of quality or attainment. It provides direction on how to act in each situation with non-mandatory controls.
- A procedure is a requirement with an acceptable level of quality or accomplishment in a series of detailed steps to accomplish an end. There are step-by-step instructions for execution and completion.

The CRD has operational guidelines for the following:

- Administration
    - Program Administration
    - Standard of Response
    - Incident Readiness/ Vehicle Equipment Maintenance

    - Equipment Testing and Operations
    - Equipment Acquisition
    - Dispute Resolution Procedure
- Safety
    - Safety Program
    - Medical Surveillance
- Training
    - Training Program
- Operations
    - Dispatch
    - Communication
    - Member Responses to Incidents
    - Incident Response
    - Decontamination Procedure
    - Reconnaissance Procedure
    - Personal Protective Equipment
    - Response to Criminal Events
    - Response to Radiation Events
    - Grounding and Bonding
- Post Incident
    - Incident Documentation
    - After Action Report
    - Cost Recovery

To ensure all the OGs are current, they need to be reviewed and revised on an ongoing basis as circumstances will change amongst the participating fire departments. The *Hazardous Materials Emergency Response Program, Overview for Fire Departments* is dated, and all OGs should be reviewed with the date of review noted on the final version.

Reviewing the OGs can be an incredibly detailed and very involved process; due to the complexities of the EHT with 25 fire departments involved, and it would be in the best interest

of the CRD to create a working committee with the HazMat Advisory Committee to review and complete within a 12-month period. The CRD should also develop a TOR for this committee.

In addition to the OGs, the CRD has a *Hazardous Materials Emergency Response Program, Overview for Fire Departments* within the CRD (2012). Within this document a statement of service was developed by the HazMat Program's Working Group which states;

> "*The CRD Emergency HazMat Team (EHT) supports local jurisdictions by providing professionally trained and equipped HazMat technicians for working in hazardous material environments (the hot zone). The CRD EHT does this by:*
>
> - *Assessment of unknown products,*
> - *Providing technical advice on response,*
> - *Providing information and recommendations on public safety around a HazMat incident,*
> - *Providing information and recommendations on supportive actions outside the hot zone,*
> - *Remaining on scene until a responsible party can assume control, and*
>
> *The CRD EHT is an independent operational unit, whose team leader will work under the overall direction of the scene incident commander.*

4.2 SOG 1-004 Incident Readiness

This OG is to establish the vehicle and maintenance procedures by the CRD EHT to ensure a state of readiness of equipment and apparatus. This OG includes an inventory list for the HazMat trailer and truck.

In terms of inventory, a practical and innovative solution to address visibility challenges arising from moisture buildup for first responders wearing fully encapsulating Level "A" or "B" suits is to attach a feminine sanitary napkin to the helmet. This strategy is in line with the best practice of improving the field of view for emergency responders in difficult conditions.

By leveraging the absorbent properties of the napkin and its adhesive strip, responders can effectively clear the clear plastic screen on the encapsulating suit without having to remove their hand from the suit to wipe away moisture. This uncomplicated yet efficient solution underscores a commitment to the safety and effectiveness of emergency responders confronting potentially hazardous situations.

Moreover, this action aligns with the principles of adaptability and resourcefulness, crucial facets of emergency response, and could be considered a valuable addition to OGs. It is

advisable to document this practice within the OGs to ensure that all team members are aware of and trained in this practical technique.

4.3 SOG 3-001 Training Program

OG 3-001 Training Program lists minimum qualifications as" All CRD EHT members will be trained to "National Fire Protection Association (NFPA) 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents" and certified through a Pro Board or International Fire Service Accreditation Congress (IFSAC) accredited agency. Support personnel shall be certified to Operational and Awareness Level training."[2]

The EHT training program is focused on the Technician Level, and OG 3-0001 identifies the three different training levels.

1. NFPA 472 Awareness-This level of training provides the skill and knowledge for responders to identify a HazMat incident, begin site control measures, and begin to collect pertinent information for higher level responders. Awareness is the minimum level of training required for any member responding to a HazMat incident in which the CRD EHT is deployed. It is also the minimum requirement for an incident commander.
2. NFPA 472 Operational- In addition to the knowledge and skills in the Awareness Level, Operational Level responders have the skills and knowledge to undertake defensive control measures at a HAMAT incident.
3. NFPA 472 Technician-In addition to the knowledge and skills in the Operations Level, Technician Level responders have the knowledge and skills to undertake complex offensive control measures to mitigate HazMat incidents.

Operational guideline OG 3-001 Training Program states under Levels of Training: "***NFPA 472 Awareness -*** This level of training provides the skill and knowledge for responders to identify a hazardous materials incident, begin site control measures, and begin to collect pertinent information for higher level responders. Awareness is the minimum level of training required for any member responding to a Hazardous materials incident in which the CRD EHT is deployed. It is also the minimum requirement for an incident commander."[3]

EMG agrees that the Incident Commander should, at a minimum, possess NFPA 1072 Awareness Level training as a prudent measure to establish a fundamental understanding of HazMat

[2] "Training Operational Guideline 3-001 – CRD Emergency HazMat Team," 2012, p.1
[3] "Training Operational Guideline 3-001 – CRD Emergency HazMat Team," 2020, p.1

incidents. However, it is vital to prevent any confusion with the prerequisites for the HazMat sector officer.[4]

In scenarios where the Incident Commander has not specifically designated a particular HazMat sector, it is advisable for both the HazMat sector and the overall Incident Commander to possess training and certification up to the NFPA 1072 Technician Level. This heightened level of training provides them with more comprehensive knowledge and skills, ensuring a proficient response to intricate HazMat incidents.

This approach also recognizes the specialized nature of managing HazMat incidents and guarantees that individuals in leadership roles within the incident possess the requisite expertise to make well-informed decisions. It aligns with the emphasis on professional qualifications identified in NFPA 1072 and contributes significantly to the overall efficiency and safety of emergency responses.

Regardless of the type of incident, the Incident Commander should be trained and competent in hazardous materials as the Incident Commander is expected to understand the types of resources required for the incident when formulating an incident action plan.

Section 23 of the *Workers Compensation Act* (RSBC 2019) identifies the general duties of a supervisor.

> 23 (1) Every supervisor must
>
> (a) ensure the health and safety of all workers under the direct supervision of the supervisor,
>
> (b) be knowledgeable about the OHS provisions and those regulations applicable to the work being supervised, and
>
> (c) comply with the OHS provisions, the regulations and any applicable orders.
>
> (2) Without limiting subsection (1), a supervisor must
>
> (a) ensure that the workers under the supervisor's direct supervision
>
> (i) are made aware of all known or reasonably foreseeable health or safety hazards in the area where they work, and
>
> (ii) comply with the OHS provisions, the regulations and any applicable orders,

[4] Supported by NFPA 1072 Standard for Hazardous Materials / Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications 2017 Edition

(b) consult and cooperate with the joint committee or worker health and safety representative for the workplace, and

(c) cooperate with the Board, officers of the Board and any other person carrying out a duty under the OHS provisions or the regulations.[5]

4.3.1 Skills Maintenance

As per OG 3-001, the skills maintenance training composes of two streams – skill maintenance Full Day, and Remote Learning. Each are intended to reinforce the competency of members and provide continuous learning opportunities to enhance existing training certifications. The skill maintenance Full Day and Remote Learning training is approved in advance and funded by the CRD. This includes:

- Full Day - The skill maintenance training sessions or scenarios that take place a minimum of four (4) times per year. Each session will be one (1) full day (8-hours) in duration. The Contractor is responsible for planning and scheduling the skill maintenance training sessions in consultation with the Operations Working Group and the CRD.
- Remote Learning -The remote learning opportunities may be provided directly to team members in addition to, or lieu of full day sessions depending on environmental and/or financial circumstances. Remote learning lesson packages will be emailed directly to team members by the Contractor and are intended to be completed by the team member, while on-duty, and with the approval of their supervisor. Lesson packages shall be designed so that the lesson can be completed in a one-hour class. Additionally, all Technicians are required to complete assigned remote learning lessons and return to the Contractor within 30 days of assignment.
- Attendance - EHT members will be provided with multiple annual refresher training opportunities to maintain their level of competency and at a minimum must attend at least one (1) skill maintenance training session every 12 months. Members who are unable to meet the minimum standard within the preceding 12-month period must receive permission from the CRD through the Contractor to remain on the team. The CRD will take into consideration the specific circumstances of each member in determining whether the member can remain on the team.

Adopting the latest NFPA standards in EHT emergency response operations and operational guidelines offers several compelling benefits:

[5] Workers Compensation Act (RSBC 2019)

- Updated Best Practices: The NFPA standards undergo regular revisions to integrate the latest research, technology, and best practices in the field. By adopting the latest standards, the CRD ensures that the EHT procedures align with the most current and effective approaches to emergency response.
- Legal Compliance: NFPA standards often serve as a benchmark for legal regulations and compliance. Adhering to the latest standards helps ensure that the CRD EHT operations meet or surpass legal requirements, reducing the risk of non-compliance and associated consequences.
- Enhanced Safety: The primary focus of NFPA standards is on safety. Staying current with these standards involves incorporating the latest safety protocols and technologies, contributing to a safer working environment for team members and the public.
- Industry Recognition: Adhering to the latest NFPA standards enhances the CRD EHT credibility within the fire service community. It signals a commitment to excellence and adherence to recognized industry norms.
- Insurance and Liability: Insurance providers frequently consider adherence to industry standards when assessing risk. By aligning with the latest NFPA standards, the CRD could positively impact insurance premiums and demonstrate a proactive approach to risk management, potentially reducing liability.
- Continuous Improvement: NFPA standards evolve based on lessons learned from incidents, technological advancements, and research. Embracing the latest standards reflects a commitment to continuous improvement.

4.4 OG 4-004 Incident Response

Within this OG, the IAP identifies that once site control measures are in place to ensure the immediate threat of the incident is controlled, the CRD EHT Team Leader must begin to develop an IAP. The IAP includes the following:

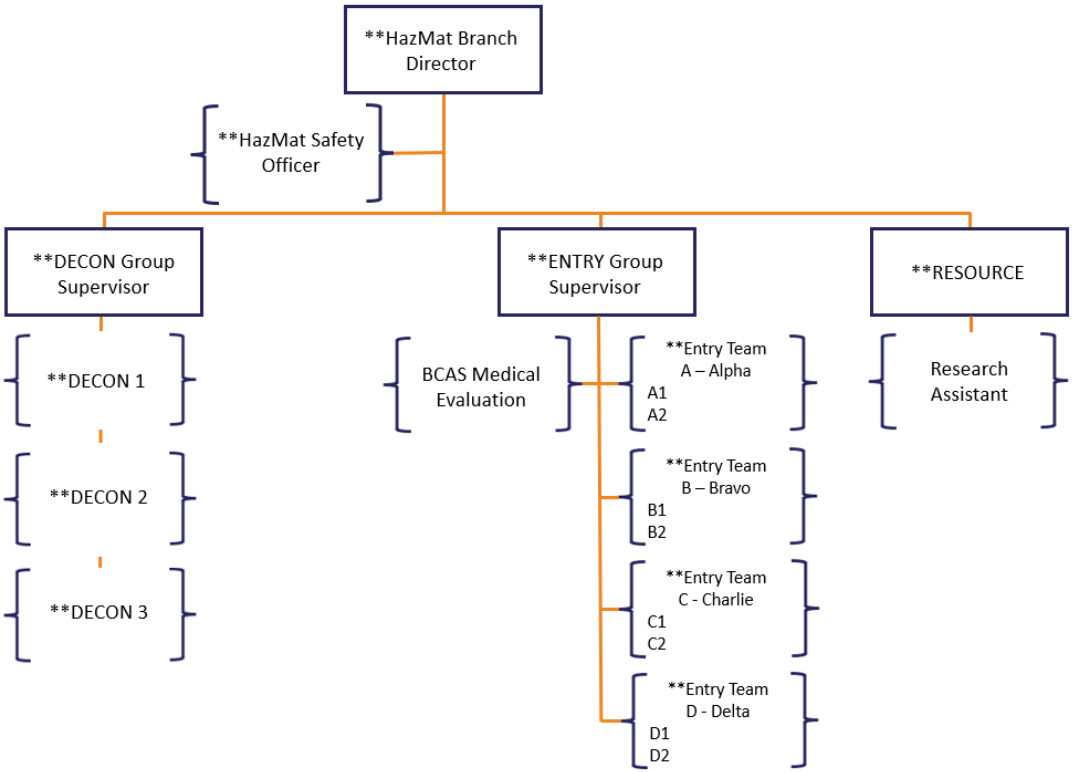
- Analyze available information.
- Examine mitigation options.
- Coordination of available resources.
- The formulation of a plan to produce a favorable outcome by choosing the best available strategic goals and tactical objectives.

Further to this, the OG states, “The CRD EHT Incident Action Plan will be discussed with the Incident Commander (IC) prior to implementation to ensure it is consistent with the overall incident.”

EMG recommends revising the paragraph to read, NFPA 1561 *Standard on Emergency Services Incident Management System and Command Safety, (2020)* states, "The incident commander shall be responsible for developing and/or approving an incident action plan (IAP)."[6]

The operational guideline provides the HazMat branch diagram as noted below:

FIGURE #5: HAZMAT BRANCH DIAGRAM



The type of decontamination (DECON) operations conducted at an incident are determined by a variety of factors including but not limited to;

- Number of people requiring decontamination.
- Type of hazardous materials involved.
- Weather (washing off contaminates with a hose stream may not be a viable option in cold temperatures).

[6] NFPA 1561 Standard on Emergency Services Incident Management System and Command Safety, (2020). Section 5.3.16.1

- Personnel and equipment available.[7]

EMG suggests that the organizational chart be eliminated so the Incident Commander and the DECON Officer can set configure it based on the situation presented to them. Alternatively, the organizational chart be revised to include: two (2) doffers in the warm zone, one (1) doffer in the cold zone, and one (1) member in the warm zone verifying the effectiveness of the DECON process. DECON operations should be verified using appropriate monitoring and detection equipment.[8]

4.5 OG 4-005 Decontamination Procedures

There is no mention of the removal of clothing within this OG, while IFSTA (2017) states, "When conducting DECON of victims, the more clothing removed the better (disrobing is effective DECON in itself). Unless a victim is soaked in some -thing that would penetrate the outer clothing and into their underwear, there is no real need to have people disrobe completely.[9]

4.5.1 BCAS and Regional Health Authority Systems

Transfer of civilian and responder patients to the British Columbia Ambulance Service (BCAS) and subsequently to the Vancouver Island Health Authority (VIHA) requires detailed, timely procedures, and communication. All patients must be fully decontaminated and packaged in a disposable non-encapsulating Level 'B" suit prior to transfer to BCAS. EMG suggests that this section of the OG be reviewed and revised to replace the Level 'B" suit to a Level 'C' TYVEK suite before transfer to BCAS. [10]

4.6 OG 4-007 Personal Protective Equipment

This OG identifies the parameters for the use of a Level "A" suit, and what constitutes Level "A'" PPE. If the wearer of a level "A" or "B" suit suffers a tear in the suit, an emergency repair can be done with very little effort and in a short period of time. The person who has suffered the tear can affix ChemTape[11] to the tear from the inside and their partner can affix their ChemTape from their right thigh to the outside over the tear. This down range repair will provide the best opportunity for the wearer to exit the hot zone and time to go through the DECON process.

[7] Hazardous Materials for First Responders, 2017
[8] Hazardous Materials for First Responders 2017
[9] IFSTA, Hazardous Materials for First Responders, 2017, p. 506
[10] OG 4-005 Decontamination Procedures, p.4 of 5
[11] "ChemTape®, Chemical Protection," Kappler, Accessed January 4, 2024, https://www.kappler.com/products/chemtape.

Note: ChemTape is a patented chemical-resistant tape that is designed specifically for protective apparel.

Section 4 Recommendations

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 4 – Policies, Directives and Operational Guidelines				
13	The CRD to create a working committee with the HazMat Advisory Committee to review the OGs and complete the review within a 12-month period. The CRD should also develop a TOR for this committee.	0-12 Month	Working Group Time	This ensures that the OGs are current and relevant. The TOR will provide details such as committee members, meeting schedules, etc.
14	OG 1-004 – It is suggested that "Feminine Sanitary Napkins" be added to page 7 of the check list in proximity to the coveralls, helmets, and radio vests.	0-12 months	Working Group Time	Through the use of sanitary napkins, the responder does not have to remove their hand from the suit to wipe the moisture.
15	Incorporate NFPA 1072 Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications (2017) and NFPA 472 Standard for Competence of Responders to Hazardous Materials/ Weapons of Mass Destruction Incidents (2018) into the training and operations of the CRD EHT.	0-12 months	Working Group Time	Adopting the latest NFPA standards in EHT emergency response operations and OGs ensures compliance to industry standards.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
16	Revise OG 3-001 to clarify the qualifications of the Incident Commander versus the HazMat sector commander.	0-12 months	Working Group Time	The scene Incident Commander should have the in-depth knowledge to make informed decisions.
17	Revise OG 4-004 Incident Response to read, "The CRD EHT Incident Action Plan (IAP) should undergo thorough discussion, review and approval by the Incident Commander before implementation. This requirement ensures that the IAP aligns with established protocols and is consistent with the overall incident, contributing to the effective and safe management of hazardous materials incidents."	0-12 months	Working Group Time	As per NFPA 1561, the Incident Commander shall be responsible for developing and/or approving an IAP.
18	Revise OG 4-004 Incident Response organizational chart to include two (2) doffers in the warm zone, one (1) doffer in the cold zone and one (1) EHT member in the warm zone to verify the effectiveness of the decon process.	0-12 months	Working Group Time	Based on industry best practices.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
19	Revise OG 4-005 Decontamination Procedures to having civilians remove clothing.	0-12 months	Working Group Time	Industry best practices dictates that the more clothing removed the better, and unless a person is soaked in a penetrating product there is no reason to disrobe completely.
20	Revise OG 4-005 Decontamination Procedures to include the use of a Level 'C' TYVEK suit for patient transfer to BCAS.	0-12 months	Working Group Time	Based upon industry practices.
21	Revise OG 4-007 Personal Protective Equipment to incude two (2) twelve inches of ChemTape as part of the Level "A" and "B" inventory.	0-12 months	Working Group Time	If the wearer of a Level "A" or "B" suit suffers a tear, an immediate repair can be made.

Section 5

Trends and Response Types

SECTION 5: RESPONSE TRENDS AND RESPONSE TYPES

EMG analyzed the call volume for the EHT from 2009-2023. Analyzing call volume data over an extended period can offer valuable insight and benefits for the CRD and enables evidence-based decision making. This data can provide insight into trends and patterns which can help with future resource and equipment allocation. Analyzing the response data will also help the EHT training program focus on specific types of emergencies that occur regularly or the ones that pose a high risk to the community.

5.1 Incident Reports Review

Understanding the frequency and nature of the HazMat incidents allows the CRD EHT to proactively plan for potential scenarios and work towards developing response protocols, along with coordinating with other emergency services such as Health, EMS, ENV, and Law Enforcement to enhance overall preparedness.

By conducting a regular analysis of the call volume data, the CRD can refine procedures, update the training program, make adjustments to OGs, and establish performance metrics.

As noted in Table #3, apart from 2012, on average the CRD EHT responds to around four (4) incidents annually. Following that, Table #4 shows the call volume from 2009-2023.

TABLE #3: Call Volume 2009 - 2023

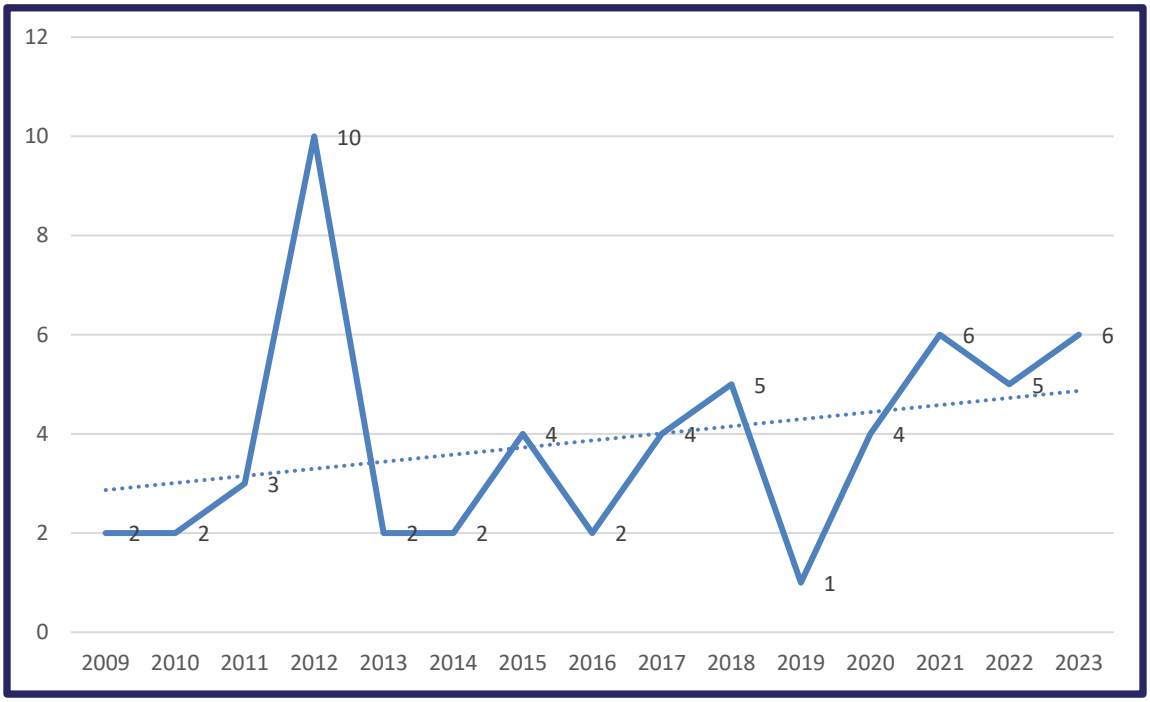
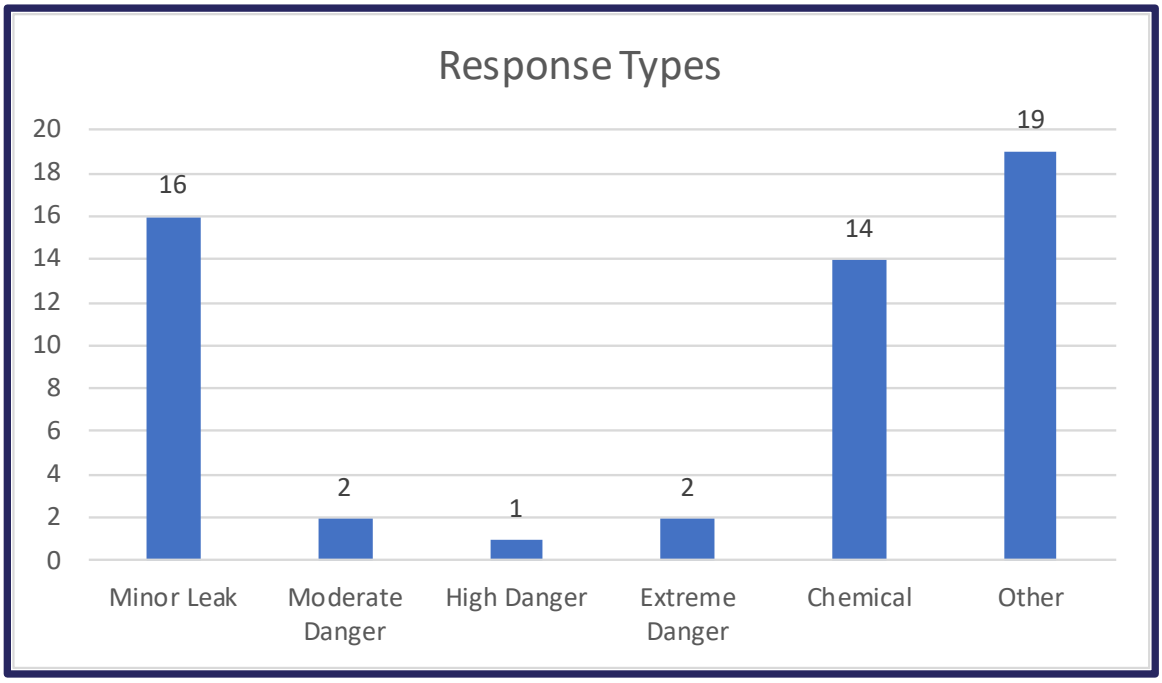


TABLE #4: Response Types 2009- 2023



Notably, minor leaks and chemical spills make up most calls with the high danger and extreme dangerous incidents being a rare occurrence. The other classification types consist of a variety of incidents which do not fall within the other categories.

There was a total of 35 calls that recorded 126.54 hours of deployment with an average of 3:36 hours per incident of EHT deployment, with 287 technicians responding to 37 incidents. The average call for deployment was 7.75 staff per incident and on average there were 7.75 technicians on scene for 3.5 hours for minor leak incidents.

The data analysis revealed that 62% of the CRD EHT incidents occur in the greater Victoria region with 11 incidents resulting in no deployment of Technicians. Table #4 identifies the location percentage and Figure hot spots for incidents.

TABLE #5: Incident Locations

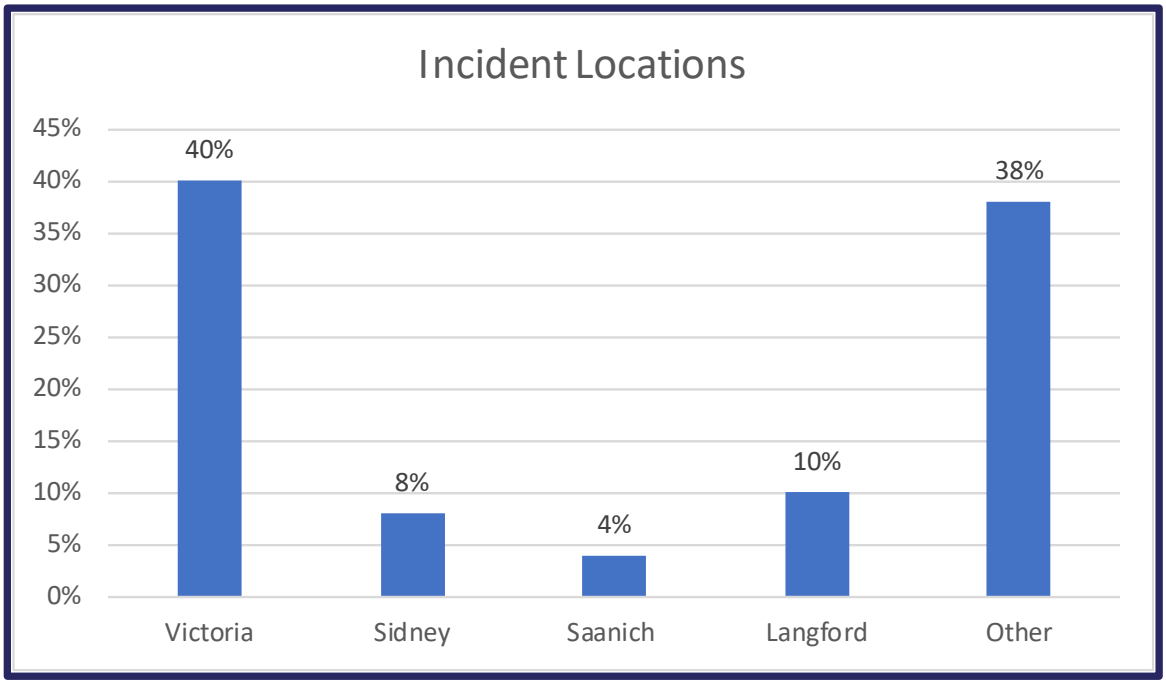
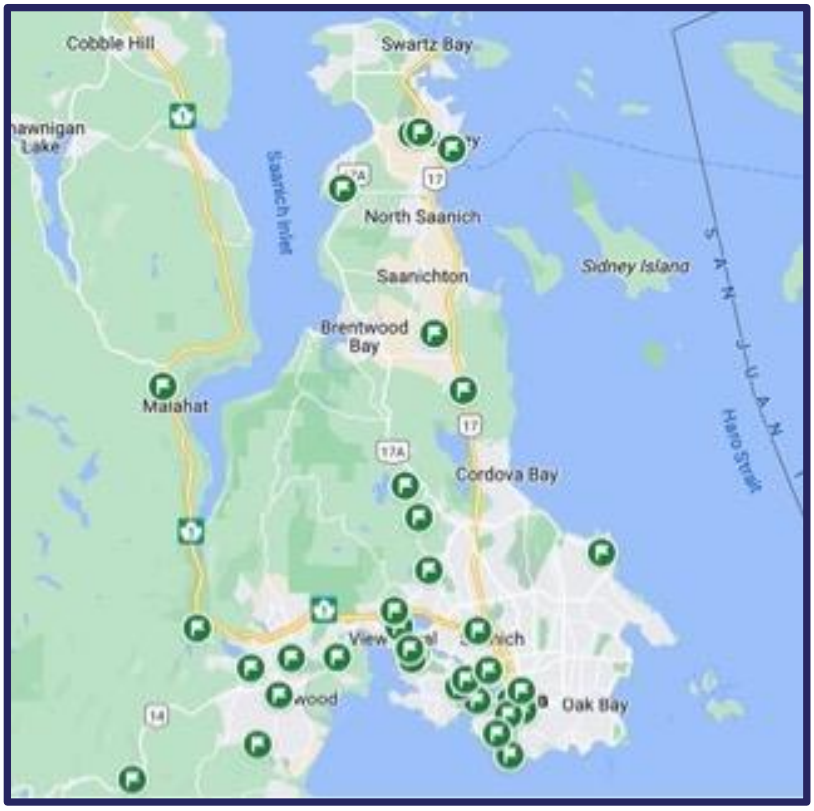


FIGURE #6: INCIDENT HOT SPOT MAP



Analyzing the call volume data for HazMat incidents is crucial for the CRD EHT to enhance their overall state of readiness, response effectiveness, and general community safety.

Section 5 Recommendation

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 5 – Response Trends and Response Types				
22	The CRD should regularly analyze the call volume and call types and work with the EHT Advisory Committee to identify trends.	0-36 months	CRD/ Advisory Committee Time	Conducting this annual review will improve the state of readiness and overall effectiveness of the CRD EHT.

Section 6

Training

SECTION 6: TRAINING

An examination of the training program employed by the EHT was conducted by EMG. The review was conducted and compared with the standards outlined in NFPA 472 and NFPA 1072, which serves to guarantee that the team's training protocols align seamlessly with recognized industry standards for addressing HazMat incidents.

Regarding training and professional development, *NFPA 1201 – Providing Fire and Emergency Services to the Public* stipulates:

> 4.11.1 Purpose. *"The Fire and Emergency Service Organization (FESO) shall have training and education programs and policies to ensure that personnel are trained, and that competency is maintained to effectively, efficiently, and safely execute all responsibilities."*[12]

NFPA 1500 Standard on Occupational Safety, Health, and Wellness Program states that:

> *5.1.1. "a fire department shall establish and maintain a training, education, and professional development program with a goal of preventing occupational deaths, injuries, and illnesses."*[13]

> NFPA 1500 also states that… *"training programs should include but not be limited to the following: community risk reduction (fire prevention, public education, investigation, etc.), health and safety, fire suppression, emergency medical, human resources (leadership, supervision, interpersonal dynamics, equal employment opportunity, etc.), incident management system, hazardous materials, technical rescue, information systems and computer technology, position-specific development (firefighter, company officer, chief officer, telecommunicator, investigator, inspector, driver/operator, etc.)."*[14]

Through the review of the training program against these established standards, there is a clear picture of a dedication to excellence and a commitment to aligning with acknowledged best practices in responding to hazardous materials. A sound training program enhances the EHT

[12] "NFPA 1201 Standard for Providing Fire and Emergency Services to the Public," National Fire Protection Association, Accessed January 4, 2024, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1201
[13] "NFPA 1500 Standard of Fire Department Occupational Safety, Health, and Wellness Program," National Fire Protection Association, Accessed January 4, 2024, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1500
[14] "NFPA 1500 Standard of Fire Department Occupational Safety, Health, and Wellness Program," National Fire Protection Association, Accessed January 4, 2024, https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1500

response capacity and provides assurance to the community that the EHT is prepared and trained for HazMat incidents.

A comprehensive training program for a HazMat team should cover various aspects to ensure that team members are well-prepared to respond effectively to HazMat incidents. The following subsections describe key components of such a program.

6.1 Regulatory Compliance Training

An understanding and adherence to relevant local, national, and international regulations and standards governing HazMat response. Adopting NFPA 1072 (Standard for Hazardous Materials/Emergency Medical Services Professional Qualifications) and NFPA 472 (Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents) provides several benefits for a community's HazMat emergency response personnel:

i. Establishing Professional Standards:

   NFPA standards are recognized as industry benchmarks. Adopting NFPA 1072 and NFPA 472 establishes clear and standardized professional qualifications for HazMat response personnel.

ii. Ensuring Competence and Proficiency:

   The standards outline the competencies and proficiencies required for HazMat response. By adopting these standards, a community ensures that its emergency responders possess the necessary skills and knowledge to handle HazMat incidents effectively.

iii. Training and Education:

   NFPA standards provide a framework for training and education programs. Adopting these standards facilitates the development of comprehensive training programs that cover the essential skills and knowledge required for HazMat response.

iv. Quality Assurance:

   Adopting NFPA standards serves as a form of quality assurance. It demonstrates a commitment to maintaining high standards in HazMat response, which can enhance the community's overall emergency management capabilities.

v. Interagency Collaboration:

   NFPA standards provide a common language and set of expectations for HazMat response personnel. This commonality fosters better collaboration and coordination among different agencies involved in emergency response.

Adopting NFPA 1072 and NFPA 472 provides a structured and nationally recognized framework for developing, maintaining, and improving the professional qualifications of HazMat response personnel, contributing to a more effective and standardized emergency response in the community.

6.2 Risk Assessment and Hazard Recognition

Conducting a community risk assessment related to HazMat issues is essential for the CRD and the EHT for several reasons:

i. Identification of Potential Hazards:

A risk assessment helps identify and assess the types and quantities of hazardous materials present or transported within the community. This includes industrial facilities, transportation routes, and storage areas.

ii. Vulnerability Analysis:

Understanding the vulnerabilities of the community, such as population density, proximity to hazardous sites, and critical infrastructure, allows for targeted planning and mitigation efforts.

iii. Emergency Response Planning:

A comprehensive risk assessment serves as the foundation for developing effective emergency response plans tailored to the specific HazMat risks within the community. This ensures that EHT responders are well-prepared for potential incidents.

iv. Resource Allocation:

Knowing the specific risks allows communities to allocate resources more efficiently. This includes training EHT responders, acquiring necessary equipment, and establishing communication protocols.

v. Community Preparedness:

A risk assessment enhances community awareness and preparedness. Residents can be informed about potential hazards, evacuation routes, and protective measures, empowering them to respond appropriately in case of an emergency.

vi. Interagency Collaboration:

A community risk assessment encourages collaboration among various agencies, including fire departments, environmental agencies, local government, and industry stakeholders. This collaboration fosters a coordinated response to potential HazMat incidents.

vii. Environmental Protection:

Identifying and mitigating risks associated with hazardous materials helps protect the environment. It allows for proactive measures to prevent or minimize environmental damage in the event of a spill or release.

viii. Health and Safety of Residents:

Prioritizing community safety, a risk assessment helps minimize the potential impact of HazMat incidents on residents' health. This includes developing strategies to protect vulnerable populations such as schools, hospitals, and nursing homes.

ix. Continuous Improvement:

Periodic risk assessments enable the EHT and communities to adapt and improve their preparedness and response strategies over time. As circumstances change, staying proactive ensures ongoing effectiveness.

x. Public Trust and Confidence:

Transparently conducting and sharing the results of a risk assessment fosters public trust. Knowing that local authorities are actively addressing potential HazMat risks contributes to community confidence in emergency management.

By undertaking a community risk assessment related to HazMat issues, communities can enhance their overall resilience, preparedness, and responsiveness, ultimately creating safer environments for residents and businesses alike.

6.3 Personal Protective Equipment Training

The proper selection, use, and maintenance of PPE to ensure the safety of team members during HazMat incidents.

i. Decontamination Procedures:

Training on decontamination processes for personnel, equipment, and the environment following exposure to hazardous materials.

ii. Chemical Properties and Behavior:

Understanding the physical and chemical properties of hazardous substances, including how they behave in different environmental conditions.

iii. Exercises and Drills:

Regular drills and exercises to test the team's response capabilities and improve coordination and decision-making skills, and operational preparedness.

iv. Collaboration with Other Agencies:

Coordination and joint training exercises with other emergency response agencies to enhance interoperability during multi-agency responses.

A well-rounded training program that encompasses these elements can better prepare the EHT to respond effectively and safely to a wide range of HazMat incidents.

6.4 Decontamination Procedures

Having local fire departments involved in DECON during a HazMat response is a common practice for several reasons:

i. Swift Response:

Local fire departments will be the first responders to a HazMat incident in their response jurisdiction. Their proximity and quick response time make them well-suited to initiate DECON procedures promptly.

ii. Resource Availability:

Fire departments typically have the necessary resources, such as personnel, equipment, and specialized decontamination units, to quickly establish and manage DECON operations. Any fire services that do not currently have this capacity can rectify this with a reasonably small cash investment in collaboration with the CRD.

iii. Integrated Emergency Response:

Collaborating with the local fire department ensures an integrated and coordinated emergency response. Firefighters are trained in incident command and can seamlessly integrate DECON procedures into the broader emergency response framework.

iv. Familiarity with Local Terrain:

Local fire departments are familiar with the geography and infrastructure of the area they serve. This knowledge is valuable in planning and executing DECON operations tailored to the specific environment.

v. Community Trust and Familiarity:

Firefighters are often seen as trusted figures within the community. Involving them in DECON operations can help reassure the public and maintain community confidence in the response efforts.

vi. Training and Expertise:

Firefighters undergo extensive training, including HazMat response training. They are equipped with the necessary skills and knowledge to handle decontamination

procedures safely and effectively. With the requirements of NFPA 1001 a firefighter must be trained in HazMat Operations to receive their certification.

vii. Operational Efficiency:

Integrating DECON into the overall fire department response streamlines operations. Firefighters can begin DECON procedures while other response elements, such as the CRD EHT can initiate other functions as required.

While local fire departments play a crucial role in the initial stages of decontamination, it is essential for their efforts to be part of a larger, coordinated response involving the EHT, ENV, and other relevant entities to ensure a comprehensive and effective resolution to the incident.

6.5 Chemical Properties and Behavior

The Technician should understand the chemical properties and behavior of substances to ensure a safe, effective, and well-coordinated response to incidents involving hazardous materials. This knowledge is fundamental to mitigating risks, protecting personnel, and minimizing the impact of hazardous material releases on the community and the environment. Training EHT Technicians in chemical properties and behavior is crucial for several reasons:

i. Risk Assessment:

Understanding the chemical properties of hazardous materials is essential for accurately assessing the risks associated with them. This knowledge forms the basis for developing effective strategies and response plans.

ii. PPE Selection:

Chemical properties influence the selection of appropriate PPE. Training in this area ensures that the EHT can identify the specific hazards posed by different chemicals and choose the right protective gear to mitigate risks during response activities.

iii. Decontamination Procedures:

Understanding how hazardous materials behave aids in the development of effective decontamination procedures. EHT Technicians trained in chemical properties can anticipate potential contamination scenarios and implement proper DECON protocols.

iv. Environmental Impact Assessment:

Chemical properties influence how substances interact with the environment. The EHT requires this knowledge to assess the potential impact of hazardous materials on ecosystems, water sources, and air quality during and after incidents.

v. Prediction of Hazards:

Knowledge of chemical properties allows the EHT to predict potential hazards, including the release of toxic gases, flammable conditions, or other dangerous reactions. This foresight is essential for proactive risk management.

vi. Training for Specific Hazardous Materials:

Different hazardous materials exhibit varying behaviors. Training in chemical properties is necessary for addressing the unique characteristics of specific substances commonly found in industrial, transportation, or other settings.

vii. Preventing Escalation of Incidents:

Understanding chemical properties allows the EHT to take preventive measures that can help avoid the escalation of the incident. This proactive approach is essential for mitigating risks and minimizing the impact of hazardous materials events.

In summary, training the EHT Technicians in chemical properties and behavior is fundamental for informed decision-making, effective response planning, and ensuring the safety of both responders and the community during incidents involving hazardous materials.

6.6 Exercises and Drills

Conducting exercises and drills in HazMat response at least two times a year is crucial for several reasons:

i. Skill Maintenance:

HazMat response skills require regular practice to be maintained at a high level. Conducting exercises twice a year ensures that firefighters retain proficiency in handling hazardous materials and responding to related incidents.

ii. Familiarity with Equipment:

Regular drills allow the EHT to stay familiar with the specialized equipment used in HazMat response, such as PPE, monitoring devices, and decontamination equipment.

iii. Adherence to Operating Guidelines:

HazMat response involves following specific OGs to ensure safety and effectiveness. Regular drills reinforce adherence to these procedures, helping firefighters internalize the correct protocols for various scenarios.

iv. **Scenario-Based Training:**

Conducting exercises provides an opportunity for scenario-based training, allows the EHT to practice responding to different types of HazMat incidents. This diverse training helps Technicians adapt to a range of potential challenges.

v. **Team Coordination and Communication:**

HazMat incidents often require coordinated efforts among team members. Regular drills enhance teamwork, coordination, and communication skills among the team, ensuring a seamless response during actual emergencies.

vi. **Hazard Recognition and Assessment:**

Practice in hazard recognition and assessment is vital for HazMat response. Frequent drills help the EHT refine their ability to identify hazardous materials, assess risks, and make informed decisions in dynamic situations.

vii. **Equipment Testing and Maintenance:**

Regular drills provide an opportunity to test and maintain HazMat response equipment. This ensures that tools and devices are in good working condition when needed and that any issues are addressed promptly.

viii. **Emergency Response Planning:**

Conducting drills allows the EHT to test and refine their emergency response plans for HazMat incidents. This helps identify areas for improvement and ensures that plans are effective and up to date.

ix. **Building Confidence and Resilience:**

Regular training builds confidence amongst the EHT, making them more resilient in the face of challenging situations. This psychological preparedness is crucial for maintaining composure during actual emergencies and creates camaraderie amongst the team.

x. **Continuous Improvement:**

Frequent drills allow the EHT to assess their performance, identify areas for improvement, and implement changes as needed. This continuous improvement cycle is essential for enhancing overall readiness of the EHT.

Conducting exercises and drills in HazMat response at least two times a year is essential for maintaining proficiency, ensuring equipment readiness, and enhancing overall preparedness to respond effectively to HazMat incidents.

6.7 Collaboration with Other Agencies

Collaboration between the EHT and other agencies is crucial for several reasons:

i. Multidisciplinary Expertise:

HazMat incidents often involve complex challenges that require expertise from various disciplines, including fire services, law enforcement, emergency medical services, environmental agencies, and public health. Collaboration ensures access to diverse skill sets and knowledge.

ii. Resource Sharing:

Different agencies bring unique resources to the table. Collaborating allows for the sharing of equipment, personnel, and other resources, optimizing the collective response capabilities and ensuring a more comprehensive and efficient resolution to HazMat incidents.

iii. Effective Incident Command:

HazMat incidents require a coordinated response under the Incident Command System (ICS). Collaboration ensures that each agency understands its role within the ICS structure, facilitating effective communication, coordination, and overall incident management.

iv. Specialized Equipment and Training:

Various agencies may have specialized equipment and training that are valuable in HazMat response. Collaborating enables the EHT to leverage these resources, enhancing their capabilities and increasing the overall effectiveness of the response.

v. Community Safety:

Collaboration among agencies ensures a unified and comprehensive approach to protecting the safety and well-being of the community during HazMat incidents. Coordinated efforts minimize the potential impact of hazardous materials on residents and the environment.

vi. Information Sharing:

Timely and accurate information is essential for effective HazMat response. Collaborating agencies can share critical information about the incident, including the type of hazardous material involved, its properties, and potential impacts. This shared information informs decision-making and response strategies.

vii. **Training and Exercises:**

Collaborative training exercises involving multiple agencies simulate real-world scenarios and help build a shared understanding of roles, responsibilities, and communication protocols. This preparation is essential for a coordinated response during actual HazMat incidents and identifies gaps when multiple agencies are involved.

viii. **Unified Communication:**

Effective communication is critical during HazMat incidents. Collaborating agencies can establish unified communication channels, ensuring that information flows smoothly between the EHT and decision-makers, leading to a more coordinated and efficient response.

ix. **Legal and Liability Considerations:**

Collaborative efforts help address legal and liability considerations that may arise during HazMat incidents. Clarity on roles, responsibilities, and actions can mitigate potential legal issues and ensure a more organized response.

x. **Continuous Improvement:**

Collaborative post-incident debriefings and reviews contribute to continuous improvement. Agencies can assess their performance, identify areas for enhancement, and implement changes in their procedures and protocols for future incidents.

In summary, collaboration among the EHT and other agencies is essential for a well-coordinated, effective, and resilient response to HazMat incidents, ultimately ensuring the safety of responders and the communities they serve.

Section 6 Training Recommendations

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 6 –Training				
23	Adopt and incorporate NFPA 1072 (2017) edition and NFPA 472 (2018) into the training and operations of the CRD EHT.	0-12 months	CRD Staff Time	Using the latest NFPA standards benefits the CRD and EHT as described in the report.
24	Each community participating in the CRD EHT program conduct a community risk assessment relating to HazMat concerns. These assessments will be used to form the basis for specific training.	13-24 months	Participating Fire Depts Time	The identification of potential hazards will help keep responders safe.
25	Incorporate training in Level "A" & "B" suits into the "Open Learning" sessions as well as combined with DECON training in the "Skills Maintenance Training."	0-12 months	CRD/Advisory Committee Time	Regular training ensures responders can don, doff, and use this specialized equipment.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
26	The responsibiity of decontamination procedures should be assigned to the fire service requesting support.	0-12 months	CRD/Advisory Committee Time	The initial responding FD will be first on scene and can initiate decontamination procedures promptly.
27	The development and delivery of training specifically for chemical properties and behavior be delivered into the "Open Learning" as well as reinforced at the "Skills Maintenance Training" sessions.	13-24 months	CRD/Advisory Committee Time	Understanding chemical properties for HazMat is essential for accurately assessing the risks.
28	Additional training be provided two (2) times a year over a three- to five-day period and developed with input from EHT members and derived from Post-Incident Action Reports. The first two to three days focused on skills with the remaining two days focused on scenario based learning.	13-24 months	CRD Time	Skills and competency are essential for the specialized skills required at the technical level.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
29	Training should be developed and delivered by team members with a 5:1 student/instructor ratio.	0-12 months	CRD to determine costs for extra instructors	More focus on skills during the training can occur.
30	The CRD engage other agencies such as EMS, police, and NGOs to ensure open and transparent communication and work the possibility of encorarpating them into the team, which in time could see the team become a CBRNE team.	13-24 months	CRD Staff Time	Engagement and involvement of other agencies often requires expertise from various disciplines.

SECTION 7

Service Agreements & Service Liability

SECTION 7: SERVICE AGREEMENTS & SERVICE LIABILITY

7.1 Service Agreements

Mutual aid, automatic aid, and fire protection agreements are programs used to support a community's fire department at times when local resources are exhausted. Depending upon the agreement, they can offer quicker response coverage than that of the host department. Service agreements can also create an automatic response by bordering fire departments to properties that are closer to their fire stations than that of the host fire department.

The CRD has a service agreement with the Central Saanich Fire Department to provide a 24-hour duty officer HazMat technician, the response and maintenance of CRD HazMat equipment, and administrative (training) responsibilities for the HazMat team.

7.2 Mutual and Automatic Aid

Mutual aid is meant as a reciprocal agreement whereby one department aids another at a major incident. Mutual aid should not be used as a means of supplementing short comings in fire protection.

Automatic aid agreements allow for fire stations from other jurisdictions, that may be closer to an emergency event, to respond either first or in conjunction with the local municipal fire department. Automatic aid is generally considered a program designed to provide and/or receive assistance from the closest available resource, regardless of municipal boundaries, allowing for a level of service that is manageable and sustainable. No mutual or automatic aid agreements exist for the CRD EHT.

7.3 Central Saanich Contractor Proposal

In 2006, the CRD established the EHT and contracted the Central Saanich Fire Department to coordinate team training, house operational response equipment, and coordinate day-to-day response operations.

On June 26, 2023, the Central Saanich Council passed a resolution that the District of Central Saanich and the Central Saanich Fire Department serve notice to terminate the existing Agreement with the CRD for the EHT effective February 19, 2024. Further to this, the Central Saanich Fire Chief sent correspondence (date unknown) to the CRD advising of the estimated cost of $177,000 for 2024 to align with the labour and operational costs to manage the program.

On August 24, 2023, the CRD sent correspondence to all participants of the CRD EHT advising them of the awarded contract to EMG to conduct a comprehensive service review of the regional emergency HazMat response service. As part of a contingency plan, the CRD issued notice to enter into a service agreement with NES to provide 24/7 emergency HazMat response and remediation services when and if required after termination of the contract.

7.4 Workers Compensation Coverage

WorkSafeBC is a regional organization committed to fostering secure and wellness-focused workplaces throughout British Columbia. WorkSafeBC collaborates with both employees and employers, to strive toward safeguarding lives and mitigating the risks of work-related injuries, diseases, and disabilities. WorkSafeBC offers educational initiatives, preventive measures, assistance for injured workers, and no-fault insurance to ensure the well-being of both employers and employees.

EMG was requested to investigate whether the CRD was responsible for reporting a workplace injury to WorkSafeBC or whether the individual fire department was responsible. EMG contacted WorkSafeBC and it was confirmed that each individual fire department is solely responsible for reporting an injury to a firefighter injured while performing their duties within the EHT.

Section 8

Finance

SECTION 8: FINANCE

The CRD is required by legislation to develop a financial plan each year that represents operating and capital expenditures for the next five years. These plans provide a longer-term focus regarding the resources required to deliver programs and services needed by the community, and to accomplish Board priorities.[15] As a regional district, the CRD does not directly collect property taxes from electoral area property owners. Instead, the Provincial Surveyor of Taxes collects revenue on behalf of the CRD and the hospital district.[16] The delivery of Emergency Hazardous Materials Response to incidents within the CRD, and the legal expenditure authorization for financial accountability and service delivery is articulated within the CRD Bylaw No. 3322.

The four top contributing municipalities (Saanich, Victoria, Langford, and Oak Bay) to the CRD EHT comprise 76% of the funding requisitioned by the CRD. Requisition amounts for these four range from $91,522.00 for Saanich, through to $17,514.00 for Oak Bay.

TABLE #6: CRD Requisitioned Funding

Municipality	Percentage of Total	Requisition - 2023
District of Saanich	27.34%	$91,522.00
City of Victoria	22.76%	$76,161.00
City of Langford	10.67%	$35,727.00
District of Oak Bay	5.23%	$17,514.00
District of Central Saanich	4.33%	$14,484.00
City of Colwood	4.29%	$14,375.00
Township of Esquimalt	3.78%	$12,664.00
District of North Saanich	3.63%	$12,145.00
District of Sooke	3.24%	$10,829.00

[15] "Budget Planning Process," Capital Regional District (2023), Accessed January 4, 2024, https://www.crd.bc.ca/about/financial-accountability/budget-planning-process
[16] "Electoral Area Property Taxes,", Capital Regional District, Accessed January 4, 2024, https://www.crd.bc.ca/about/electoral-areas/electoral-area-property-taxes

Municipality	Percentage of Total	Requisition - 2023
Town of Sidney	3.23%	$10,798.00
Salt Spring Island*	3.07%	$10,271.00
Town of View Royal	2.62%	$8,785.00
Southern Gulf Islands*	1.92%	$6,436.00
Juan de Fuca*	1.52%	$5,084.00
District of Metchosin	1.13%	$3,769.00
District of Highlands	0.62%	$2,082.00
Songhees**	0.31%	$1,051.00
Tsawout**	0.30%	$999.00
Totals	99.99%	$334,696.00

*Electoral Areas:

1. Juan de Fuca (East Sooke, Otter Point, Port Renfrew, Shirley, Willis Point).
2. Southern Gulf Islands (South Galiano, Pender Island, Saturna Island, Mayne Island, Piers Island).

**First Nations

1. Songhees Nation served by Town of View Royal
2. Tsawout First Nation served by District of Central Saanich

The operating budget for the CRD EHT faces formidable challenges, particularly in the aftermath of the COVID-19 pandemic, where the costs associated with essential equipment have surged significantly. Another hurdle is anticipating the salaries for firefighting personnel when the training and overtime salaries vary from department to department.

Concurrently, the exponential increase in the costs of firefighting equipment and apparatus compounds the financial strain on the operating budget. As the pandemic has disrupted global supply chains, procuring essential equipment and apparatus has become a complex ordeal, further exacerbated by extended delivery times. This logistical dilemma not only tests the financial resilience of the CRD but also necessitates strategic planning to ensure timely access to critical resources.

These challenges force the CRD to enhance operational efficiency and adapt to the evolving landscape of emergency response post-COVID. The challenge for the CRD lies in striking a delicate balance with operational and capital budgets to equip the CRD EHT adequately despite the unprecedented challenges faced today.

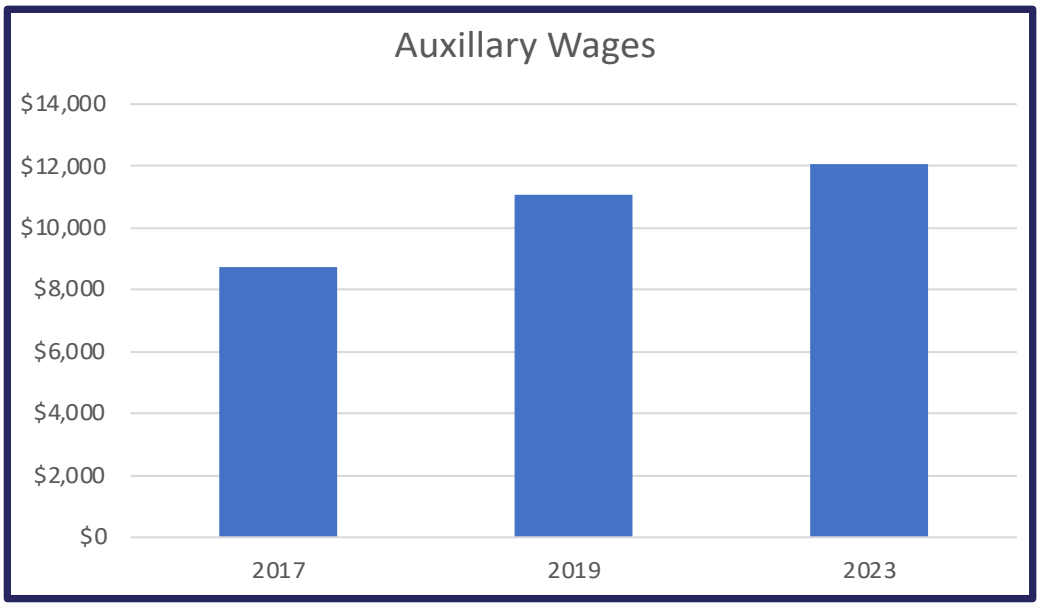
8.1 Operating Budget

EMG reviewed the CRD EHT operating budget from 2017-2023, and it was noted that key accounting operating sections were identified, such as:

- Auxiliary wages
- Contract for Services
- Insurance
- Purchased Maintenance-Equipment
- Staff Training & Development
- Emergency Program Coordinator

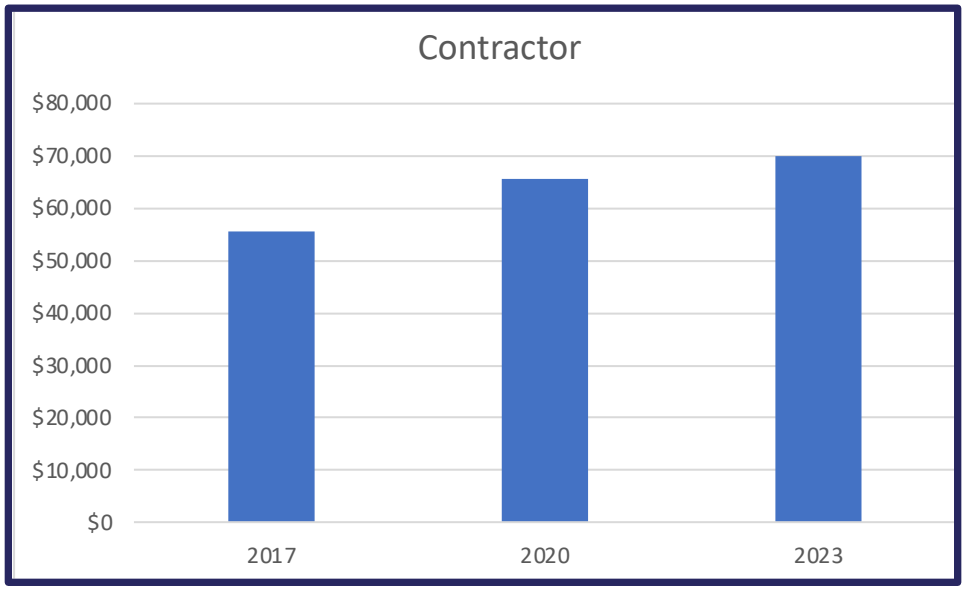
The following charts will identify trends in the operating budget since 2017.

FIGURE #7: 2017-2023 AUXILLARY WAGES



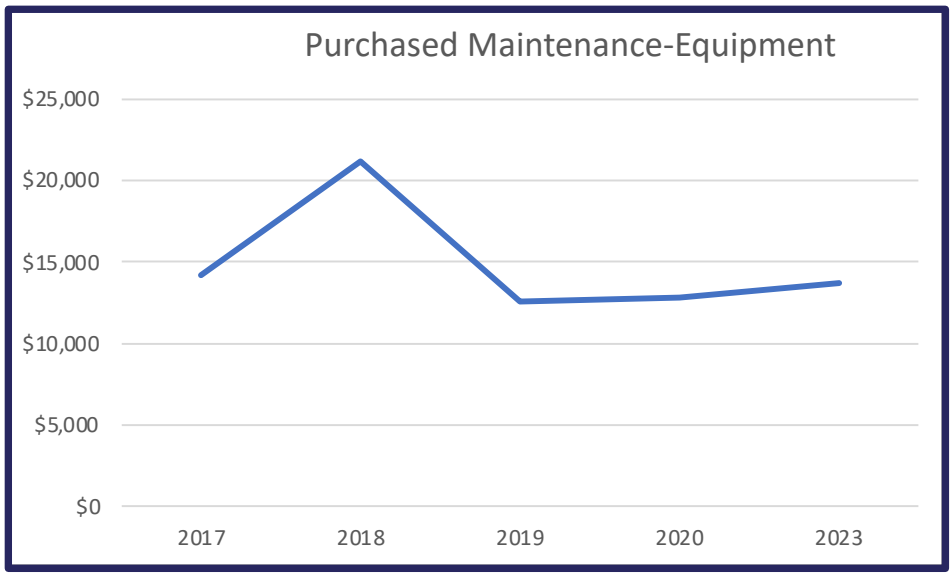
Auxiliary Wages	
2017-2019	26% increase
2019-2023	2.0-2.1% increase

FIGURE #8: CONTRACTOR FEE 2017-2023



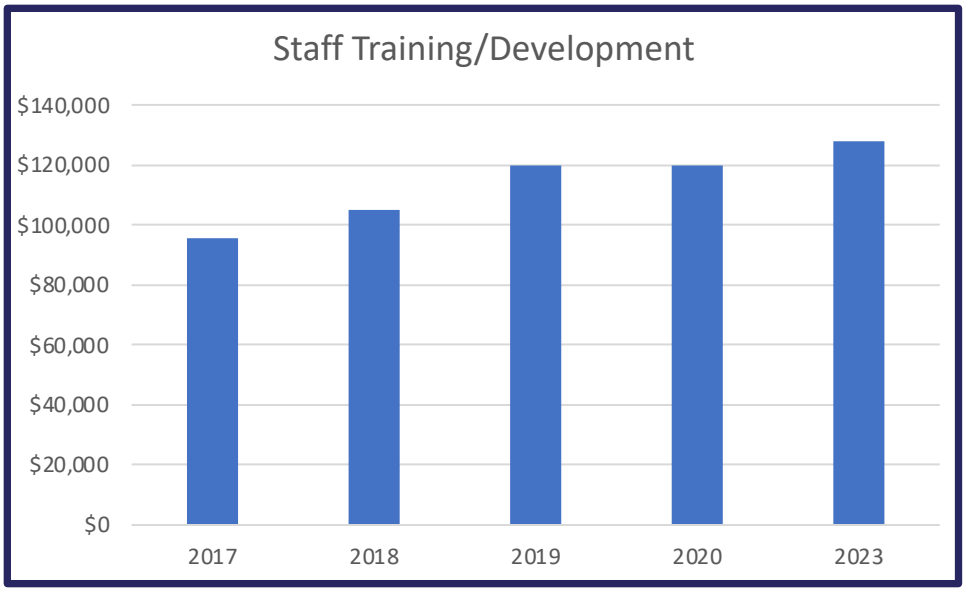
Contractor	
2017-2020	18% increase
2020-2023	Annual Increase of 2.0-2.1%

FIGURE #9: MAINTENANCE AND EQUIPMENT



Maintenance and Equipment	
2017-2018	49% Increase
2018-2019	59% Decrease
2019-2023	Annual 2.1% increase

FIGURE #10: STAFF TRAINING/DEVELOPMENT COSTS



Staff Training/Development	
2017-2018	10.2% Increase
2018-2019	14% Increase
2019-2023	Annual 2.2% increase

The landscape of HazMat response has evolved over the years, spurred by advancements in technology and the priority to uphold rigorous safety standards. Since 2020, the costs associated with acquiring and maintaining HazMat equipment, detectors, SCBA, and other indispensable tools have experienced a notable escalation.

To strengthen the safety of the EHT team members and augment the operational capabilities, it is imperative that a meticulous review of the operating budget is undertaken. Emphasis should be directed toward prioritizing essential items to ensure alignment with the evolving demands and standards within the HazMat response domain.

8.2 Asset Management & Procurement

Strategically managing assets within the CRD EHT will result in more efficient and cost-effective operations. The intent and purpose behind the recommendation for implementation of a comprehensive Asset Management Program involves improved management of acquired assets to ensure they are used effectively and efficiently.

Typically, an AMP provides a framework to facilitate the purchasing, tracking, tagging, redeployment, and end-of-life management of different assets. For the CRD EHT, this will

encompass a full scope of HazMat response-related equipment and apparatus. Having such a system in place will support tracking the overall performance and lifespan of these HazMat response assets. The data collected will allow the CRD EHT to make sure assets are being utilized efficiently, provide opportunities to review performance, highlight any unnecessary costs, and inform long-range budgeting. In conjunction with this approach, the CRD EHT should designate and support an asset manager that would streamline, oversee, and enhance this process.

In conjunction with asset management, the asset procurement process is an important part of fire service operations as it supports the acquisition of the resources required to fulfill the mission. As a key element of the budgeting process, a strong AMP will support a robust asset procurement process, which can and should help reduce costs, find efficiencies, and ensure that the right resources are available when needed. Upon review, the CRD has a robust and well-defined procurement process to support the CRD EHT, and by building out an AMP, the processes will be complementary. This will also support long-term capital budget projections.

8.3 Capital Budget

Capital budgeting for the CRD EHT entails estimating the financial viability of acquired assets over the life of this investment. The purpose of a 5-Year Capital Plan is to provide a budgetary framework for the CRD to plan management of EHT resources and expenditures to best serve the community. It is of primary importance that the implementation of an AMP informs and supports the capital budget projections for the CRD EHT. At this time, this appears to be a gap that can be closed through a review of current assets, implementation of an AMP, and designation of an Asset Manager.

Capital budget planning is necessary to allocate resources for compliance-related expenditures, such as the purchase of equipment that meets industry standards or the implementation of safety improvements to align with regulatory requirements and industry best practices. The capital budget plan is essential for the CRD as it provides the financial framework necessary to acquire, maintain, and upgrade critical assets, ensuring that the EHT can respond effectively to HazMat emergencies in the future.

The following table provides the Project Description and Budget, as part of the CRD 5-Year Capital Plan 2023-2027.

TABLE #7: CRD 5-Year Capital Plan 2023-2027

Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget

Replacement	Hazmat Equipment	Hazmat Equipment Replacement	$55,000
	SCBA	SCBA Replacement	$89,000
	Command Vehicle	Replace Command Vehicle	$300,000

The annual funding allocations to meet the total project budget for the three-line items above is as follows:

TABLE #8: Annual Funding Allocations

	Carry Over (2022)	2023	2024	2025	2026	2027	5-year Total
HazMat Equipment	$0	$35,000	$10,000	$10,000	$0	$0	**$55,000**
SCBA	$53,000	$53,000	$0	$0	$0	$20,000	**$73,000**
Command Vehicle	$0	$0	$0	$0	$0	$300,000	**$300,000**
Grand Total	**$53,000**	**$88,000**	**$10,000**	**$10,000**	**$0**	**$320,000**	**$428,000**

8.4 Capital Expenditure Reserve

The presence of a Capital Expenditure Reserve was not apparent within the budget documents reviewed. Aside from two items targeted for purchase in 2027, there did not appear to be a plan for any unplanned equipment acquisition. Due to the nature of emergency response and the technical requirements of related HazMat equipment, the planning for unforeseen expenditures should be incorporated into the 5-Year Capital Budget cycle. This reserve will also support the planning process for larger equipment purchases and the need for apparatus replacement into the future.

8.5 Fire Apparatus

A gap is present within the asset management and procurement process for the CRD EHT around the HazMat Command vehicle replacement. Currently $300,000 is budgeted for replacement of this truck in 2027. Recent studies have shown that both raw and finished materials used to manufacture fire apparatus have increased by 15 to 30% and up in the last two years. Planning for replacement apparatus used to anticipate a 12-month build, whereas manufacturers are now estimating build times of 12 to 36 months. Fixed and guaranteed pricing is also being impacted with some of the largest fire apparatus manufacturers re-pricing in the past year on confirmed orders, regardless of existing fixed price contracts. As the HazMat Command vehicle is the largest financial asset held by the CRD EHT, the integration of this item into a well-defined asset management plan is critical.

EMG was advised that the $300,000 allocated for the Command vehicle in 2027 was a placeholder. It should be noted that in 2023, this same truck replacement cost can safely be estimated at over $500,000. Considering an annual increase in apparatus costs ranging from 15 to 30%, a reasonable projection for the HazMat Command vehicle acquisition in 2027 would be in the range of $700,000-800,000.

Section 8 Recommendations

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 8-Finance				
31	Meetings between the CRD and the Contractor to review the annual budget increase for the operational budget. Adjustments should not only meet but exceed inflation rates and account for the notable escalation in equipment costs.	0-12 months	CRD/ Contractor Time	This approach will strengthen the financial resilience of the CRD and enable it to sustain optimal operational effectiveness.
32	Schedule meetings with the CRD Contractor to identify the real costs for the SCBA and Command Vehicle replacement scheduled for 2027.	0-12 months	CRD/ Contractor Time	Engagement in this process is vital to ensure the alignment of CRD five (5) strategies with organizational objectives and to proactively address the escalating costs of equipment and assets.
33	CRD EHT implement an AMP for all HazMat response equipment. This should identify projected replacement dates and cost cycles for all hard and soft equipment and consumables. The AMP should be overseen by incorporating the Asset Manager role into the current Team Coordinator role, or other roles as deemed appropriate.	0-12 months	CRD Staff Time	Implementing an AMP with a clear structure and oversight helps ensure the availability, safety, and efficiency of hazardous materials response equipment within the CRD EHT.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
34	Establish a Capital Expenditure Reserve with annual contributions. This will ensure the equipment required to support a robust hazardous materials response is funded and available. The amount for the annual contribution should be derived following an assessment of current equipment, lifespan, and expected replacement dates.	0-12 months	CRD Staff Time	It aligns with best practices in emergency response asset management programs.
35	Fire apparatus (vehicles) required to support the CRD EHT need to be a key aspect of the recommended AMP.	0-12 months	CRD Staff Time	When planned for, and properly funded over time, the acquisition of these significant purchases will be more manageable and financially sustainable.

Section 9

Surveys

SECTION 9: SURVEYS

Surveys serve as indispensable tools for gathering data, assessing needs, and informing strategic decision-making. By collecting opinions and concerns, surveys are useful tools for the implementation of recommendations.

9.1 Methodology

During the consultation process, an objective based set of nine (9) questions were asked of the fire chiefs and key stakeholders to identify any common themes or existing patterns. Various question types were employed as each category elicits distinct information, contributing to a more thorough comprehension of the CRD EHT's service delivery level.

9.2 Fire Administration and Stakeholder Surveys

The questions and a summary of the fire administration and stakeholders' responses are included below:

1) *What has been your experience with the CRD EHT?*

- The majority were either on the team at some point in their career or supported the team from a chief officer level.
- The initial creation of the team was necessary to provide a service that had a more efficient response time that the Surrey Fire Department.
- In the early years it was felt there was a high level of passion within the team, with the retention of members and passion declining in recent years.

2) *What do you feel the program is doing well?*

- The availability of a well-equipped team to respond to a community was a key point.
- The CRD equipment and apparatus are well maintained by the contractor.
- Training had its rise and falls and is coming around, as COVID set the team and training back in terms of in-person training and relationship building.
- Technical advice is readily available by phone for those at an incident without any hazardous materials equipment or technicians.

3) *For an effective HazMat Response Team in the CRD, what do we need to start doing that we currently do not do?*

- Open lines of communication that are transparent and involve the EHT advisory group.
- Clearly identify the minimum standard of training for a technician on the team. How many hours annually and how to ensure that a technician is competent and confident in their skills.
- Clear protocols for the two dispatching agencies to ensure there is no time delay in notifying departments for a response.
- More onsite training for local fire departments so they can train on local dangerous goods risks.
- Clear operating guideline for a Team Leader to assume the lead role of the team within the incident management system.

4) *To be an effective HazMat Response Team, what should we stop doing?*

- There is a perception of the CRD not involving or meeting with the Advisory Group.

5) *To be successful, what does the CRD HazMat Team need to continue/keep doing?*

- Keep funding the EHT so communities know that a response will occur when needed.
- More training to ensure that Technicians are competent and when responding they can fit into the overall team without any questions of competency.

6) *Are there any hurdles to the CRD EHT being successful? (Organizational, political, or culture)*

- Lack of communication from the CRD, with no scheduled meetings creates a barrier to open and transparent relationships.
- Different levels of training amongst the team. The minimum eight hours annually does not guarantee that all team members onsite of an incident have the same level of training.
- The existing organization of the EHT poses some barriers as decision making occurs without input, feedback, or communication with fire chiefs.
- A lack of a training schedule that identifies the subject matter for the training session.

- Challenges for notifying team members, either by phone, pager, or through their fire department.

7) *There are a number of models for HazMat delivery, in your perspective what would be the optimal structure or configuration of the CRD EHT?*

- No clear model was given a preference as the common theme was to have a readily available team to response to dangerous goods incidents.

8) *Do you feel the current model is cost effective?*

- The majority stated they felt the current model was cost effective.

9) *If there was one thing you wanted to leave us with, what would that be?*

- Feedback varied amongst all individual interviewed and their input has been included throughout this report.

9.3 Technician Member Survey Synopsis

35 members of the EHT completed the online survey provided by EMG. The survey consisted of eight (8) questions with five (5) of the questions being a text filled box for comments and the remaining three (3) questions were a yes/no format.

Below is a summary of the results for each question.

1) Do you feel adequately trained to handle hazardous materials incidents, including recognition, containment, and decontamination procedures? (Yes/No Check Box)

2) Are there specific areas of hazardous materials training you believe need more attention or improvement?

- Once per year training is not adequate to maintain competency.
- Hands on tools training and onsite scenarios.
- Team leader training.
- Coordination and training with host departments to include the roles and responsibilities of the initial arriving department.
- The response time for team members to arrive on scene.
- Potentially look at HazMat specialists or CBRN training.

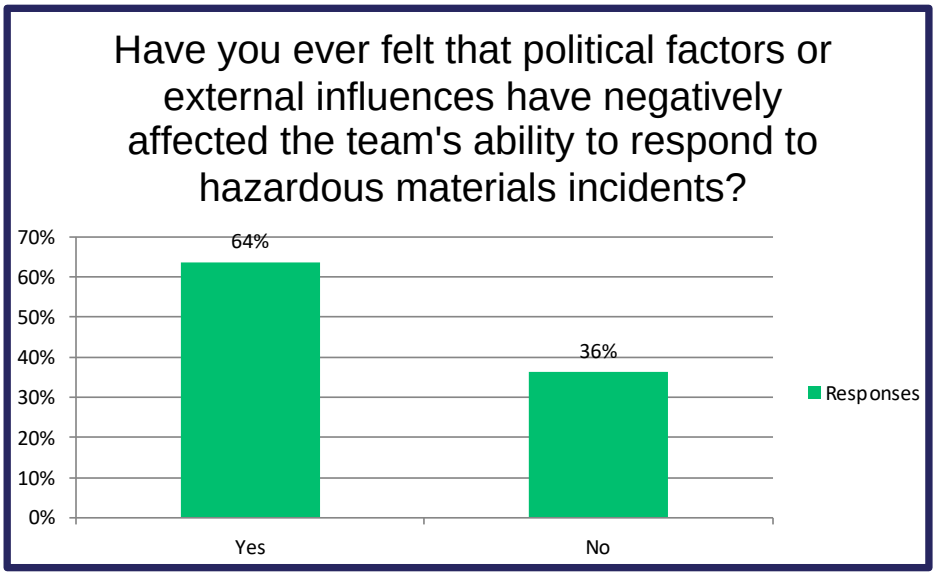
3) How would you describe the effectiveness of communication and cooperation within the EHT team outside of emergencies?

- Need more direction and involvement from the EHT Advisory Committee.
- Improving.
- Good communication regarding training dates.
- A disconnect between the CRD and team departments.
- Communication can vary from department to department depending upon who is responsible to relay information.
- Little to poor.
- Average/good.

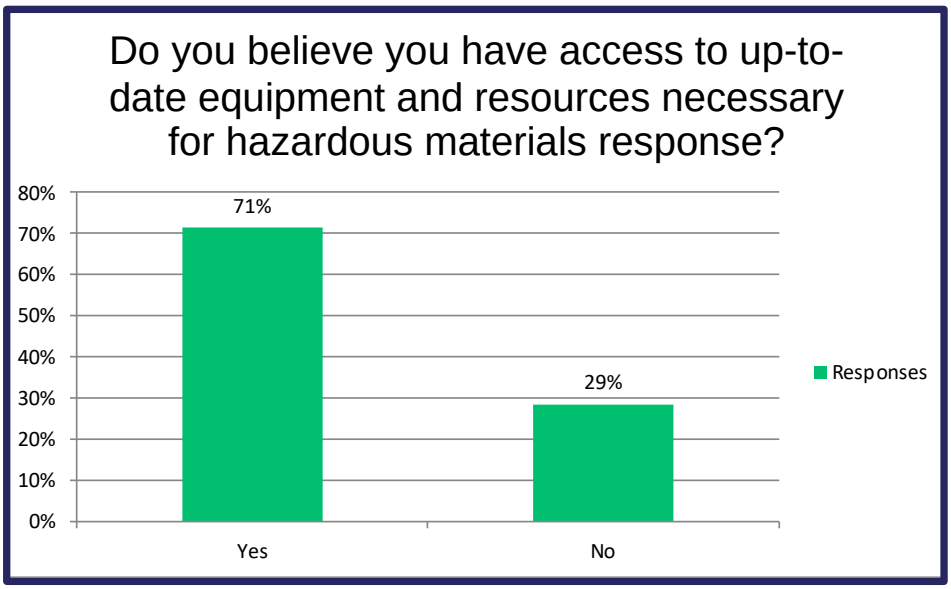
4) Are there aspects of the team's culture that could be improved to make the EHT more effective?

- Not inviting for composite members.
- More involvement from members that are on the team.
- A good culture.
- Eliminate negativity about the program.
- Look at changing the municipal allotments for the team.
- Look at ways to increase the interest of members on the team.
- Schedule weekend training.
- Understand the vision and future of the team.

5) Have you ever felt that political factors or external influences have negatively affected the team's ability to respond to hazardous materials incidents? (Yes/No Checkbox)



Do you believe you have access to up-to-date equipment and resources necessary for hazardous materials response? (Yes/No Checkbox)



6) Are there specific training or equipment needs you feel have been neglected or require improvement?
    - More than once a year minimum for training.
    - Training and support on new equipment.
    - More local area familiarization.
    - Training in clandestine drug labs.
    - Decon tent is in poor shape.
    - Preplans for local hazardous materials storage.
    - Replace equipment before service life end date.
7) What specific changes or enhancements do you believe could be made within our hazardous materials team to boost motivation and create a more exciting and dynamic atmosphere for our members?
    - Implement a more robust application process.
    - Value and support the team.
    - Change the compensation for team positions.
    - Accountability for members not attending training sessions.
    - Look at options for half day training sessions.
    - Minimum of eight (8) members to respond to the scene.
    - A mass notification system for all members of the team.
    - More subject matter experts for training.
    - A team social event or team meetings so members get to know each other.
    - Schedule half the training dates on weekends.
    - Scenarios for training events.
    - Regular training with assigned platoons.

The feedback in the online survey demonstrates that members care about the EHT program and want to see it succeed, despite some of the gaps. Through consultation with EHT team members, EMG believes new ideas can be implemented to make the team more efficient and effective in terms of response capacity and training engagement.

9.4 Previous Surveys

EMG reviewed the February 2022 CRD HazMat Team (Active Technician) Survey Summary of Results. The survey consisted of 14 questions that focused on training and incident responses. EMG conducted an objective based set of nine (9) questions for the fire chiefs and key stakeholders to identify any common themes or existing patterns. Trends were identified in both surveys relating to training and the EHT response model.

Section 9 Recommendation

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 9-Surveys				
36	The CRD form a working group to address recommendations in this report.	0-12 months	CRD/Working Committee Time	A working group will ensure the CRD has an effective HazMat response team and recommendations and resolutions are discussed for the improved efficiency of the EHT.

SECTION 10

Recommendations, Timelines and Associated Costs

SECTION 10: RECOMMENDATIONS, TIMELINES AND ASSOCIATED COSTS

10.1 Conclusion

During the review conducted by EMG, it was demonstrated that the participating departments in the EHT are truly dedicated to the EHT and the communities they serve.

All costs and associated timelines noted in this report are approximate estimates that can be implemented through prioritization by the CRD.

10.2 Recommendations, Estimated Costs, and Rationale

The analysis and recommendations have been developed in consideration of industry best practices, industry organizations such as the NFPA, and provincial legislation. A wholesome review and consideration of the recommendations in this report must involve engagement between CRD leadership, regional fire department leadership via the HazMat Advisory Committee, EHT team leads, and by extension, local municipal governments that could be impacted by a HazMat incident.

When considering options for the EHT service delivery model, it is critical to weigh the advantages and disadvantages of each option. The sustainability and success of the EHT must be considered in the context that services delivered are effective, efficient, and meet local expectations for emergency HazMat operations. Primary consideration must be given toward:

- Ensuring efficacy and efficiency of HazMat response to incidents regionally.
- Clearly defining and articulating roles and responsibilities of the EHT.
- Scheduled training and curriculum that provides team members with knowledge, skills, and abilities to confidently conduct response operations at the Technician Level.
- Communicating training expectations and requirements, ensuring accountability for required competencies per NFPA 472.
- Enhancing the roles and responsibilities of regional fire service leaders through the HazMat Advisory Committee.
- Open and transparent relationships fostered between the CRD and fire department stakeholders.
- Consensus for the fire department stakeholder agreement and support for the chosen service delivery model.

- All hazardous materials equipment and apparatus maintained in a state of readiness.
- Identifying, communicating, and adherence to all health and safety requirements.

There are four (4) service delivery models presented in this report, with each option having specific recommendations along with their advantages and disadvantages. Furthermore, EMG provided four (4) supplemental delivery recommendations and 36 service review recommendations.

The four (4) service delivery model options presented herein by EMG are listed in descending order of recommendation/preference, however it remains within the scope of the CRD and the stakeholder agencies to select and prioritize the option that best meets the needs of the region. These deliberations will be best served occurring under the auspices of the CRD HazMat Advisory Committee. To ensure sustainability and resiliency of whichever option is selected, these deliberations and decision-making processes need to be consensus-based, inclusive, transparent, and accountable.

Option One – Interim Contract Extension

With the existing contract expiring on February 19, 2024, EMG recommends that the CRD negotiate terms for an interim contract extension with the current Contractor. This extension should be for a minimum six-month period. The current Contractor provided a revised service fee structure, which could be adjusted to the proposed term and prorated. This option would support stakeholder engagement focused on the remaining recommendations within this report (Option #2, Option #3, Option #4), to determine a path forward collaboratively. Unnecessary administrative, logistical, and operational impacts to the continuity of operations for the EHT can be avoided while the decision-making process unfolds. This option also provides for the establishment of definitive timelines and allows for comprehensive planning. Pursuing this option ensures communities are provided consistent levels of HazMat incident response service within the CRD until a more permanent solution can be achieved.

Advantages

- The primary advantage of this option is it provides for a pause while ensuring continuity of services. The CRD and regional stakeholders can enter discussions, evaluate options as presented in this report, and come to a consensus decision regarding next steps for the EHT.

Disadvantages

- There are three key disadvantages to this approach. Firstly, the CRD will need to come to an agreement with the Contractor around financial implications of an interim contract

extension. Secondly, current issues that need to be addressed in terms of deployment model, training, and program logistics will likely not be dealt with during this period. And thirdly, some stakeholders may perceive this approach as only serving to push a decision further into the future. These disadvantages are not insurmountable and may be outweighed by the value of this option by identifying a path forward for the EHT through stakeholder collaboration and consensus agreement.

OPTION ONE RECOMMENDATIONS

For this interim solution to be implemented, the following should occur:

- The CRD via the HazMat Advisory Committee should initiate dialogue immediately and establish a sub-committee to review operations and to determine which option(s) presented best serves the region moving forward.
- Commitment from all parties that lines of communication between the HazMat Advisory Committee and CRD representatives will be open, transparent, and collaborative. Regional stakeholders, via the HazMat Advisory Committee and CRD need to demonstrate common cause and focus on the effective and efficient provision of emergency hazardous materials response.

Option Two – Contract Single Fire Department for full EHT Services

EMG recommends that an RFP be issued for a CRD member Fire Departments to provide regional EHT services at the Technician Level. This option can provide a defined response in terms of personnel and equipment and removes the need for fire departments to have Technician-trained personnel. An outcome will be the streamlining of service delivery and providing fire departments in the region with a more defined resource deployment model in response to incidents within their jurisdiction. Practical experience and implied expectations have shown that due to the responsibilities and complexities of HazMat incidents, this change more accurately represents the required approach for HazMat incident mitigation. This option highlights the opportunity to reconcile the shortfalls of the existing model and change to accurately represent the functional needs of a deployable EHT.

Advantages

- Fire Departments will have clear understanding of what an effective EHT response force will comprise in terms of staffing levels and qualifications, with defined timelines when requested for incident response.
- Administration, training, logistics, and operational readiness become the responsibility of one entity (single contractor).

- Communications between the contractor, regional stakeholders, and the CRD may be streamlined and improved.
- The HazMat Advisory Committee would engage with the CRD with any concerns regarding the delivery of emergency HazMat response.
- The CRD would convey to the Contractor the concerns raised by the HazMat Advisory Committee and address emerging issues, performance objectives or concerns.
- Less administrative time and a decreased chance of miscommunication will result from more focused communications as opposed to the current model of the CRD engaging directly with all 14 fire departments actively supporting the EHT with personnel.

Disadvantages

- Maintenance of Technician-Level skills amongst most fire departments in the region will decrease or be unnecessary. Some fire departments will see this as a loss of specialized skills within their roster.
- Regional dynamics may cause friction or conflict should one fire department become the primary supplier of HazMat incident response to the exclusion of others.
- The CRD will be required to transfer control of its existing HazMat equipment and apparatus to the selected fire department/contractor, while remaining accountable for ongoing maintenance and equipment acquisition.

OPTION TWO RECOMMENDATIONS

Should there be one fire department in the region willing and interested to take on the provision of HazMat response, several elements should be considered to ensure the long-term success and sustainability of this model.

- The selected Fire Department (single contractor) will be expected to provide annual engagement/training opportunities within the region. Supporting local Fire Departments to maintain an Operations-Level of HazMat competency within their ranks will assist with the overall success of any HazMat response.
- Defined staffing levels and response parameters will need to be assessed and aligned with industry best practices and standards. This is further highlighted in the 'Supplementary EHT Service Delivery Recommendations' section of this report.
- Expectations around communications (Type, Frequency, Format, etc.) between the fire department/contractor, the CRD, and all stakeholders must be clearly defined and disseminated regionally.

- The funding model whereby the CRD compensates for the staffing costs associated with training and response should remain the same, with no additional costs to be borne by requesting agencies/municipalities if they already contribute through CRD assessments.

Option Three – Renew Current Contract

As a third option, EMG recommends that the CRD accept the terms of renewal as provided by the current contractor (Central Saanich Fire Department) for a minimum of a two-year period. As such, the existing model of service delivery shall remain the same for 2024 and 2025. This option continues the process of the CRD providing emergency hazardous materials response through the existing contractor and 14 participating fire departments.

Advantages

- The existing model has been in place since 2006. The 25 fire departments that receive services through this contract are familiar with the service delivery model.
- The contractor is in place, is familiar with the procurement processes of the CRD, and no transition is required to another provider.
- A timely response occurs under the existing EHT model with Central Saanich Fire Department deploying a resource officer and equipment quickly to the scene.
- Team Leads and EHT members are familiar with their roles and the training program.
- Finally, this timeline allows the CRD and regional stakeholders to engage in wholesome discussions, further evaluation of options presented in this report, and preplanning of the next 3-to-5-years with clearly defined expectations and outcomes for the EHT.

Disadvantages

- The contractor has provided notice to terminate the existing contract on February 19, 2024, to renegotiate a new contract or allow the CRD to undergo an RFP for the delivery of HazMat response. To maintain the existing model, the CRD will be required to increase the annual contractor fee on a prorated schedule from $70,640 to $177,000. This is a 151% increase measured in real costs as a $106,360 difference annually.
- Expectations regarding the roles and responsibilities of the Contractor may need to be assessed. All fire departments have a core responsibility to serve their communities, and the management/administration of a regional HazMat program should not detract from that mission.
- Inconsistencies remain within the current model related to staffing levels, configuration, and timelines for incident response from the current EHT.

- Training requirements for EHT members need to be assessed, addressed, and as applicable, enforced. Current obligations for EHT members may not be adequate.
- The existing deployment model would need to be revised to incorporate a RAT. The EHT-RAT would consist of at least one Chief Officer and four Technicians to respond immediately to an incident. Assessment, resourcing, and early mitigation are all components of a RAT within HazMat response.

OPTION THREE RECOMMENDATIONS

Should this option be exercised, the existing model requires the following be resolved within the proposed renewal period:

- Review/revise the TOR for the CRD EHT.
- Review/revise the TOR for the EHT Team Leads.
- Review/revise the TOR for the HazMat Advisory Committee.
- Lines of communication with the HazMat Advisory Committee, the CRD, the Contractor, and all EHT stakeholders need to be open and transparent. The regional fire departments, through the HazMat Advisory Committee, and the CRD must collaborate and support the model to ensure that the focus is on effective and efficient provision of emergency HazMat response.
- Defined staffing levels and response parameters will need to be assessed and aligned with industry best practices and standards. This is further highlighted in the 'Supplementary EHT Service Delivery Recommendations' section of this report.
- A wholesome review of the costs incurred to manage, maintain, and house the EHT be undertaken to ensure the annual service fee is fair, equitable, and attractive to the contract Fire Department. Auditing and reporting should occur annually and be available to all CRD member stakeholders.

Option Four – Third-Party Private Contractor & Operations-Level EHT

In this fourth option, the CRD would engage a third-party contractor for the provision of Technician-Level HazMat response capability. This option would involve outsourcing to a specialized HazMat response company, which can provide expertise and resources but might lack immediate availability and understanding of local conditions. Based on current best practices and similar models, this would necessitate transitioning the CRD EHT from the Technician Level to an Operations Level response. This hybrid approach, combines in-house and outsourced resources, offering flexibility but possibly complicating coordination between the third party, the EHT, and responding fire departments. This approach reduces the need for a regional Technician-Level HazMat Team but does not remove the need for an EHT at the Operations Level to be properly resourced, managed, administered, and funded.

Advantages

- Fire departments within the CRD will be able to decrease their training level to the Operations Level. This may reduce training demands placed upon each fire department at the Technician Level.
- For some regional fire departments, this reduced level of training requirement and response capacity should allow them to focus on their core operational services.
- The equipment necessary for a Technician-Level response may no longer be required by the CRD. However, resourcing an Operations-Level EHT will remain.
- Fire department personnel trained to the Operations Level would manage initial incident response and mitigation and the HazMat DECON process.
- Responding fire departments with Operations-Level trained firefighters would be able to assist at a Technician Level if or when required to enter the hot zone.

Disadvantages

- There are no existing third-party contractors readily available in the greater Victoria region to provide a quick or immediate Technician-Level initial response.
- For this option to function, capacity, and capability to respond to HazMat incidents at the Operations Level necessitates the EHT to be maintained.
- Ongoing logistics, administration, funding, equipping, and oversight of an Operations-Level EHT will be required.
- Through the HazMat Advisory Committee, the CRD and regional stakeholders must agree on what Operations-Level response comprises.

- Transitioning to this model will require robust stakeholder engagement and ongoing communications to sustain and enhance relationships between CRD and regional fire departments.
- Existing EHT members and respective fire departments may feel CRD has minimized their role and left communities without quick incident response.
- A new location for the EHT equipment and apparatus will still be required.

OPTION FOUR RECOMMENDATIONS

- Implementation of this option will require consideration be given to the budget, local risks, response times, and resource availability. The model must be tailored to the CRD needs and constraints. While in theory this model streamlines the delivery of HazMat response, there are elements of complexity that remain to be addressed. A regular review of this model will be essential for ongoing effectiveness in managing HazMat incidents with the CRD boundaries.
- CRD, HazMat Advisory Committee, and stakeholders will need to quantify and articulate roles, responsibilities, and expectations for an Operations-Level EHT.
- The CRD and a sub-committee of the HazMat Advisory Committee enter discussions with third-party providers to examine potential provision of Technician-Level response within the CRD. This would entail confirmation of:
    - An agreement on Technician staffing levels and response parameters that meet industry best practices and standards. This is further highlighted in the 'Supplemental EHT Service Delivery Recommendations' section of this report.
    - The third-party provider must have equipment and apparatus for the initial response. Interoperability with current CRD assets will be necessary.

Supplemental EHT Service Delivery Recommendations

The additional recommendations are provided with the overall goal of moving the delivery of emergency HazMat response within the CRD forward into the future with a strategic focus.

1. **HazMat Advisory Committee**: An opportunity exists to leverage regional stakeholder interest, experience, and expertise to ensure a sustainable hazardous materials capacity in the region. Engagement of key fire service leaders through the formation of sub-committees and/or working groups collaboratively with CRD leadership would bring significant value. Utilizing the sub-committee/working group structure allows more time to focus on specific projects, investigate new areas of work and involve local expertise.

2. **Rapid Assessment Team:** To align with industry best practices, the service delivery model for the EHT should be restructured to facilitate deployment of a RAT to all HazMat incidents. The EHT-RAT should consist of one chief officer and four Technicians able to respond within 30 minutes of notification. This would enhance incident management, resourcing, and mitigation. This approach to be included within whichever option the CRD pursues.

3. **Communications:** The transition to a different service delivery model must be communicated to all CRD fire departments and their municipal governments. Ongoing and regularly scheduled communications and engagement with all stakeholders will serve the EHT well. Over-communication in the realm of emergency services is often a must.

4. **Staffing:** Revise the minimum staffing for the deployed EHT to eight trained HazMat Technicians. This represents the true minimum staffing to cover required positions to perform a standard, 2 in/ 2 out entry. The EHT-RAT would comprise the initial element of this staffing model, which when deployed would only require the addition of four more Technicians. Positions required by regulation or implied responsibilities are:

    a. 1- HazMat Group Supervisor/ Team Leader/ HazMat Officer
    b. 1- Assistant Safety Officer HazMat
    c. 1- Technical Reference/ Science Officer
    d. 1- Entry Team Leader
    e. 2- Entry personnel
    f. 2- Back up personnel

SERVICE REVIEW RECOMMENDATIONS

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 1 – Capital Regional District & EHT Overview				
1	The CRD work with the EHT Advisory Committee to identify a recruitment strategy for the EHT.	13-24 months	Committee Time	Ensuring that the EHT staffing is at full capacity improves the team response model and overall effectiveness.
2	The CRD consider separating the Team Coordinator from the Contractor to schedule training, recruitment, administrator duties and maintaining training and response records for the EHT.	0-12 months	CRD to determine annual salary	Decreasing the administrative responsibility from the Contractor and revising the Team Coordinator position external to the Contractor will increase records keeping for the CRD.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 2 – Response Capacity				
3	The CRD EHT should focus efforts on response capacity within the CRD, and not look to provide services outside this geographic area.	0-12 months	CRD Staff Time	The capacity does not currently exist, and the systems are not in place for this model to be effective.
4	The CRD should look to incorporate a fulsome approach to data analysis for the CRD EHT. This data should include Dispatch Time, Turn Out Time, overall Response Time, and Incident on-scene time. This will require careful data collection, attention to detail, access to statistical programs and skills in result interpretation.	0-12 months	CRD Staff Time	This recommendation applies what is industry best-practice for fire & emergency services to this specific service delivery area.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 2 – Response Capacity				
5	The CRD should assess the feasibility of entering a relationship with a 3rd-party contractor to support any future CRD EHT model. This 3rd-party contractor could provide specialized technical support remotely, and/or become the designated and recommended incident mitigation service provider. This would allow the CRD EHT to transition site mitigation and clean up, thereby transitioning regional firefighting resources back into service sooner.	0-12 months	CRD/ Advisory Committee Time	This model is based on, yet differs slightly from, the model being used between Nanaimo Fire Rescue and NES.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
6	The CRD should assess the feasibility of leveraging the on-duty firefighting personnel in the Region for initial response. Given the number of personnel required for a Rapid Assessment Team, and the remainder needed for a base-level Technician-Level hazardous materials response, the deployment model could be transitioned to a layered one, with on-duty firefighting staff deploying initially and then requesting off-duty personnel as/when the need requires.	0-12 months	CRD/ Advisory Committee Time	This model incorporates elements used in Vancouver and Surrey, where HazMat Team members at assigned fire stations comprise the initial deployment. Once assessments are complete, additional resources can be requested. This provides a level of certainty with who is coming, how many are responding, and anticipated response times.
7	The CRD should look to engage through RFP process, a fire department in the region interested and able to provide the CRD with an effective EHT. Administrative and operational oversight would be streamlined in this process, allowing the CRD to provide a strategic lens to the support it provides.	13-24 months	RFP to Determine	This model mirrors the relationship in-place on the North Shore of Metro Vancouver, whereby one fire department provides hazardous materials incident response for all three municipalities. It is believed there are fire departments in the CRD with the capacity to provide this service.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
8	Establish an agreed-upon approach that is consistent and clearly communicated across the region regarding team member availability and activation processes and protocols.	0-12 months	CRD/ Advisory Committee Time	To reduce the complexity of deploying the EHT to incidents
9	Research and identify a communications solution to ensure any team member notification or activation is widespread and available to all team members	13-24 months	CRD/ Advisory Committee Time	Technology solutions exist to support this and can also support a dashboard that conveys member availability and response times.
10	Ensure processes and protocols for the dispatching of resources is consistent and clear between both Saanich and Surrey dispatch centers.	13-24 months	CRD/ Advisory Committee Time	To reduce the complexity of deploying the EHT to incidents.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 3 – Administrative Practices				
11	The CRD should review recent HRVA's conducted for the region and/or specific municipalities to ensure the level of service delivery being provided aligns with the hazard and risks identified.	13-24 months	CRD/ Participating Fire Depts Time	It is an accepted premise that the completion of an HRVA assists communities to make risk-based choices that thereby address local vulnerabilities, mitigate hazards, respond to and recover from hazard impacts. Aligning the delivery of hazardous materials incident response to a regional HRVA is a best-practice.
12	The CRD and EHT Advisory Committee should identify which data to collect, and interpret related to the delivery of hazardous materials incident response in the CRD.	0-12 months	CRD/ Advisory Committee Time	The collection of detailed enables informed decision-making and contributes to continuous improvement in the management of the EHT.
Section 4 – Policies, Directives and Operational Guidelines				
13	The CRD to create a working committee with the HazMat Advisory Committee to review the OGs and complete within a 12-month period. The CRD should also develop a Terms of Reference (TOR) for this committee.	0-12 Months	Working Group Time	This ensures that the OGs are current, relevant. The TOR will provide details such as committee members, meeting schedules, etc.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
14	Operational Guidline 1-004. It is suggested that "Feminine Sanitary Napkins" be added to page 7 of the check list in proximity to the coveralls, helmets, and radio vests.	0-12 months	Working Group Time	The responder does not have to remove their hand from the suite to wipe the moisture.
Section 4 – Policies, Directives and Operational Guidelines				
15	NFPA 1072 Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications (2017) and NFPA 472 Standard for Competence of Responders to Hazardous Materials/ Weapons of Mass Destruction Incidents (2018) be incorporated into the training and operatoins of the CRD EHT.	0-12 months	Working Group Time	Adopting the latest NFPA standards in EHT emergency response operations and operational guidelines ensures compliance to industry standards
16	Operatoinal Guideline 3-001 be revised to clarify the qualifications of the Incident Commander versus the HazMat sector commander.	0-12 months	Working Group Time	The scene IC should have the in-depth knowledge to make informed decisions.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
17	Revise OG 4-004 Incident Response to read, ""The CRD EHT Incident Action Plan (IAP) should undergo thorough discussion, review and approval by the Incident Commander before implementation. This requirement ensures that the IAP aligns with established protocols and is consistent with the overall incident, contributing to the effective and safe management of hazardous materials incidents."	0-12 months	Working Group Time	As per NFPA 1561, the IC shall be responsible for developing and/or approving an incident action plan.
18	Revise OG 4-004 Incident Response org chart be revised to include two (2) doffers in the warm zone, one (1) doffer in the cold zone and one (1) EHT member in the warm zone to verify the effectiveness of the decon process.	0-12 months	Working Group Time	Based on industry best practices.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
19	Revise OG 4-005 Decontamination Procedures to having civilians remove clothing.	0-12 months	Working Group Time	Industry best practices dictates that the more clothing removed the better, and unless a person is soaked in a penetrating product there is no reason to disrobe completely.
20	Revise OG 4-005 Decontamination Procedures to include the use of a Level 'C' TYVEK suit for patient transfer to BCAS.	0-12 months	Working Group Time	Based upon industry practices.
21	Revise OG 4-007 Personal Protective Equipment to incude two (2) twelve inches of ChemTape as part of the Level 'A' and 'B" inventory.	0-12 months	Working Group Time	If the wearer of a Level 'A' or 'B' suit suffers a tear an immediate repair can be made.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 5 – Response Trends and Response Types				
22	The CRD should regularly analyze the call volume and call types and work with the EHT Advisory Committee to identify trends.	0-36 months	CRD/Advisory Committee Time	Conducting this annual review will improve the state of readiness and overall effectiveness of the CRD EHT.
Section 6 –Training				
23	NFPA 1072 (2017) edition and NFPA 472 (2018) edition be adopted and incorporated into the training and operations of the CRD EHT.	0-12 months	CRD Staff Time	Using the latest NFPA standards benefits the CRD and EHT as described in the report.
24	Each community participating in the CRD EHT program conduct a community risk assessment relating to HazMat concerns. These assessments will be used to form the basis for specific training.	13-24 months	Participating Fire Depts Time	The identification of potential hazards will help keep responders safe.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
25	Training in Level A & B suits be incorporated into the "Open Learning" sessions as well as combined with DECON training in the "Skills Maintenance Training."	0-12 months	CRD/Advisory Committee Time	Regular training ensures responders are able to don, doff and use this specialized equipment.
26	The responsibiity of decontamination procedures should be assigned to the fire service requesting support.	0-12 months	CRD/Advisory Committee Time	The initial responding FD will be first on scene and can initiate decontamination procedures promptly.
27	The development and delivery of training specifically for chemical propertiers and behavior be delivered into the "Open Learning" as well as reinforced at the "Skills Maintenance Training" sessions.	13-24 months	CRD/Advisory Committee Time	Understanding chemical properties for HazMat is essential for accurately assessing the risks.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
28	Additional training be provided two (2) times a year over a three-five day period and developed with input from EHT members and derived from Post Incident Action Reports. The first two-three days focused on skills with the remaining two days focused on scenario based learning.	13-24 months	CRD Time	Skills and competency are essential for the specialized skills required at the technical level.
29	Training should be developed and delivered by team members with a 5:1 student/instructor ratio.	0-12 months	CRD to determine costs for extra instructors	More focus on skills during the training can occur.
30	The CRD engage other agencies such as EMS, Police and NGOs to ensure open and transparent communication and work the possibility of incorporating them into the team, which in time could see the team become a CBRNE team.	13-24 months	CRD Staff Time	Engagement and involvement of other agencies often requires expertise from various disciplines.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
Section 7 - Service Agreements & Service Liability				
There are no recommendations for this section.				
Section 8-Finance				
31	Meetings between the CRD and the Contractor to review the annual budget increase for the operational budget. Adjustments should not only meet but exceed inflation rates and account for the notable escalation in equipment costs.	0-12 months	CRD/ Contractor Time	This approach will strengthen the financial resilience of the CRD and enable it to sustain optimal operational effectiveness.
32	Schedule meetings with the CRD Contractor to identify the real costs for the SCBA and Command Vehicle replacement scheduled for 2027.	0-12 months	CRD/ Contractor Time	Engagement in this process is vital to ensure the alignment of CRD five (5) strategies with organizational objectives and to proactively address the escalating costs of equipment and assets.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
33	That the CRD EHT implement an AMP for all hazardous materials response equipment. This should identify projected replacement dates and cost cycles for all hard and soft equipment and consumables. The AMP should be overseen by incorporating the Asset Manager role into the current Team Coordinator role, or other roles as deemed appropriate.	0-12 months	CRD Staff Time	Implementing an Asset Management Plan with a clear structure and oversight helps ensure the availability, safety, and efficiency of hazardous materials response equipment within the CRD EHT
34	A Capital Expenditure Reserve be established with annual contributions. This will ensure the equipment required to support a robust hazardous materials response is funded and available. The amount for the annual contribution should be derived following an assessment of current equipment, lifespan, and expected replacement dates.	0-12 months	CRD Staff Time	It aligns with best practices in emergency response asset management programs.

Rec #	Recommendation	Suggested Timeline	Estimated Cost	Rationale
35	Fire apparatus (vehicles) required to support the CRD EHT need to be a key aspect of the recommended asset management plan.	0-12 months	CRD Staff Time	When planned for, and properly funded over time, the acquisition of these significant purchases will be more manageable and financially sustainable.
Section 9-Surveys				
36	The CRD form a working group to address recommendations in this report.	0-12 months	CRD/Working Committee Time	A working group will ensure the CRD has an effective EHT and recommendations and resolutions are discussed for the improved efficiency of the EHT.