

INDUSTRIAL / COMMERCIAL PROSPECTS

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HazMat Audit

A case study from CFB Borden

By Sylvia Anderson, Naomi Barratt, and Christopher Hauschild

Hazardous material audits and inspections reduce liability and save money over the long term. Firms that deal with hazardous materials of any kind — from cleaning products to heavy equipment lubricants — can improve worker safety, protect infrastructure and real estate, avoid legal penalties, boost environmental performance and improve the image of the organization.

Audits are integral to environmental, health and safety (EH&S) programs that deal with hazardous materials. Audits determine how effectively hazardous materials (HazMat) are managed throughout their lifecycle, including selection, procurement, handling, use, storage, transport and disposal. They also determine the adequacy of plans and procedures, training, internal inspections, record-keeping and reporting. Audits can also provide recommendations to assist the organizations in filling the gaps identified by the audit.

HOW AUDITS ADD VALUE

Audits determine if HazMat practices are standardized and ensure that your company focuses on pollution prevention. This focus will reduce hazardous waste, reduce risks to employees and prevent expensive cleanups. Companies are better able to demonstrate due diligence because standardized practices and procedures improve the level of compliance to current legislative requirements, and conformance to company and industry policies and practices.

Audits verify that employees can carry out their day-to-day duties while safely managing HazMat, including knowing how to recognize risk, protecting themselves, reducing HazMat use, safely disposing of dangerous materials, and responding to emergencies such as spills. Audits will determine how personnel are qualified to do the job through experience or training; and ensure that those qualifications are recorded.

Company investments are protected and costs are reduced because audits protect company real estate for future use, eliminate stockpiles which expire (and then require high disposal costs), increase material supply efficiencies, and limit liability through proper HazMat lifecycle practices and monitoring.

Work completed at Canadian Forces Base (CFB) Borden illustrates benefits that exist for every industry sector.

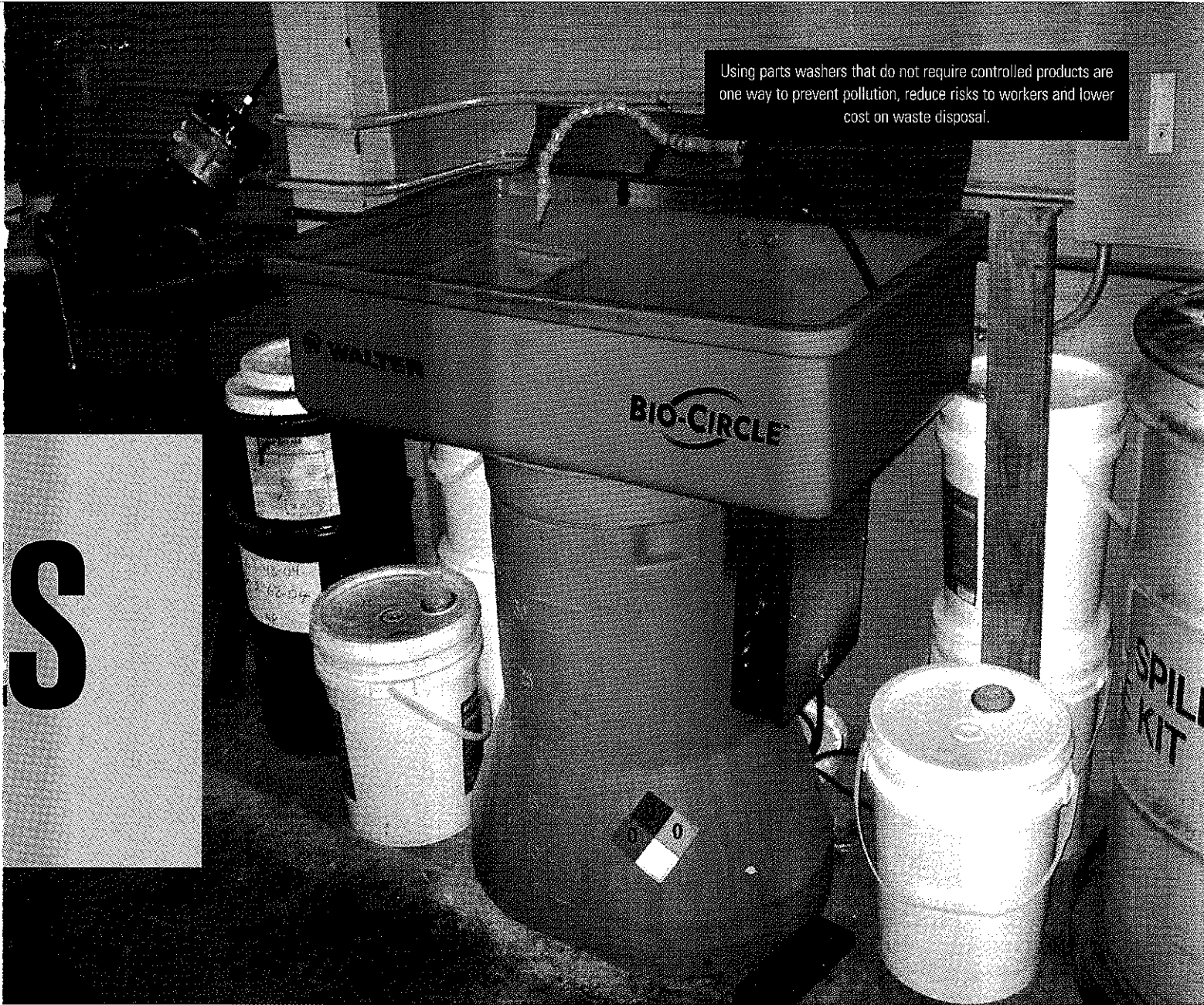
HAZMAT MANAGEMENT AT CFB BORDEN

CFB Borden is located an hour north of Toronto, Ontario and consists of training establishments, support branches and sections, and lodger units that are largely focused on delivering common support occupation training for the Canadian Forces. The base employs approximately 3,250 military personnel and 1,500 civilians, and trains (on average) 15,000 military personnel annually.

Due to the amount of HazMat and the diversity of its use, the CFB Borden EH&S office has implemented and used various documents to support HazMat management:

Using parts washers that do not require controlled products are one way to prevent pollution, reduce risks to workers and lower cost on waste disposal.

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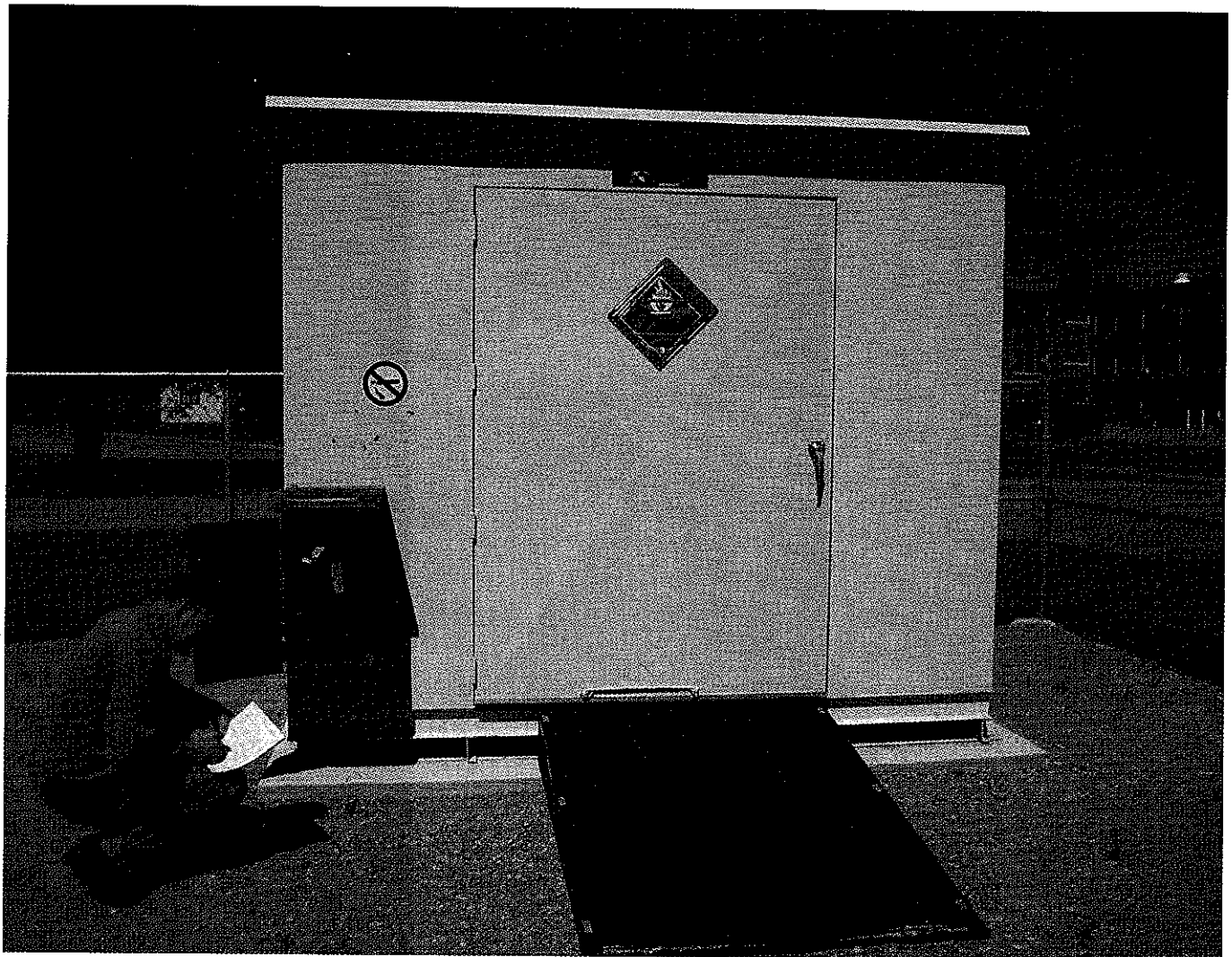


- **CFB Borden Baseline Study** — Provided the baseline state of HazMat and outlined legacy issues at CFB Borden since its opening in 1916.
- **CFB Borden Environmental Management System (EMS)** — The ISO 14001 EMS was developed in 2001 and determined environmental risks including HazMat, which were addressed through targets, management programs and specific procedures.
- **CFB Borden EH&S Management System** — Safety aspects were incorporated into the EMS to develop the first DND EH&S management system based on ISO 14001 and OHSAS 18001. Additional HazMat control measures from the Base General Safety Office were included in the EH&S management system.

- **HazMat Management Plan** — The plan details specific HazMat control and responsibilities, and is incorporated into the EH&S management system.
- **Base-level EH&S procedures** — These apply to military and civilian organizations, and for service providers (e.g., contractors) working on CFB Borden property. HazMat-related procedures include: Hazardous Materials Management; Spill Prevention and Response; Halocarbon and Ozone Depleting Substances Management; Household Hazardous Waste Facility; WHMIS Program; and, Audits and Inspections.
- **HazMat manuals and technical binders** — DND has produced a number of detailed manuals to assist users and organizations in lifecycle management.
- **Template EH&S plans** — These plans

Authors, clockwise:
Naomi Barratt,
Sylvia Anderson,
and Chris Hauschild





Storage areas must be appropriately sited and include adequate secondary containment, appropriate placarding, regularly inspected fire fighting equipment, grounding, and suitability to the products it contains.

were designed for military and civilian organizations to modify in order to produce an organization-specific document geared toward ensuring CFB Borden requirements are met.

In 2004, the CFB Borden EH&S Office initiated a review of workplace HazMat lifecycle management practices to ensure all the management efforts have been effectively implemented. This was addressed through an on-going contract with Vicinia Corporation, a local environmental health and safety consulting company that comprises two main phases of work:

- The conduct of hazardous materials assessments; and
- The provision of HazMat support services including Unit HazMat Coordinator training, custom-designed spill prevention and response training, and HazMat inventory support.

HAZMAT MANAGEMENT ASSESSMENTS

The HazMat management assessment is a compliance audit designed to ensure the proper management of hazardous materials throughout their entire lifecycle and to determine an organization's conformance to the audit criteria. There are several advantages of contracting external agencies to conduct audits. The auditors have expert knowledge on HazMat management and relevant legislation, and their findings are complete and unbiased. They can also complete the assessment quickly while minimizing disruptions to the workplace.

To date, Vicinia Corporation has completed twenty audits at CFB Borden and eleven more will be completed by March 2007. One audit was conducted per organization, and each organization includ-

ed one or more of the following: large training establishments; support organizations such as headquarters, supply, transport, maintenance and construction engineering branches and sections; reserve units; retail outlets; hobby clubs, golf courses; daycare facilities; dental clinics; medical laboratories; museums; and, sports complexes.

Audits were planned, conducted and reported in accordance with ISO 19011:2002 Guidelines for quality and/or environmental management system auditing. Audit criteria were compiled in a checklist that incorporated a collection of legal requirements, governmental and industry policies and standards, and best management practices. Audit criteria were classified in the following groupings: design and layout, storage areas, containers, hazardous waste, procedures,

responsibilities, emergency preparedness and response, training and drills, inspections, monitoring and reports.

Audit findings were presented in summary reports with completed checklists and a description of general and specific findings, all of which were supported through interviews with personnel, onsite observations (most recorded with digital photos) and a review of available records. CFB Borden also requested that the audit include recommendations to address each non-conformant finding and a prioritization ranking of the importance of the findings.

Audit findings and recommendations provide organizations with an opportunity to address smaller issues before they become serious problems. The three

types of recommendations were provided to CFB Borden in response to audit findings: general, specific and product-related.

- General recommendations were put forward in regards to development, implementation and enhancement of Borden's specific procedures. General recommendations have included: implementing the organization EH&S plan based on the template provided by the base; developing, implementing and maintaining HazMat management and spill prevention and response procedures; conducting training; maintaining training records; conducting and maintaining HazMat inventories, and conducting and recording inspections.

- Specific recommendations were suggested for each non-conformant finding. Recommendations vary and have included: properly labeling products; placarding storage areas; housekeeping; separating incompatible chemicals; inspecting safety and fire-fighting equipment; ensuring proper grounding and bonding of storage areas; prohibiting refueling in non-ventilated areas; ensuring the provision of MSDS and disposing of outdated HazMat products. The use of digital photos ensures the finding is properly identified and easily located, and that the associated recommendations are understandable.
- Product-related recommendations were provided in cases where equipment acquisition was needed to properly manage

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HazMat. These included obtaining chemical storage buildings, HazMat cabinets, compressed gas cages, secondary containment tubs, spill pallets, personal protective equipment, WHMIS information stations, first aid kits and spill kits. Whenever possible, no-cost options such as reducing HazMat holding or redistributing storage cabinets between sections were recommended rather than purchasing dedicated storage. Utility is always considered when recommending products. (For example, portable eyewash stations are not only less expensive than purchasing and plumbing in an in situ eyewash station, but eye treatment can be brought to the injured person in case of emergency.

Vicinia Corporation and CFB Borden conduct post-audit meetings to review findings and recommendations and to assign responsibilities to address deficiencies. The review process improves awareness of EH&S issues and engages involvement from groups not part of the organization. For example, contracted cleaning staff maintains products on the organization's property. The organization must therefore ensure that cleaner inventories and MSDS are maintained, and that products are stored and used appropriately.

SUPPORT SERVICES

To meet general audit recommendations, Vicinia provides support services to CFB Borden including Unit HazMat Coordinator training, custom-designed spill prevention and response training, and HazMat inventory support.

At CFB Borden, each organization must appoint and train a Unit HazMat Coordinator (UHMC) who is responsible to provide advice and support to commanders, managers and personnel on HazMat-related matters. Vicinia has delivered five UHMC courses to 105 personnel at CFB Borden. UHMCs will also be the technical liaison with the CFB Borden EH&S staff and will coordinate the HazMat program at the organization.

Proper lifecycle management of HazMat will reduce the number of reportable spills. Unfortunately spills do occur, and when this happens, it's essential that trained personnel are available for response. Since CFB Borden organizations vary in size and in the activities they conduct, Vicinia developed customized spill prevention and response training sessions and has delivered these on twelve occasions. Theory lessons are reinforced with practical scenarios based on the organization's product holdings and using spill response materials available at the organization.

The contractor also provides sustainable inventories to organizations. Rather than conducting the inventories on behalf of the organization, Vicinia will demonstrate to workers



Portable eyewash stations can provide improved response due to their mobility and still provide 15 minutes of continuous flow treatment.

ES Has one!

how to conduct inventories and collect data and follow up with staff to verify data entry. Conventional methods would simply supply inventories to organizations that would not know how to properly maintain them; the inventory becomes obsolete the minute it is taken. Sustainable inventories provide workers with the know-how to collect and maintain inventories and do so at a fraction of the price of conventional inventories.

BENEFITS AT CFB BORDEN

CFB Borden's EH&S Office has found the conduct of formal audits to be an effective tool in the lifecycle management of HazMat. Audit findings and recommendations are enabling organizations at CFB Borden to:

- Determine their level of performance in the management of hazardous materials.
- Ensure compliance with laws and conformance to policies and standards.
- Reduce HazMat-related injuries and maintain a safe workplace.
- Prevent spills to the environment and properly respond to spills.
- Identify gaps in HazMat-related training.

Emphasis was also placed on pollution prevention. For example, one organization has purchased an environmentally friendly parts washer to replace a WHMIS-controlled product option. The previous parts washer required users to handle waste solvents using proper personal protective equipment. The new system doesn't require the management of a

controlled product with special protective equipment, and waste has been reduced.

Environmental audits and support services are integral to health and safety programs and serve to reduce or eliminate organizational inefficiencies before they result in costly employee injuries or serious environmental threats that may require expensive cleanup. HazMat audits of the kind conducted at CFB Borden can add value to the safe operation of many types of industrial facilities and operations.

HMM

Sylvia Anderson, Naomi Barratt, and Christopher Hauschild are with Vicinia Corporation in Barrie, Ontario. Contact the authors at mail@vicinia.ca

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