# REGULATORY FRAMEWORK

THE Program takes a comprehensive and integrated approach, meaning that all the activities work together to get the best results – lower exposure, lower health risks, and a healthier environment. This also means that THE Program is potentially covered by several areas of legislative jurisdiction. The key legislation is as follows:

1. Environmental Management Act, Waste Discharge Regulation
2. Environmental Management Act, Contaminated Sites Regulation
3. Environmental Management Act, Division 2 Area Based Management
4. Public Health Act

## Environmental Management Act, Waste Discharge Regulation

The [*Environmental Management Act*](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/03053_00) (EMA) was brought into force on July 8, 2004. The Act replaces the old Waste Management Act and the Environment Management Act and brings provisions from both of those acts into one statute. Under section 6(2) and 6(3) of EMA, introductions of waste from industries, trades, businesses, operations and activities “prescribed” in the [Waste Discharge Regulation](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/50_320_2004) require authorization which could be in the form of a permit, an approval, a regulation, an operational certificate, an order or a waste management plan, to introduce waste into the environment.

Under these provisions, Trail Operations has been granted following active Permits by the Ministry of Environment, Pollution Prevention Section, that cover its ongoing operations and emissions:

1. PA-2690 TFO Air emissions permit
2. PA-2691 Lead Ops Air Emissions permit
3. PA-2692 Zinc Ops Air Emissions permit
4. PE-2753 Effluent discharge permit
5. PR-15979 Pulpmill Biosolids compositing and application
6. PS-08310 Storage of As Wastes Permit (includes Duncan Dome and Covered Pile, and Old Scrubber Pond)
7. PS-11532 Thallium and calomel storage Permit (Duncan Flats)
8. PR-11898 Duncan Flats Slag Storage
9. PR-03423 Haley Gully Landfill
10. PR-5175 Warfield Landfills (old and new)

Each of these permits prescribes certain operational and sampling/compliance requirements to ensure that the discharges are considered acceptable.

## Environmental Management Act, Contaminated Sites Regulation

The Environmental Management Act, along with the provisions of the Contaminated Sites Regulation, is the main law governing contaminated sites in the province. Brought into force in July 2004 (replacing the former Waste Management Act), it lays out standards for site identification, assessment, and cleanup (“remediation”). The Ministry of Environment, Land Remediation Section administers these legal requirements.

The Regulation provides numerical and risk-based standards to determine when remediation is needed and satisfactorily completed. The numerical standards appear in Schedules 4, 5, and 10 for soil, 6 and 10 for water, 9 for sediments and 11 for vapour. They also include site-specific and director’s interim standards. A site is contaminated if substances in the soil, water, sediment or vapour at the site exceed the numerical standards.

The legislation and regulations provide a framework for two general types of remediation. Contamination may be:

1. removed so that it no longer remains at a site – where the numerical standards for soil, water, and sediment apply, or
2. contained and managed onsite – where the risk-based standards apply.

Because of the large geographic area, the risk-based approach is used in Trail, as well as the sections of the CSR which provide special provisions for sites with many parcels of land whose contaminants came from one or more specific sources (wide area sites). Furthermore, [section 18.1 of the CSR](http://www.bclaws.ca/EPLibraries/bclaws_new/document/LOC/freeside/--%20E%20--/Environmental%20Management%20Act%20SBC%202003%20c.%2053/05_Regulations/21_375_96%20Contaminated%20Sites%20Regulation/375_96_01.xml#section18.1) provides specific provisions for the application of risk-based standards for remediation at wide area sites based on the recommendation of a medical health officer, which can take the form other than that of a hazard index or cancer risk - recommended alternate levels may be based on “biometrics” (e.g., blood lead levels) but must be specific numerical risk levels. This approach is widely accepted as a means of tracking exposures to lead and is being used in Trail to monitor ongoing efforts to manage and reduce lead exposures. Such a recommendation must be supported by an appropriate public community based consultation process, acceptable to and facilitated by the medical health officer.

These provisions are only applicable for the sources of the substances causing contamination at the wide area site, specifically historic and ongoing aerial emissions of metals from the smelter.

## Environmental Management Act, Division 2 Area Based Management

[Division 2 of the Environmental Management Act](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/03053_08) allows for the development and ministerial approval of an Area based management plans if the minister considers it advisable for purposes of environmental management in an area. The area based plan can require the establishment of a technical advisory committee in relation to the development of the plan, and require the participation in the development of the plan by specified licensees, permit holders or other persons the minister considers will be affected by the plan. The terms of reference for an area based management plan may include consideration of any of the following:

1. the impact of point and non-point sources of waste;
2. cumulative impacts of point and non-point sources of waste;
3. the economic and social costs and benefits of addressing risks to the environment through treatment;
4. environmental management objectives and outcomes for the area;
5. ongoing monitoring and reporting required to implement the plan.

The requirement for an Area Based Plan has only been issued once in BC – in 2013 for the for the Elk Valley Coal Mines. The Ministry of Environment has indicated that they will not be wanting to issue an more Air Based Plan requirements until the effectiveness and outcomes of the Elk Valley plan is determined.

## Provincial Public Health Act

[Part 2 of the Public Health Act](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_08028_01#part2) provides provisions for the Minister to approve a public health plan for a specific issue or geographic area. The public health plan can be based on a written agreement in respect of public health plans entered into between the minister and the public body, provided that each regional health board and local government having jurisdiction in the geographic area to which the public health plan applies must be consulted on the proposed public health plan. The minister may require a health authority to monitor and report on the implementation of a public health plan in the geographic area for which the health authority has jurisdiction.

The THEC and IHA are currently reviewing the applicability of a Public Health Plan for the Trail Area.

## Federal and US Health Agencies

The Advisory Committee Childhood Lead Poisoning Prevention (ACCLPP), an advisory committee of the US Centers for Disease Control and Prevention, has prepared and approved (as of January 4, 2012) the report (developed by its Blood Lead Level of Concern Workgroup) entitled *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention.* (<http://www.cdc.gov/nceh/lead/ACCLPP/Final_Document_011212.pdf>).

The report calls for CDC to eliminate use of the term “blood lead level of concern.” Instead, ACCLPP recommends that CDC adopt a “reference level” for lead at the 97.5th percentile, the level at which 97.5 percent of the reference population (children 1-5 years[[1]](#footnote-1)) have lower blood lead levels. The recommendation was based on a growing body of scientific literature that adverse health effects, related to cognitive, cardiovascular, immunological and endocrine function, can be measured at a population level at blood lead levels lower than 10 μg/dL. Under the recommendation, the term “elevated” refers to blood lead levels over the 97.5th percentile level because these children have an “elevated” level compared to other children. Currently the 97.5th percentile level is approximately 5µg/dL in US children aged 1-5 years; this level is proposed to be reviewed every 4 years. By definition, 2.5% of the reference population (children 1-5 years) will be considered to have elevated blood lead levels at all times.

The report recommends an increased emphasis on primary prevention of lead exposure over case management after exposure. The focus is on preventing children from being exposed to lead before their blood lead levels can become elevated. It is recommended that primary prevention include:

* reduction in environmental exposures from dust, soil, paint and water;
* counseling of parents, including prenatally; environmental assessments for children prior to screening blood lead levels in children at risk;
* ongoing blood lead monitoring for children with elevated blood lead levels;
* assessment of children for iron deficiency and nutrition (e.g. calcium and vitamin C levels) and provision of iron supplements for children with iron deficiency; and
* ensuring that children’s homes[[2]](#footnote-2) are “lead safe” and do not contribute to lead exposure.

Health Canada has also been reviewing their blood lead guidance, and in July 2011 released for public comment the reports:  *A State of the Science report on the adverse health effects of lead* and *A Risk Management Strategy report* (<http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/lead_sos-plomb_ecs-eng.php>). While new draft Health Canada guidance is under internal confidential review and not released to the public, we expect that the new Health Canada guidance will be similar to the US CDC. Currently, it is known that the Federal/Provincial Health Task Group will be the group to issue the Canadian guidance including guidance for physicians.

## Contractual Agreement Approach

The Trail Health and Environment Program combines all of the elements necessary to protect and enhance the health and environment of the Trail community. It is unique in that from the initial program developed over 20 years ago it has been led and overseen by the community itself. The environmental and health agencies of the Provincial Government have played a key role, participating directly on the Lead Task Force and its successor the Trail Health and Environment Committee (THEC), working cooperatively with the company and the community to ensure the success of this program. Yet the program has never been formally approved, in a regulatory sense, by the government agencies.

The factors that influence the environmental and health risks associated with the smelter cross several jurisdictional boundaries. The focus for some time has been the need for a formal approval mechanism under the Contaminated Site Regulation (CSR) of the BC Environmental Management Act, under the jurisdiction of the Land Remediation Section of the BC MoE, primarily to define and accommodate responsibility and liability for the remediation of lands contaminated by historical smelter emissions. However, twenty years of experience has demonstrated that soil contamination is a relatively minor contributor to exposure risk, with air and dust concentrations having the greatest influence on blood lead trends. Those factors are regulated directly and indirectly through various waste discharge permits and air quality criteria under the jurisdiction of the Pollution Protection Section of the BC MoE. Within the jurisdiction of the BC Min of Health, an important health contributor is the comprehensive bio-monitoring and management programs that are an intrinsic part of the overall program.

It is clear that none of the traditional regulatory regimes alone provides the level of comprehensive integration necessary to adequate protect and enhance the health and environment of the Trail community. The Trail Health and Environment Program combines all of those elements, with the critical benefit of a strong community involvement.

What is required now is a legal vehicle for approving THE Program.

In the past the company has discussed an alternative approach to regulation of large, complex operations, based on research work done at UBC (ref). The company’s discussion paper was published in 1998 entitled ‘*Environmental Protection – Balancing Environmental, Social and Economic Goals’* (ref). This approach contemplated developing a comprehensive program for environmental management based on a formal contractual agreement between the regulator, the company and the community. Such an agreement would define what is to be done, when it will be done, what design discharge levels (or other measurable benefits) would be met (interim and ultimate), and what happens if the commitments or standards are not met. While a contractual agreement would appear to serve the purpose of ‘approving’ a comprehensive program such as THE Program, it would require a significant change in legislation and indeed in mindset to accommodate such a non-traditional approach.

Since that paper was published there have in fact been changes in legislation under both the BC Environmental Management Act and the BC Health Act that would appear to offer an approval option based on an agreed program, while still maintaining the traditional approach to legislated governance. That is the approach we intend to take: maintaining the innovation that has contributed to the success of the program to date, a little unorthodox, but still within the parameters of existing legislation.

Division 2 of the Environmental management Plan allows for the development and ministerial approval of an area based management plan, with various provisos which are generally already included in THE Program.

Part 2 of the Public Health Act provides for the Minister to approve a public health plan for a specific issue or geographic area, again with stipulations that are covered within THE Program (ref).

We believe that THE Program could qualify as an ‘area based management plan’ and as a ‘public health plan’. Since it has been developed by and for the community, it should also qualify as a community health and environment program. Our goal therefore is to complete and submit THE Program to the MoE, MoH, Teck and the municipality, with terms and conditions for approval to be agreed.

1. The CDC report uses a representative sample of the US national population of children 1 to 5, from the National Health and Nutrition Examination Survey (NHANES) database. [↑](#footnote-ref-1)
2. Regarding homes, the CDC is referring to indoor hazards; a major focus of their report is on lead based paint. Reducing risks from yards and gardens are covered under the first point related to “reducing environmental exposures from dust, soil…”. [↑](#footnote-ref-2)