

# Environmental Tools:

## Design-Based Standards

### **What are design-based standards?**

Design-based standards prescribe the use of state-of-the-art technologies in pollution abatement, such as best available technology or best practical technology. The requirement is part of a permit, license, approval, code or regulation. This is a prescriptive approach, but can provide regulated parties with the flexibility to choose alternatives, as long as equivalency with the design standard can be achieved.

### **Where are they used?**

This approach is widely used by environmental agencies worldwide. Design-based standards are frequently applied by Alberta Environment to control air and wastewater emissions from large industrial facilities. Presently, design-based standards are being used within approvals issued by the department.

### **Tool performance:**

#### **Pros**

- Highly effective at achieving expected performance as the emissions limit is explicitly stated in the approval or regulation.
- Compliance verification with the limit is typically straightforward.
- Relatively easy for environmental agencies to implement, as they are highly familiar with the approach and processes involved.
- Usually more cost-effective than technology-based standards, but more expensive than the use of some economic instruments.

#### **Cons**

- May limit the choice of technologies a company can use to meet requirements.
- This may allow the company who owns the technology to arbitrarily increase prices, if there is only one viable technology to achieve the standard at present.
- Other environmental issues with the technology may need to be considered (energy use, water needs, and waste management considerations).
- May not be effective outside the realm of large point source emitters.
- Not adaptable to changes in technology or regulatory agency approaches.
- Does not strongly promote innovation in technologies.
- Requires that regulatory agencies maintain familiarity with the availability of specific technologies in different sectors; an expertise that is normally held within specific industries, not regulatory agencies.

### **Special considerations:**

If a named technology is used within an *Environmental Protection and Enhancement Act* approval, a clause is also needed to ensure its mention does not imply an endorsement by the Government of Alberta.