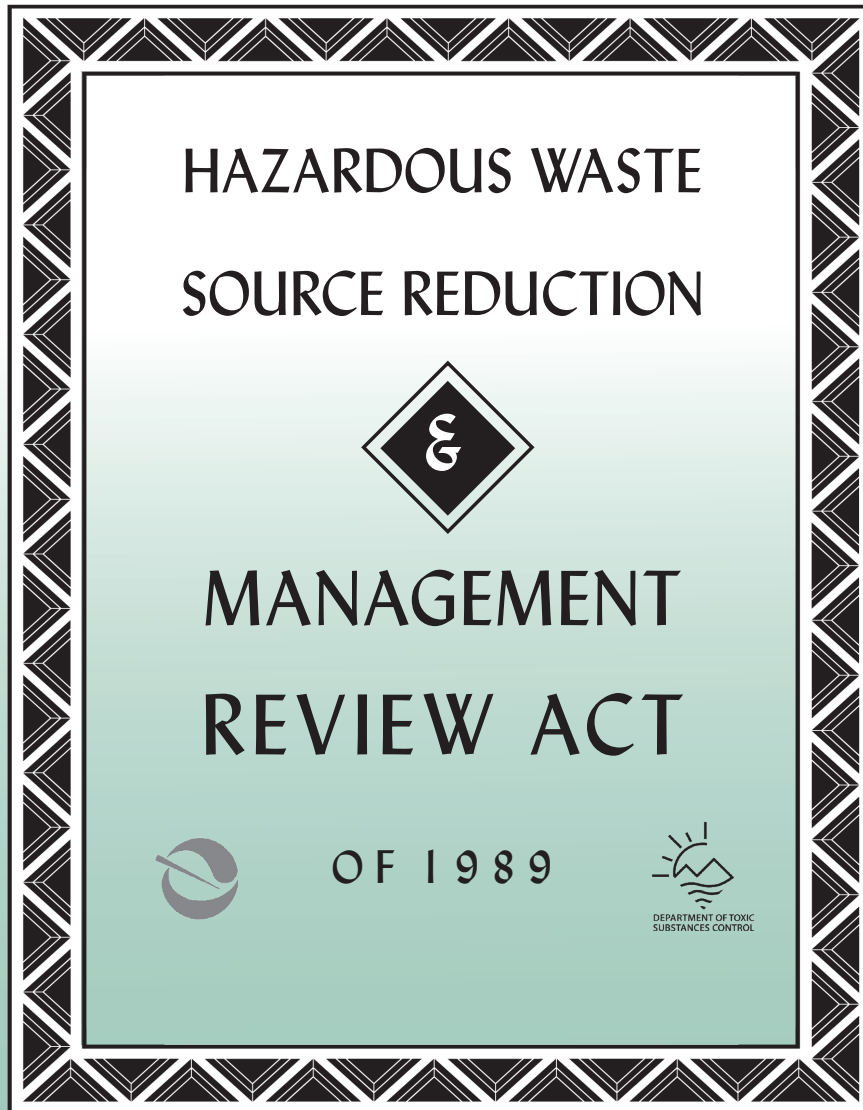


# GUIDANCE MANUAL

for complying with the



Arnold Schwarzenegger, Governor  
State of California



Linda S. Adams, Agency Secretary  
California Environmental Protection Agency



Maziar Movassaghi, Acting Director  
Department of Toxic Substances Control



## Document Availability

One complimentary paper copy may be requested by contacting the Office of Pollution Prevention and Green Technology (OPPGT) as noted below. There will be a nominal charge for additional paper copies.

SB 14 Publications can also be printed from the OPPGT website at <http://www.dtsc.ca.gov/PollutionPrevention>. If this website cannot be reached go to <http://www.dtsc.ca.gov> and click on Pollution Prevention from the list of sources: Contacting OPPGT.

This document contains no copyright restrictions, and we encourage its reproduction and distribution.

## Acknowledgments

Throughout the implementation of the Hazardous Waste Source Reduction and Management Review Act of 1989, OPPGT received comments and suggestions from a variety of individuals and groups, including private citizens, small and large corporations, environmental associations, trade associations, academia, consulting firms, and local, state and federal agencies. OPPGT sincerely appreciates your interest and participation in the development and implementation of this unique and innovative program.

## Disclaimer

The Guidance Manual does not supersede the Hazardous Waste Source Reduction and Management Review Act of 1989 or its implementing regulations. Generators or those who prepare documents for generator, should read the Act and the regulations before using this guidance manual to prepare any source reduction document.

## Contacting OPPGT

If you have questions or comments regarding this manual, the Hazardous Waste Source Reduction and Management Review Act of 1989, the regulations, or the Source Reduction Unit, you may contact OPPGT by:

### Mail:

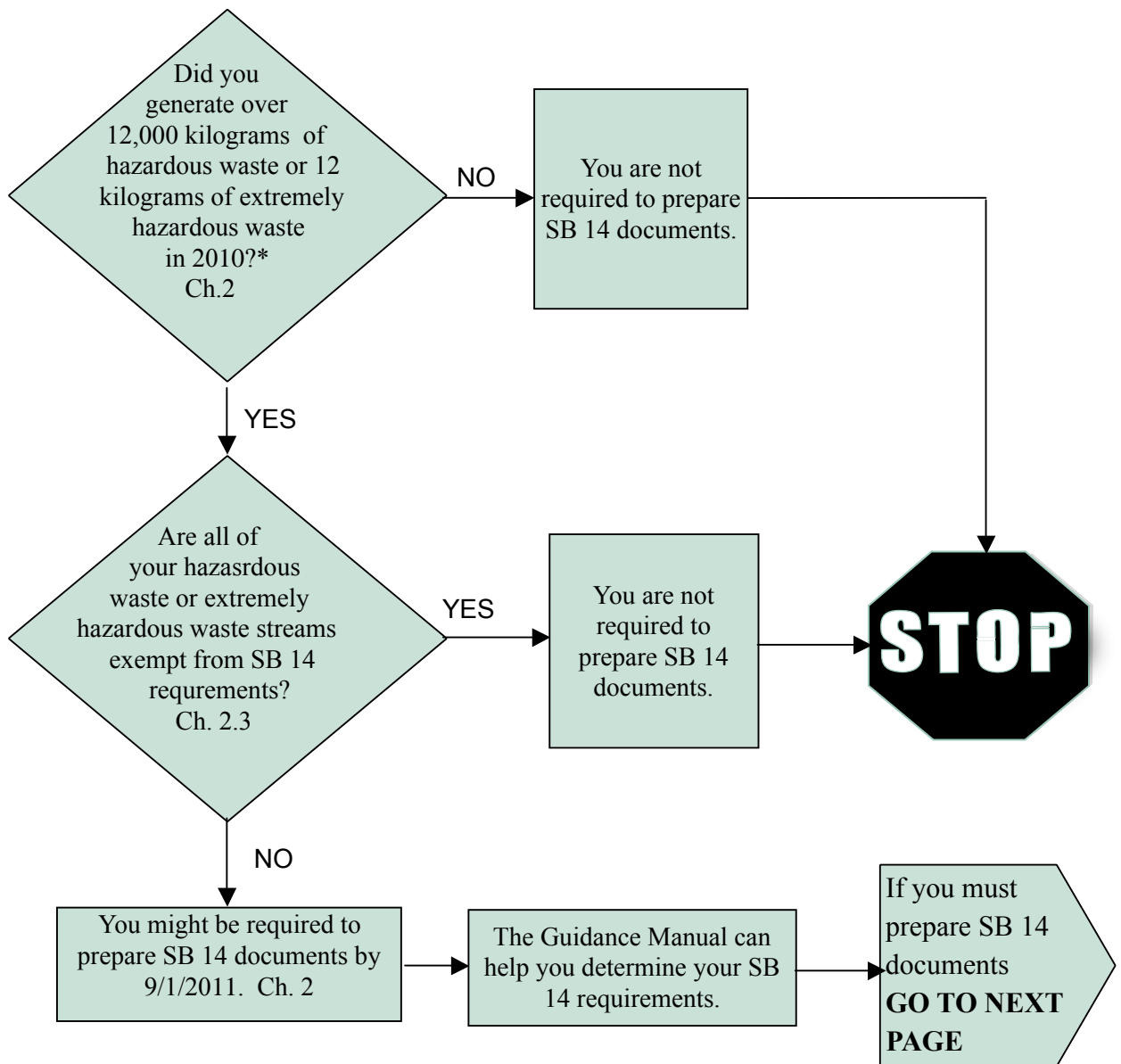
Department of Toxic Substances Control  
Office of Pollution Prevention and Green Technology  
Source Reduction Unit  
P. O. Box 806  
Sacramento, CA. 95812-0806

Telephone: 916.322.3670

Fax: 916.327.4494

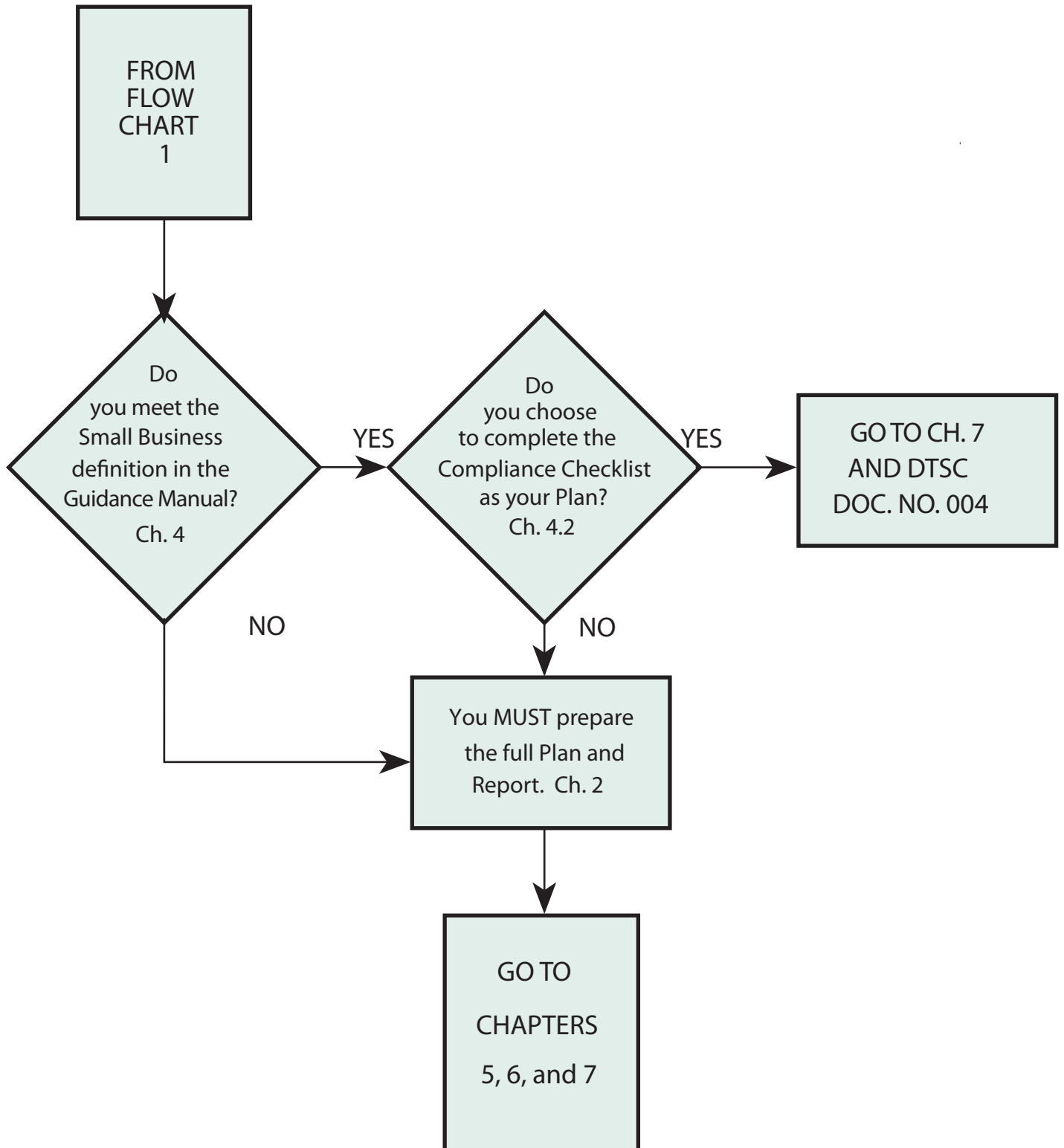
Email: Send your questions about complying with SB 14 to [sb14@dtsc.ca.gov](mailto:sb14@dtsc.ca.gov). Send requests for OPPGT publications listed in Appendix E to [sb14@dtsc.ca.gov](mailto:sb14@dtsc.ca.gov).

# SB 14 Guidance Flowchart



**\*Exempt wastes can affect this decision chart.** Consult Chapters 2.3 and 5.3 of the Guidance Manual to adjust for these wastes. **This chart is for guidance purposes only.** Consult the Guidance Manual to confirm SB 14 applicability to your waste stream.

# SB Guidance Flowchart





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# Preface

SB 14 enables businesses to document their source reduction planning activities. The foundation behind SB 14 is the belief that generators will voluntarily carry out feasible source reduction procedures that save the company money. SB 14 does not require businesses to carry out actual procedures that are not technically and economically feasible. Experience has shown that an effective source reduction planning program must involve everyone in the company from top management leadership to the daily operations of the plant personnel.

Sometimes companies hire a consultant to conduct their source reduction audit and prepare the required SB 14 documentation. This approach should include the opportunity for the participation of plant personnel, those who ultimately will be working with the selected source reduction procedures. A better approach involves the plant personnel in developing the best source reduction method for their area of the plant and ultimately benefiting from the actual procedures. The role of a consultant would be to help this employee-based evaluation.

Effective source reduction audits involve the same tools and strategies used to continuously improve business products and services. Quality-based source reduction planning provides an opportunity to eliminate a production defect, remove a manufacturing inefficiency, or improve a product. Intimately involving more company employees in planning ingrains more of the resulting source reduction ethics into the corporate culture. This will ensure not only the selection of appropriate procedures, but their continued improvement and most important, an ongoing company-wide source reduction approach to business operations.



# Chapter 1 Introduction

## 1.1 About SB 14

The goals of the Hazardous Waste Source Reduction and Management Review Act of 1989 (commonly referred to as SB 14) are to:

1. Reduce the generation of hazardous waste at its source,
2. Reduce the release to the environment of chemicals that have adverse and serious health or environmental effects, and
3. Document hazardous waste management information and make that information available.

SB 14 also encourages recycling where source reduction is not feasible or practicable. Where source reduction or recycling is not feasible, the waste should be treated in an environmentally safe manner to minimize the present and future threat to human health and the environment.

The Department of Toxic Substances Control (DTSC) adopted regulations to carry forward the intent and mandate of SB 14. The regulations provide generators the flexibility to use their knowledge of their own operations and procedures

### The State and Federal Hazardous Waste Management Hierarchy

The preferred order for managing hazardous waste is:

1. Source reduction
2. Recycling
3. Treatment
4. Discharge or disposal

### SB 14 and the Hazardous Waste Source Reduction and Management Review Act of 1989

Senate Bill (SB) 14 was passed in 1989 to add Source reduction planning and reporting requirements for generators subject to the Hazardous Waste Control Law. SB 14 source reduction requirements passed into law as Article 11.9, under Chapter 6.5, Division 20 of the Health and Safety Code. SB 14 named Article 11.9 the "Hazardous Waste Source Reduction and Management Review Act of 1989."

Although SB 14 was the bill itself, state regulatory officials and hazardous waste generators commonly refer to the resulting Act and corresponding regulations as "SB 14."

to reduce hazardous waste generation and prevent the release of pollutants to the environment. The regulations specify the format for documenting a careful review and evaluation of potential source reduction measures, rather than the waste management actions that must be taken.

## 1.2 Required SB 14 Documents

A generator who is subject to SB 14 must prepare documents that describe the source reduction program the generator has developed and is implementing. For the reporting year 2010, the following documents must be prepared by September 1, 2011:

1. Source Reduction Evaluation Review and Plan (Plan)
2. Hazardous Waste Management Performance Report (Performance Report)
3. The Summary Progress Report (SPR)

Additionally, the Summary Progress Report (SPR) must be completed by the generator and submitted to the DTSC Office of Pollution Prevention and Green Technology (OPPGT) on or before September 1, 2011. The generator must retain copies of the Plan, Performance Report, and SPR on-site, and have the documents readily available for on-site review by DTSC, a local agency, or the public.

The Plan is a forward looking document and must include an estimate of the quantity of hazardous wastes generated, an evaluation of potential source reduction approaches, a timetable for implementing selected source reduction measures, and a four-year numerical goal. The Plan must also address the predicted effectiveness of selected measures at reducing hazardous waste and releases to all environmental media (the air, land and water). A generator who is a small business may choose to complete OPPGT's industry-specific checklists, Waste Audit Studies or Compliance Checklist in place of the Plan. OPPGT developed the Compliance Checklist as an alternative format of the Plan for smaller businesses that have inadequate technical and financial resources for obtaining information and assessing source reduction methods.

The Performance Report is a retrospective document and must include an assessment of the effect on waste generation of each waste management approach implemented since the baseline year, including source reduction, recycling and treatment. The Report can serve as a way for the generator to share with the public all of the positive efforts to improve the management of hazardous waste at the generator's site.

The Summary Progress Report summarizes the result of implementing the source reduction measures identified in the generator's previous Plan and the amount of reduction that the generator anticipates will be achieved by the implementation of source reduction selected in the current Plan.

## 1.3 About the Guidance Manual

The Office of Pollution Prevention and Green Technology (OPPGT) developed the Guidance Manual to serve as a reference for hazardous waste generators preparing the source reduction documents required by SB 14. The topics presented in the Guidance Manual follow the general order of the SB 14 regulations. The Guidance Manual will help the reader determine if they must comply with SB 14 and, if so, guide them in preparing a Plan, Performance Report, and SPR. Each major chapter references the corresponding SB 14 regulation.

In addition to addressing the regulatory requirements specified by SB 14, the Guidance Manual contains additional information to help those who are preparing source reduction documents. Suggestions, example formats, and stories of successful source reduction measures are placed within shaded boxes to indicate that the information is not a requirement of SB 14. OPPGT hopes that these suggestions and examples make the process of preparing source reduction documents easier, reduce the number of errors, and increase the success of implementing source reduction.

Appendices to this manual contain the following information which may be useful during the preparation of source reduction documents:

- A. SB 14 law
- B. SB 14 regulations
- C. List of Standard Industrial Classification (SIC) codes
- D. List of California Waste Codes
- E. List of publications available from OPPGT
- F. List of local Unified Program Agencies including Certified Unified Program (CUPAs), designated agencies, and participating agencies
- G. Completeness Lists to help track the preparation and completeness of source reduction documents.

This Guidance Manual includes SPR Tips (example shown on right) to help a generator complete the SPR. The tips help by indicating where requirements are found in the Plan and Performance Report.



## 1.4 To Obtain SB 14 Documents

Publications for SB 14 and other OPPGT topics are available by contacting OPPGT at (916)322-3670. See Appendix E for a complete list of publications available from OPPGT. SB 14 Publications can also be printed from the OPPGT website at: <http://www.dtsc.ca.gov/PollutionPrevention>. If this website cannot be reached, go to <http://www.dtsc.ca.gov> and click on Pollution Prevention from the list of sources.

## 1.5 Completeness Reminders

If you are required to prepare SB 14 documents, and you have completed the documents for the reporting year 2010, did you remember to:

- Review the Appendix G Completeness Lists to verify document compliance?
- Include a Technical Certification as detailed in Chapters 5 and 6?
- Include a Financial Certification as detailed in Chapters 5 and 6?

These are common but serious omissions. Your Plan and Performance Report are incomplete without the technical and financial certifications.

## 1.6 Submittal Reminders

If you are required to prepare SB 14 documents, did you remember to:

- Prepare a Summary Progress Report as detailed in Chapter 7?
- Submit your Summary Progress Report to DTSC by September 1, 2011?

You are not in compliance with SB 14 unless you prepare a Summary Progress Report, and submit it to DTSC.

### A Source Reduction Success - Children's Hospital Los Angeles

Children's Hospital Los Angeles (CHLA) has been operating since April 1, 1901 and is a 318-bed licensed acute care pediatric hospital. The facility supports one of the largest educational programs of any pediatric institution in the country. The CHLA operates schools of Physical Therapy, Medical Technology, and X Ray Technology. Because of the research facilities on campus, CHLA has larger and more diversified hazardous waste streams than other area hospitals.

Children's Hospital Los Angeles continues to implement innovative source reduction measures for all of their waste streams. In general, chemical purchases have steadily declined in the past five years while research and patient loads have increased. The following are a few examples of source reduction measures implemented at their hospital.

- Analysis and evaluation was done to assess how oils, lab chemicals, and solvents entered the industrial wastewater clarifier. Analysis showed chemical residues from the labware cleaning process entering the wastewater system. All excess waste in the labware was put through the cleaning systems with disregard to chemicals ending up in the clarifier. The clarifier had to be pumped and cleaned monthly with hot water and bleach to reduce hydrocarbon buildup. In fiscal year 1994-95, a program was initiated to train personnel in the maintenance of the cleaning system, use of the proper receptacles for the collection and disposal of chemical wastes, and use of the autoclave for cleaning and sterilization of labware.  
 In midyear 1995, hydrocarbon-reducing enzymes were introduced into the clarifier system to reduce hydrocarbons and alleviate the need to pump and clean the clarifier monthly. No capital outlay was needed, pumping costs were reduced by \$1950 per month, and contaminated wastewater entering the POTW was reduced by 46,541 pounds per year.
- All laboratory euthanasia now uses carbon dioxide instead of ethyl ether. This input substitution has improved worker safety and reduced the reporting of extremely hazardous substances. In addition, there is a substantial cost difference between chemicals.
- Mercury thermometers, blood pressure cuffs, and related instruments/devices were replaced with non-mercury thermometers, and electronic/chemical piezometric devices. Replacement of mercury units with new electronic devices took place over a long period to ensure product manufacturers could provide equipment that was suitable for use in the pediatric setting. Electronic devices for blood pressure and thermometer reading are comparable in cost to instruments containing mercury because they do not have high disposal costs. In addition, the electronic devices do not pose a hazard to patients and workers.

# Chapter 2 Applicability

## 2.1 Applicability Thresholds

SB 14 applies to a generator that, by site, routinely generates, through ongoing processes and operations, more than 12,000 kilograms of hazardous waste in a reporting year, or more than 12 kilograms of extremely hazardous waste in a reporting year. It includes hazardous waste regulated by Title 40 Code of Federal Regulations (40 CFR), as legislated in the federal Resource Conservation and Recovery Act (RCRA). It also includes non-RCRA California-only hazardous waste. The non-RCRA waste is not regulated as hazardous by 40 CFR, but is regulated as hazardous by Title 22, California Code of Regulations (22 CCR).

The generator must sum the total hazardous waste generated at his/her site during the reporting year then subtract any wastes that are exempted, not routinely generated, or excluded per recycling law. If the total remaining wastes exceed either SB 14 threshold, the generator must prepare the following documents by September 1, 2011 (see example):

1. Source Reduction Evaluation Review and Plan (Plan), for reporting year 2010
2. Hazardous Waste Management Performance Report (Performance Report) for reporting year 2010
3. Summary Progress Report (SPR) for reporting year 2010

The generator must also send the completed SPR to OPPGT on or before September 1, 2011. A copy of the Plan, the Performance Report, and the SPR must be maintained at the site and made available for review upon request.

Hazardous Waste	CWC	Amount Generated - 2010
Rinse water	132	85,600 gallons
Plating bath	792	1,000 gallons
<del>Filter cake</del>	<del>174</del>	<del>800 pounds</del>
Paint waste	331	10,000 pounds
Solvent	214	1,500 pounds
Waste oil	221	500 pounds
Drums/containers	513	5,400 pounds
<del>Asbestos waste</del>	<del>154</del>	<del>200 pounds</del>
Contaminated Rags	551	500 pounds

### Threshold Equivalents

12,000 kg	=	26,400 lbs
12,000 kg	=	13.2 tons
12,000 kg	=	3,100 gallons
12 kg	=	26.4 lbs

To determine the applicability of SB 14 to a specific site, the generator should understand the terms used in SB 14, identify wastes generated at the site that are excluded from SB 14, collect data on the weight of hazardous wastes and extremely hazardous wastes generated at the site during the reporting year, and be familiar with operations at the site.

## 2.2 Terms and Definitions

The generator of a waste must determine if the waste is a hazardous waste or an extremely hazardous waste. Sections 25115 and 25117 of the Health and Safety Code define extremely hazardous waste and hazardous waste, respectively. 22 CCR Section 66262.11 provides the steps a generator must follow to determine if the waste is a hazardous waste or extremely hazardous waste.

**Baseline year means either of the following, whichever is applicable:**

1. For a generator's initial Performance Report, the baseline year is the calendar year, selected by the generator, for which substantial data is available on hazardous waste generation, on-site management, or off-site management. However, the generator may select the current reporting year as the baseline year for the initial Performance Report.
2. For all subsequent Performance Reports, the baseline year is the reporting year of the immediately preceding Performance Report. For example, if the generator was required to prepare SB 14 documents for 2006, the baseline year for the 2010 Performance Report would be 2006.

Reporting year means the calendar year immediately preceding the year in which a source reduction document is to be prepared. For source reduction documents due September 1, 2011, the reporting year is calendar year 2010. The generation of hazardous waste can fluctuate from year to year. However, under SB 14, a generator considers only hazardous waste routinely generated during the reporting year when determining if the applicability threshold is exceeded.

**More specifically, routinely generated hazardous waste and/or extremely hazardous waste includes:**

1. Wastes that result from ongoing processes or operations,
2. Wastes generated from regularly scheduled maintenance or production activities performed once a year or more frequently than once a year,
3. It might also include wastes generated from regularly scheduled maintenance or production activities performed less frequently than once a year.

Site is defined in section 25205.1(h) of the Health and Safety Code, to mean "the location of an operation which generates hazardous wastes and which is noncontiguous to any other location of these operations owned by the generator." Noncontiguous is the key word. If two operations are touching and owned by the same person, the operations are on one site.

### **A Simple Method for Determining Applicability**

Ask yourself the following questions to help determine if SB 14 applies to your site. Do not include exempted wastes, wastes not routinely generated, or excluded wastes.

1. Are total manifested waste quantities greater than SB 14 thresholds? "Yes" means you may be subject to SB 14.
2. Do you pretreat more than 3,100 gallons of hazardous aqueous wastes on-site under tiered permit authorization prior to discharge? "Yes" means you may be subject to SB 14.

If the answer to both 1 and 2 above is "no," then ask the following question.

3. Is the total waste quantity in 1 and 2 above greater than SB 14 thresholds? "Yes" means you may be subject to SB 14.

**NOTE:** Refer to Section 2.3 of this chapter to determine how exemptions or exclusions may apply to your facility.

## 2.3 Exempted Waste Streams

DTSC exempts a waste stream from the requirements of SB 14 (but not from the management requirements of other Articles of 22 CCR) if the waste has no source reduction opportunities or is not routinely generated. A generator does not include an exempted waste stream when calculating the total weight of hazardous waste generated at a site to determine SB 14 applicability. For the reasons stated above and other common limitations, the following waste streams are specifically exempted by 22 CCR Section 67100.2. Process specific exemptions, such as in-line recycling of process waste, need to be determined individually. Exempted waste streams include:

- Motor vehicle fluids and motor vehicle filters
- Lead acid batteries
- Household hazardous wastes, wastes from household collection events, and wastes separated at community landfills
- Waste pesticides and pesticide containers collected by county agricultural commissioners
- Spent munitions and ordinance
- Decommissioned utility poles
- Oil generated from decommissioned refrigeration units
- Mercury relays and low-level radioactive tubes generated from removal of telephone equipment.
- Lighting wastes including ballasts and fluorescent tubes.
- Hazardous wastes that are designated as universal wastes in Section 66261.9.
- Waste from site cleanup and mitigation activities, including remedial investigations
- Samples and evidence from enforcement actions
- Asbestos
- Polychlorinated biphenyls (PCBs)
- Formation fluids and solids from oil, gas, and geothermal exploration and field development
- Recent legislation expands the geothermal drilling waste exemption to include (under certain conditions) wastes generated from the exploration, development, or production of geothermal energy (Senate Bill 1294, Chapter 143, Statutes of 2006).
- Demolition waste/major renovation waste
- Waste generated from emergency response actions
- Waste generated from laboratory scale research
- Medical waste



How might routinely generated waste include waste generated less frequently than once a year?

Example: If a plating shop drains and discards its spent plating bath solution as hazardous waste once every two or three years, and does so in 2010 but not in 2009 and not in 2011, then it does need to report the 2010 drained waste in SB 14 documents for the 2010 reporting year. If it drains in 2009 and/or 2011 but not in 2010, then it does not report the drained waste for the 2010 reporting year.

If you have any questions regarding SB 14 exempted waste streams, please contact OPPGTs Source Reduction Unit at (916) 322-3670. A generator may request OPPGT to exempt a hazardous waste stream with no practicable source reduction.

## Collect Data on Hazardous Waste

Data on hazardous waste manifested off-site, as well as hazardous wastewater effluents, may come from a variety of sources, including:

- Hazardous waste manifests
- Biennial hazardous waste generator reports
- Wastewater flow records
- Superfund Amendments and Reauthorization Act (SARA) Title III Section 313 environmental release reports
- Environmental audit reports
- Permits [RCRA Part B; National Pollutant Discharge Elimination System (NPDES); etc.]
- Lab reports/characterization data
- Chemical inventory and usage records
- NPDES monitoring reports
- Internal waste tracking system records
- Production records

These sources of information are helpful in calculating the total hazardous waste generated. They also provide valuable information such as hazardous characteristics and current (off-site as well as on-site) management methods.

Another way for a large business to accumulate information or to supplement its collection is to prepare a brief questionnaire for key departments, such as production, maintenance, and service, which are known or suspected to generate waste. A review of operator logs or production records may also provide useful information in calculating quantities of hazardous waste.

from the requirements of SB 14. OPPGT considers requests on a case by case basis. However, the documentation required to demonstrate that no practicable source reduction exists for a hazardous waste stream may be extensive.

## 2.4 Additional Considerations

- When determining applicability of SB 14 at a site, a generator must include the weight of aqueous hazardous waste streams before pretreatment and discharge to a sewer.
- In determining the applicability of SB 14 (22 CCR Section 67100.2(a)), hazardous waste streams must be evaluated separately from extremely hazardous waste streams when comparing these waste streams to their respective applicability thresholds. For example, if the generator is above the 12,000 kg threshold for hazardous waste, and above the 12 kg threshold for extremely hazardous waste, then both hazardous waste and extremely hazardous waste must be addressed as part of SB 14 planning and reporting.
- A generator may manage wastes by a variety of strategies, such as transport off site for recycling, treatment or disposal; on-site treatment; or on-site recycling.
- Do not double-count the waste. For onsite treatment of a hazardous waste, count only the hazardous waste influent entering the treatment unit and not any resulting hazardous waste residue or effluent leaving from the unit.

- California Hazardous Waste Law excludes some recyclable materials from classification as a waste, provided the conditions in Section 25143.2 of the Health and Safety Code are satisfied.
- How a hazardous waste stream is managed on-site may affect its inclusion in determining the applicability of SB 14 to the site. For example, some hazardous waste recycling processes do not currently require a permit from DTSC (i.e., they are exempt from tiered permitting requirements). But the material may still be designated a hazardous waste and captured by SB 14. Generators should carefully read section 25143.2 of the Health and Safety Code to determine if a recyclable material is designated a hazardous waste, and therefore, subject to inclusion in the SB 14 applicability determination. If you have any questions about recycling exclusions, call the DTSC Waste Identification and Recycling section at (916) 327-4499.
- The residual material from the treatment of hazardous waste received from an off-site facility is not a waste that has been generated on-site by the generator. Therefore, the generator should not include this residual material when determining SB 14 applicability at the site.

## Organize, Sort, and Display Data

Once you have collected all the hazardous waste data for your facility for Reporting Year 2010, estimate your annual hazardous waste production by waste stream. Screen the data to determine which waste streams are exempted or not routinely generated.

When estimating the weights of each waste stream, use the conversion factors in Chapter 2.1 to document each annual total in pounds. Table 1 below is a tool one could use to organize, screen, and quantify their hazardous waste generation. It also provides concise documentation of your data collection effort and your decision process regarding the wastes that were included in (or excluded from) your Plan.

The table includes a “waste type” column, which is designated as hazardous waste, extremely hazardous waste, nonhazardous waste, or waste exempted by regulation. The Table also includes a “frequency” column, which is designated as routinely generated or not routinely generated. Waste type and frequency are the two criteria used to sort the data. A column for the California Waste Code (CWC) is included to group the wastes. A list of CWCs can be found in the Appendix D.

**Table 1. Optional Table to Organize Waste Generation Data  
(Example format --- not required by SB 14)**

Site Name: \_\_\_\_\_ Reporting Year: \_\_\_\_\_

Waste Stream	Waste Type <sup>1</sup>	Frequency <sup>2</sup>	CWC <sup>3</sup>	Weight (lbs)

<sup>1</sup> **Waste Type Codes**

- H** = hazardous waste
- E** = extremely hazardous waste
- W** = nonhazardous waste
- X** = waste exempt by 22CCR 67100.2(c)

<sup>2</sup> **Frequency codes**

- R** = routinely generated
- N** = not routinely generated

<sup>3</sup> **CWC** = California Waste Code

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# Chapter 3 Compliance Deadlines

## 3.1 Dates to Remember

SB 14 requires generators to prepare SB 14 documents on or before September 1, 1991 and every four years thereafter, when the generation of hazardous waste or extremely hazardous waste exceeds the corresponding applicability threshold during a reporting year. That requirement means on or before September 1, 2011, the three documents to be prepared are the Plan, Performance Report, and Summary Progress Report (SPR). The documents are to be prepared for the 2010 reporting year.

## 3.2 Mandatory Summary Progress Report Submittal

The requirement to prepare and submit an SPR to OPPGT applies to all generators subject to SB 14. The SPR must be submitted to OPPGT by September 1, 2011. Details on preparing and submitting an SPR are provided in Chapter 7.

## 3.3 New Owner

If a generator acquires a site that has an existing set of source reduction documents, the new owner has six months to amend the documents (22 CCR Section 67100.2(d)). If the new owner does not amend the documents within six months, the existing documents, including the selected source reduction measures and numerical goal, will continue to apply to the site. The new owner would also be responsible for the implementation of the selected source reduction measures according to the existing implementation schedule.

However, the provisions of 22 CCR Section 67100.4(c) allow a new owner some discretion after the six months deadline expires. For example, the new owner might determine that a selected measure is not technically feasible or economically practicable. The new owner may then decide not to implement a selected source reduction measure if attempts to implement the measure reveal that the measure would result in, or has resulted in, any of the following:

- An increase in the generation of hazardous waste;
- An increase in the release of hazardous chemicals to other environmental media;
- Adverse impacts on product quality; and
- A significant increase in the risk of an adverse impact to human health or the environment.

The new owner's decision to not implement a selected source reduction measure does not require any government approvals. However, the new owner must amend the Plan to reflect the decision to not implement a selected measure. The amendment to the Plan must include proper documentation identifying the rationale for the decision. The amendment can be in

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the form of an addendum, dated and signed by the individual qualified to technically certify the plan, and incorporated into the Plan by reference.

## **A Source Reduction Success - Gold Seal Plating**

Gold Seal Plating is a company in California of 18 to 36 employees that provides nickel, copper, silver, and gold plating of jewelry and flexible circuits. Gold Seal Plating performs rack and barrel plating and operates both manual and automatic plating lines.

Gold Seal Plating began targeting its hazardous rinsewaters for source reduction in 1980. In late 1995, Gold Seal Plating reached the goal that many metal plating facilities are trying to achieve—zero water discharge. Gold Seal Plating did not become a zero water discharge facility quickly. They achieved this status through a systematic approach that included commitment, good research and planning, some common sense, good employee relations, and trial and error.

Gold Seal Plating began its source reduction approach by first considering the low cost, common sense approaches. These approaches included:

- Improved bath maintenance
- Fog rinsing above heated process baths
- Reuse of drag-out solutions in heated baths
- Reuse of spray rinses in rinse tanks
- Electrocleaner purification
- Countercurrent rinsing
- Electrowinning to recover precious metals from rinse tanks

By incorporating these changes, the metals loading into the rinsewater was reduced by 90% and the rinsewater flow rate was reduced from 15 gallons per minute (gpm) to 6 gpm. Gold Seal Plating wanted to further improve its rinsewater quality without requiring the use of more city water, additional wastewater treatment, or increasing its discharge to the sewer. Gold Seal Plating installed an ion exchange system to remove the contaminants from the rinsewater, thereby providing high quality deionized water for reuse in the rinse system. Costs per 1000 gallons of rinsewater treated was reduced from \$29 (on-site treatment) to \$6-8 (ion exchange). With the use of an evaporation system for the ion exchange regenerant, Gold Seal Plating was able to cap its sewer in January, 1996.

Gold Seal Plating's systematic approach to source reduction had many advantages. The reduction in metals loading and rinsewater flow allowed Gold Seal Plating to select a more cost effective ion exchange system. Gold Seal Plating installed a 15 gpm ion exchange system that allows improvements in rinse water quality and increases in rinsewater use due to production changes. Without taking the first steps, Gold Seal Plating would have purchased a larger, more costly ion exchange system. The higher capital cost of the larger ion exchange system, in addition to the cost of waste treatment and maintenance, would have limited expansion of the system to accommodate increases in production.

For its source reduction accomplishments, Gold Seal Plating received awards from the California Water Environment Association, East Bay Municipal Utility District, Peninsula Conservation Center Foundation, Santa Clara County, and the U.S. Congress. In addition, Gold Seal Plating's recognition as an environmentally-conscious business has increased its customer base beyond California.

# Chapter 4 Options

## for a Small Business, Multiple Sites, or a Complex Site

### 4.1 Definition of “Small Business”

The definition of a “small business” used by SB 14 is taken from section 11342.610 of the California Government Code which states:

- A. “Small business” means a business activity in agriculture, general construction, special trade construction, retail trade, wholesale trade, services, transportation and warehousing, manufacturing, generation and transmission of electric power, or a health care facility, unless excluded in subdivision B, that is both of the following:
  - 1. Independently owned and operated.
  - 2. Not dominant in its field of operation.
  
- B. “Small business” does not include the following professional and business activities:
  - 1. A financial institution including a bank, a trust, a savings and loan association, a thrift institution, a consumer finance company, a commercial finance company, an industrial finance company, a credit union, a mortgage and investment banker, a securities broker-dealer, or an investment adviser.
  - 2. An insurance company, either stock or mutual.
  - 3. A mineral, oil, or gas broker.
  - 4. A subdivider or developer.
  - 5. A landscape architect, an architect, or a building designer.
  - 6. An entity organized as a nonprofit institution.
  - 7. An entertainment activity or production, including a motion picture, a stage performance, a television or radio station, or a production company.
  - 8. A utility, a water company, or a power transmission company generating and transmitting more than 4.5 million kilowatt hours annually.
  - 9. A petroleum producer, a natural gas producer, a refiner, or a pipeline.
  - 10. A manufacturing enterprise exceeding 250 employees.
  - 11. A health care facility exceeding 150 beds or one million five hundred thousand dollars (\$1,500,000) in annual gross receipts.
  
- C. “Small business” does not include the following business activities:
  - 1. Agriculture, where the annual gross receipts exceed one million dollars (\$1,000,000).
  - 2. General construction, where the annual gross receipts exceed nine million five hundred thousand dollars (\$9,500,000).
  - 3. Special trade construction, where the annual gross receipts exceed five million dollars (\$5,000,000).
  - 4. Retail trade, where the annual gross receipts exceed two million dollars (\$2,000,000).

5. Wholesale trade, where the annual gross receipts exceed nine million five hundred thousand dollars (\$9,500,000).
6. Services, where the annual gross receipts exceed two million dollars (\$2,000,000).
7. Transportation and warehousing, where the annual gross receipts exceed one million five hundred thousand dollars (\$1,500,000).

## 4.2 Options For a Small Business

A generator that meets the definition of a small business and meets the SB 14 applicability criteria outlined in Chapter 2, must also comply with SB 14. In place of the Plan, a small business may choose to complete any one of the following documents:

- Hazardous Waste Source Reduction Compliance Checklist (Compliance Checklist)
- Industry-specific Waste Audit Study plus Sections 1, 3, 4, 5 and 6 from the Compliance Checklist
- Industry-specific Hazardous Waste Minimization Checklist and Assessment Manual plus Sections 1, 3, 4, 5 and 6 from the Compliance Checklist

Small businesses may find that completing the forms in the Compliance Checklist or appropriate Waste Audit Study easier than completing a Plan. OPPGT developed the Compliance Checklist for use by companies not addressed by the industry-specific Waste Audit Studies or Hazardous Waste Minimization Checklist and Assessment Manuals. These documents may be used in place of the Plan by small businesses that have inadequate technical and financial resources for obtaining information and assessing source reduction methods. The Compliance Checklist, Waste Audit Studies, and Checklist and Assessment Manuals listed in Appendix E are available from OPPGT. See Chapter 1 for information on obtaining SB 14 documents or for OPPGT contact information.

In addition, as an alternative to preparing a Performance Report required by SB 14, a small business may use its most recent biennial generator report (BGR), as required by 22 CCR Section 66262.4, as the Performance Report required by SB 14.

As with all generators subject to SB 14, small businesses must prepare a Summary Progress Report (SPR) and submit it to OPPGT by September 1, 2011.

## 4.3 Options For Multiple Sites

A generator that owns or operates multiple sites with similar processes, operations, and waste streams may prepare a single, multiple-site Plan, Performance Report, and SPR addressing all of the sites. A generator that chooses this option may avoid unnecessary duplication of work. However, generator must either keep a copy of the multi-site Plan, Performance Report, and SPR at each site, or at a central location such as a public library or local government agency [22 CCR 67100.3(b)].

Multi-site generators should verify the applicability of SB 14 requirements at each site, before preparing the Plan, Report, and SPR. This is because the multi-site Plan etc. should not include a site for which SB 14 is not applicable.

## 4.4 Options For a Complex Site

A generator that owns a complex site with multiple operations that are managed as independent businesses may choose to prepare a separate Plan, Performance Report, and SPR for each operation that is independently managed. An example of a complex site is a site where hazardous wastes generated at each operation are managed by a separate environmental coordinator or production unit. A generator that chooses this option may avoid the burden of coordinating source reduction evaluation and planning activities between businesses or operations that would otherwise act independently.

### A Source Reduction Success - The Martin Luther King Jr./Charles R. Drew Medical Center

The Martin Luther King Jr./Charles R. Drew Medical Center (KDMC) in Los Angeles is a direct result of the historic Watts Riots of 1965. Following the riots, former Governor Pat Brown appointed John A. McCone to head a commission to study the causes of the riots. The McCone Commission Report identified the absence of accessible quality health care as a major contributor to the civil disturbance.

KDMC is a short-term general acute care community teaching facility, a Level I Trauma Center, and a Level III Newborn Intensive Care Unit. The facility has 14 approved clinical residency training programs, and operates a Paramedic Base Station and emergency heliport. The following are a few of the source reduction methods implemented by the hospital:

- In the past, maintenance workers manually washed paint guns in the paint shop with thinner. Manual washing released thinner into the surrounding work space and generated thinner waste. However, a Herkules Paint Gun Washer and Recycler that uses compressed air was installed in the paint shop in mid-1994. Practically all the used thinner is now captured as liquid waste. The washer effectively cleans the paint gun and reuses the thinner for additional washes. Thinner waste was reduced by 28%, or 500 pounds per year. The capital cost was \$975 and operation and maintenance costs are \$100 a year.
- Laboratory technicians manually dipped slides with blood smear into the stains. The manual process takes 12 to 15 minutes. A Wescor Aerospray Hematology Slide Stainer was installed in January 1995. The automatic slide stainer sprays the slides with the stains, minimizing the generation of alcohol waste. The machine can replace the manual staining process for most slides with the exception of bone marrow slides. The machine takes less than 10 minutes. The slide stainer costs \$6000 and has annual recurring costs of \$600. Annual savings in chemicals and waste disposal are \$930 and \$50, respectively. The use of the automatic slide stainer is estimated to save a minimum of 1 person-hour per day. Since the Hematology Laboratory operates 365 days per year, the automatic stainer saves approximately 365 person-hours per year or \$9125 per year.
- Employees used or serviced mercury sphygmomanometers daily, and a number of mercury spills resulted from breakages. Replacement of mercury sphygmomanometers in the patient care areas with TycosR Aneroid Sphygmomanometers was completed in 1994. The aneroid sphygmomanometers are accurate and do not contain mercury. The estimated hazardous waste source reduction was 75%, or 150 pounds per year.

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# Chapter 5 The Plan

## 5.1 Before Preparing the Plan

Generators subject to SB 14 shall prepare a plan with sufficient detail to convey an understanding of the source reduction evaluation and review and analysis performed (22 CCR Section 67100.5).

SB 14 specifies that a Plan must be understandable and contain sufficient information to convey an understanding of the facility's review and evaluation of potential source reduction measures. The Plan can consist of narratives, photographs, illustrations, figures and data to meet the requirements of a Plan established by SB 14. The level of detail will vary from site to site. However, the Plan should contain sufficient information to enable an outside reader to understand the overall flow of materials between the processes at the site, identify the processes generating hazardous waste, and understand the facility's review, evaluation and selection of potential source reduction measures.

### Planning for Successful Source Reduction

A thorough evaluation of source reduction measures is the result of a combination of many factors, including a **commitment** by management, **awareness** among employees, and **effort**. The establishment and implementation of a successful source reduction program requires a proper plan and a **systematic approach**. There is no one right way to begin. However, successful source reduction programs possess several common elements:

1. Source reduction is part of the **core value structure** of a business, corporation, or institution, regardless of the size of the facility. It is intrinsic in the company's philosophy, practices, and goals. Qualitative source reduction goals are among the measurements of success. The source reduction policy and goals are documented in writing, distributed to all employees, and **considered in day-to-day decisionmaking**.
2. **Management supports** the source reduction philosophy and objectives and **commits the resources** to carry out the source reduction program.
3. A person or team is authorized to manage, direct, incite, and assume responsibility for the operation and maintenance of the source reduction program.

## 5.2 General Site Information

The Plan must contain the following general site information:

- Name of the site
- Location of the site including street address, city, county, and zip code. In the case of multiple sites, provide the street address, city, county, and zip for each site location.

- Telephone number
- Hazardous Waste Generator Identification Number issued by USEPA or DTSC.
- Four-digit Standard Industrial Classification (SIC) code applicable to activities at the site.

SIC codes are developed by the federal government for characterizing sites by their business activity. A list of SIC codes is in Appendix C. Use the one code that best describes the operations occurring at the site.

If a generator owns multiple sites with similar operations and chooses to prepare a multisite Plan, only one SIC code should be used to represent all sites. However, any site that contains different operations, different processes or different waste streams can not be covered by the multisite Plan. A separate Plan must be completed for each site not covered by the multisite Plan.

If a generator owns a complex site with multiple operations managed as independent businesses and chooses to prepare a separate Plan for each operation, an SIC code must be provided for each operation.

- Similarly, where requested in the SPR, the generator should include its North American Industry Classification System (NAICS) code number. Go to <http://www.naics.com> to determine your facility's NAICS Code.
- Brief description of the type of business or activity conducted at the site.
- Length of time the company has been in business at the present site. The length of time helps relate to the age of the equipment or production operation. The potential for source reduction may correlate to the age and technology of the production process.
- Major products manufactured or services provided. If the generator is concerned that the products or services may not be understood by someone reading the Plan, the generator may provide a description of the end use or application of the products.
- Number of employees
- A general description of the site operations, with corresponding block diagrams for each process evaluated. Each block diagram should highlight quantity and type of raw materials, hazardous waste, and final products produced. Examples of block diagrams are shown in Figure 1.

### General Site Information

A generator collecting background information before beginning the source reduction evaluation should keep in mind which information must be included in the Plan. Narrative text, data, or figures derived from file correspondence, process flowcharts, or other records may be useful when preparing the Plan.



Section 4 of the SPR requests generators to provide their North American Industry Classification System (NAICS) Code. Go to: <http://www.naics.com> to determine your facility's NAICS Code.





































































