A Refresher on SB 14 Hazardous Waste Source Reduction for the 2011 Compliance Year

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Agenda
- Intro to EORM
- Intro to SB 14
- Compliance Risks
- SB 14 Project Roadmap
- Summary and Questions

Who Is EORM
- History
  - Founded in 1990 by Environmental, Health and Safety (EHS) managers to offer comprehensive EHS management and technical services to the high tech industry
  - In late 90s, successfully diversified our client base into multiple regional and vertical markets across the US and beyond
- Today
  - Headquartered in San Jose
  - Supported by offices across the US with a multidisciplinary technical staff
  - Well-established partnering arrangements allowing for cost effective and timely international support
  - ISO 14001 and OHSAS 18001 Certified

EORM Locations
- Portland
- Oakland
- San Jose
- Orange County
- Boston

EORM Delivers EHS Globally
- EORM provides EHS management & technical services worldwide
  - Strategically-located US offices
  - Key global service partners
  - Shaded countries show located EORM and Service Partner presence

Key Service Areas
- Sustainability
- Industrial Hygiene
- Occupational Health and Safety
- Environmental Management
- Environmental Compliance
- Ergonomics
- Business Continuity Planning
- Process Safety
- Shared Services
**What is SB 14?**
- SB 14 Requires HW Generators to Assess HW Generation and Find Ways to Reduce Major HW Streams
  - Side benefits: save money; improve efficiency
- California law passed in 1989
- Administered by Cal/EPA DTSC
- CUPA checks compliance

**Does SB 14 Apply to Me?**
- Applies when more than 12,000 kg/year (26,400 lb/year) of RCRA and non-RCRA HW is generated
- Applied when more than 12 kg/yr (26.4 lb/year) of extremely hazardous waste is generated
- You may still be subject to SB-14 even though you are RCRA SQG if your RCRA+non-RCRA HW exceeds 26,400 lb/year
  - Lot of misunderstanding and non-compliance from RCRA SQGs

**Compliance Documents**
  - Maintained on site
- Source Reduction Plan (Plan)
  - Maintained on site
- Summary Progress Report (SPR)
  - SPR gets filed with DTSC

**Source Reduction Plan**
- Identify 2010 “major” HW streams
  - Major HW streams are more than 5% by weight
- Select HW to target for reduction
- Select Source Reduction Measures (SRMs) for Implementation
- Set HW reduction goals and timelines
- More on this later…
Summary Progress Report

- SPR goes to DTSC
  - Can be submitted online
  - Excel form
- Summary of Performance Report and Plan
  - Organized by California Waste Code (CWC)
  - How much did you generate in 2006?
  - What did you did to reduce?
  - How much did you generate in 2010?
  - How much will you reduce by 2014? (e.g., 5%)
  - How will you reduce?

Copy of SPR_Excel_Form2010_2.xls

What are the Risks of Non-compliance?

- DTSC compares your HW manifests with your SPR
- If your HW manifests show that you should file an SPR and you didn’t, DTSC sends you a Notice to Comply
  - Lots of Notice to Comply letters sent in 2008/2009

And the CUPA?

- During inspections, CUPA checks for Hazardous Waste Management Performance Report and Source Reduction Plan
- Performance Report and Plan should backup SPR
- Presents a Notice to Comply if Performance Report and Plan are not available
- May request copies of Performance Report and Plan

How do I do my SB 14 Compliance Documents?
Where to Start?
- Find the Source Reduction Plan and Summary Progress Report prepared in 2007 for the 2006 Reporting Year
  - Use a dust mask if you haven’t looked at it since 2007
- What did you tell the DTSC you were going to do?
  - And how did that work out for you?

Information Needed
- Performance Report, Plan, and SPR for 2006
- HW Manifests from 2006 if you have them
- HW Manifests from 2010
- Any other information you have to measure HW generation (e.g., by process or area)
- Process flow diagrams that show how major waste streams are generated
  - Should be in the 2006 Plan

Quantify Your 2010 HW
- Tabulate the 2010 HW streams
  - By process if you have that info
  - By CWC from your manifests if you don’t
- Convert all HW stream totals to pounds
  - Solids are likely in pounds already
  - Aqueous HW: pounds = gallons x 8.34 lb/gal
  - Other liquid HW:
    - pounds = gallons x density (lb/gal)
    - pounds = gallons x SG x 8.34 lb/gal

Add It Up
- Sum the pounds of HW generated
  - Subtract the “excluded” wastes
- If it’s more then 26,400 lbs, you have to comply with SB 14
- If not, then did you generate more than 26.4 lbs of extremely hazardous waste?
  - If so, you have to comply.
  - If not, take the next four years off…

Categorizing the HWs
- Category A: Aqueous waste: HW treated in an on-site wastewater treatment system
- Category B: Non-aqueous HW
- Category C: Extremely HW

Category A: Aqueous Waste
- HW treated in an on-site wastewater treatment system
- Is it or Isn’t it a HW?
  - Just because it needs treatment before it goes to the POTW doesn’t mean it’s a HW.
  - Just because it can go down the drain after treatment doesn’t mean it wasn’t a HW when it was generated.
- It’s an aqueous HW if:
  - Corrosive (pH less than 2 or greater than 12.5)
  - Reactive
  - Ignitable
  - Toxic
  - TCLP analysis says so
Category B: Non-Aqueous Waste

- Just about everything else that goes out on a manifest
- Includes RCRA and non-RCRA
- A few notable exemptions (not a complete list):
  - Non-routinely generated HW
  - One time remediation wastes
  - Lab steam clean
  - Motor vehicle fluids and motor vehicle filters
  - Lead acid batteries
  - Spent munitions and ordnance
  - Lighting wastes including ballasts and fluorescent tubes.
  - Waste from site cleanup and remediation activities, including remedial investigations
  - Samples and evidence from enforcement actions
  - Asbestos and Polychlorinated Biphenyls (PCBs)
  - Demolition waste/major renovation waste
  - Waste generated from emergency response actions
  - Waste generated from laboratory scale research
  - Medical waste

Category C: Extremely Hazardous Wastes

- Wastes listed in California Code of Regulations, Title 22, Sections 66261.107 through 66261.113.
- Water-reactive
  - Oral LD50 < 50 ppm
  - Dermal LD50 < 43 ppm
  - Inhalation LC50 < 100 ppm as a gas or vapor
  - Likely to result in death or serious illness/injury
  - Contains any of the substances listed in section 66261.24(a)(7) > 0.1% by weight

Identify Major Waste Streams

- Major waste streams account for 5% or more of the total by Category
- All major waste streams must be targeted for source reduction
- Category A Aqueous waste will likely be the largest
- Figure out which Category B HWs are 5% of the Category B total
- All Category C Extremely HW must be targeted for source reduction

Hazardous Waste Management Performance Report

- This is the straight-forward part
- For the major HW streams
  - Compare 2010 major HW streams to 2006 major HW streams.
  - Maybe they are the same HW streams; maybe not. Either way is okay.
  - Were the Source Reduction Measures from the 2006 Source Reduction Plan effective in reducing these major HW streams?
    - Discuss why or why not
  - Were the HW reduction goals set in 2006 met?
**Source Reduction Plan**

- This is the fun part
- For the major HW streams
  - What processes generate those HW?
  - Who are the key people involved with those processes?
    - Try to get the key people for each HW stream in a room to brainstorm HW reduction ideas

**Brainstorm Source Reduction Measures**

- Meeting needs to include
  - People knowledgeable about the processes
  - People who can make decisions about implementation
  - Environmental representative
  - Safety representative
  - Food

**Mandatory Source Reduction Approaches**

- Input changes
- Operational improvements
- Production process changes
- Product reformulations
- Administrative steps

**Examples of Input Changes?**

- Input changes, such as raw material or feedstock changes to reduce, avoid or eliminate the hazardous materials that enter the production process
  - Your examples?

**Examples of Operational Improvements?**

- Operational improvements, such as loss prevention, waste segregation, production scheduling, maintenance operations, and overall site management.
  - Your Examples?

**Examples of Production Process Changes?**

- Production process changes, such as process changes, changes in production methods or techniques, equipment modifications, changes in process operating conditions, or the return of materials for reuse within existing processes.
  - Your Examples?
Examples of Product Reformulations?

- **Product reformulations**, such as changes in design, composition or specification of final or intermediate products.

- **Your Examples?**

Examples of Administrative Steps?

- **Administrative steps**, such as inventory control and employee programs. These include employee training, incentives, bonuses and other such programs that encourage employees to strive for reducing hazardous waste. The focus should be on preventing the generation of hazardous waste.

- **Your Examples?**

Evaluation Criteria for Each SRM

- Expected change in the amount of HW generated
- Technical feasibility
- Economic evaluation
  - Capital cost, operating cost, waste management cost, return on investment (ROI), breakdown point, avoided cost, pretax payback period, or any other economic comparison method
- Effects on product quality
- Employee health and safety implications
- Permits, variances, compliance schedules or applicable state local and federal agencies
- Releases and discharges

Use a Matrix

- One evaluation matrix per major HW stream
- Source Reduction Methods versus Evaluation Criteria
- Weight the Evaluation Criteria if desired
- Select the highest ranked Source Reduction Measures for implementation
- Document why the rejected Source Reduction Measures were rejected in the Plan

Implementation Timetables

- When will each selected source reduction measure be implemented?
  - Start and Finish

Numerical Goals

- How much will each major HW stream be reduced?
- This commitment goes on the Summary Progress Report that goes to DTSC
Certifications - Both the Performance Report and Plan

- Technical
  - Usually the lead technical person on the project
  - Can be consultant (PE, REA)
- Financial
  - Financial certifier must be capable of committing financial resources necessary to implement the source reduction measures.
  - Options
    - Owner
    - Operator
    - Responsible corporate office
    - An authorized individual

Don’t Forget to File the Summary Progress Report

Summary Progress Report to DTSC

- Completed using information from Source Reduction Plan and Performance Report
- Excel form can be filed online
- Due to DTSC in Sept 2011

Summary, Resources, and Your Questions

Helpful Hints

- Don’t wait until the last minute to start
- Find your 2006 Source Reduction Plan and see what commitments were made
- If you’ve never done SB 14 before, consider using a consultant to guide the process
- Make sure you have the right people in the source reduction meetings
  - And the right snacks
- You may be pleasantly surprised to find out that efficiency improvements already underway are reducing HW
- Don’t over commit

For More Information

- [http://www.dtsc.ca.gov/PollutionPrevention/SB14/Reporting_Requirements.cfm](http://www.dtsc.ca.gov/PollutionPrevention/SB14/Reporting_Requirements.cfm)
- [http://www.dtsc.ca.gov/PollutionPrevention/SB14/Assessment_Reports.cfm](http://www.dtsc.ca.gov/PollutionPrevention/SB14/Assessment_Reports.cfm)
- [http://www.dtsc.ca.gov/PollutionPrevention/SB14/SB14.cfm](http://www.dtsc.ca.gov/PollutionPrevention/SB14/SB14.cfm)

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