# OECD *Guidance on Developing Safety Performance Indicators related to Chemical Accident Prevention, Preparedness and Response – A Tool for SERCs & LEPCs*

NASTTPO Initiative

# Overview

- Measure the success of our EPCRA and community preparedness programs and
- Tell the story of our success to stakeholders (i.e. the public, Congress, Federal Agencies, other SERCs/LEPCs, NASTTPO, etc.)
- Use in conjunction with APELL Program

# What is in the OECD *Guidance*?

- The Organisation for Co-Operation and Development (OECD) published *Guidance on Developing Safety Performance Indicators related to Chemical Accident Prevention, Preparedness and Response*
- *Guidance* divided into two documents
  - *Industry*
  - ***Public Authorities & Communities/Public***
- Companion to OECD *Guiding Principles on Chemical Accident Prevention, Preparedness and Response*
  - *Articulated "Golden Rules" of responsibility*
- Companion to APELL Program

# APELL Process


APELL

UNEP

# Expected APELL results

- **Enhanced** local knowledge of industrial and natural hazards
- **Informed** community about the risks they are exposed to
- **Educated** community on how to react to accidents/disasters
- **Promotion** of co-ordination between representatives from the industry, local institutions and the public
- **Preparation** of an integrated plan for community response to emergencies


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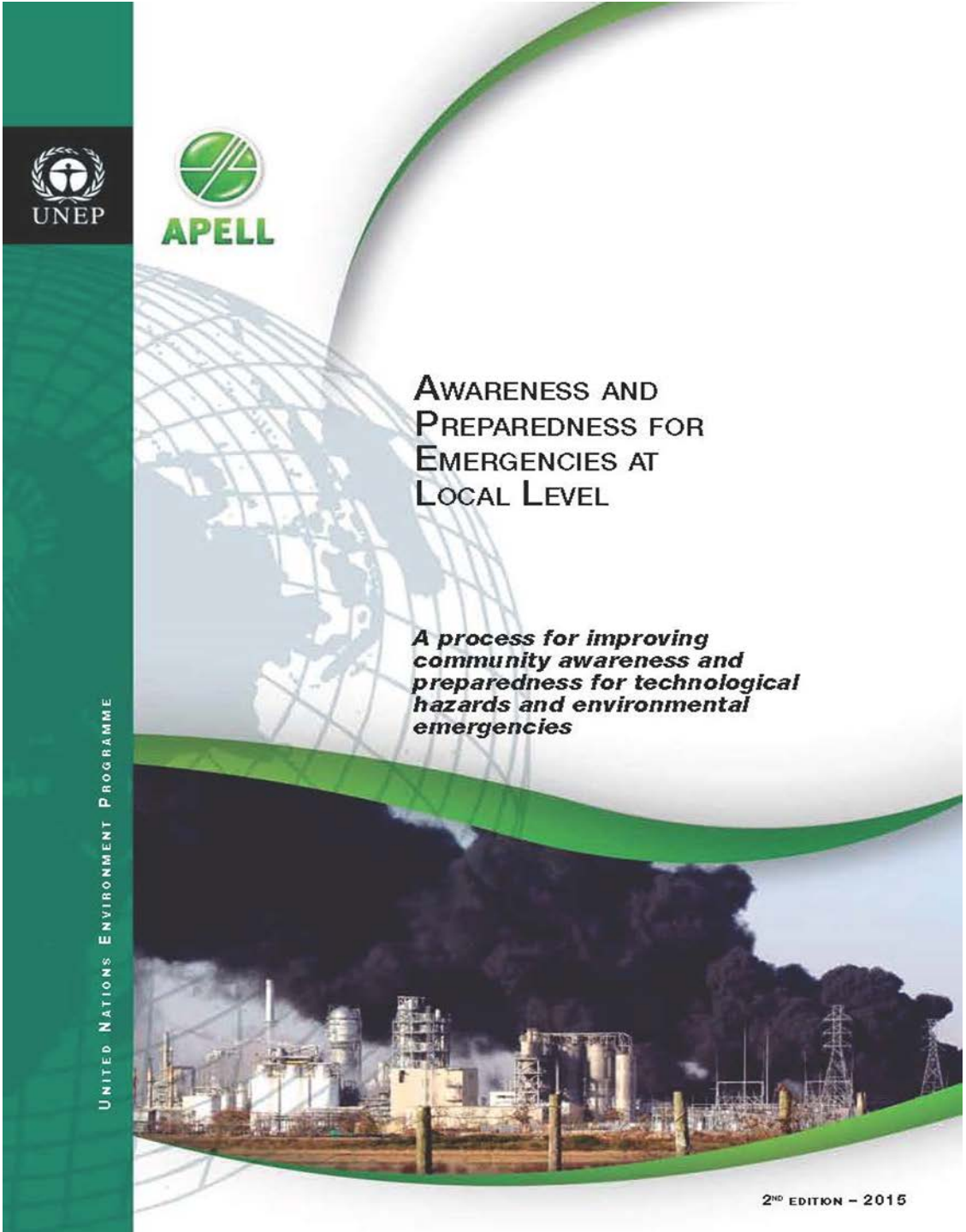


**The latest handbook is available at:** https://reliefweb.int/report/world/process-improving-community-awareness-and-preparedness-technological-hazards-and

APELL

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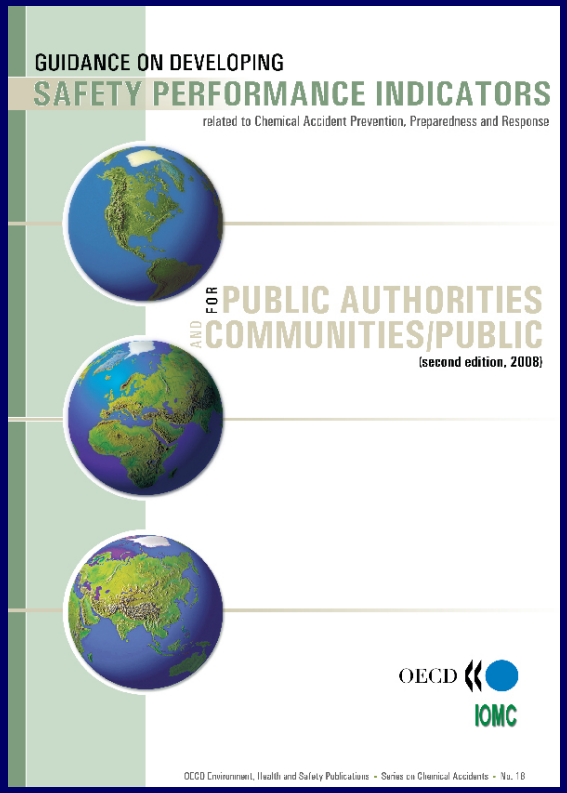
# The *Guidance on Developing Safety Performance Indicators (SPIs) is a tool which can be used to measure the success of your EPCRA program.*




# What is the Safety Performance Indicators Program?

- SPI programs allow organizations to check/demonstrate whether actions they have taken to address risks achieve desired outcomes
- SPI programs encourage a pro-active approach by linking activities and outcomes before activities are performed and tracking them over time
- Effective SPI programs help establish priorities & focus on activities that will be most effective in achieving vision of success
  - Critical given limited resources

# Concept of the SPI Program

- WHAT IS YOUR VISION OF SUCCESS?
  Broadly, what are you trying to achieve?

- WHAT DOES SUCCESS LOOK LIKE?
  How will I know when I have achieved success?

- SELECT ACTIVITIES WITH OUTCOMES

- MEASURING OUTCOMES SHOWS PROGRESS TOWARDS THE VISION

# SAMPLE VISION OF SUCCESS

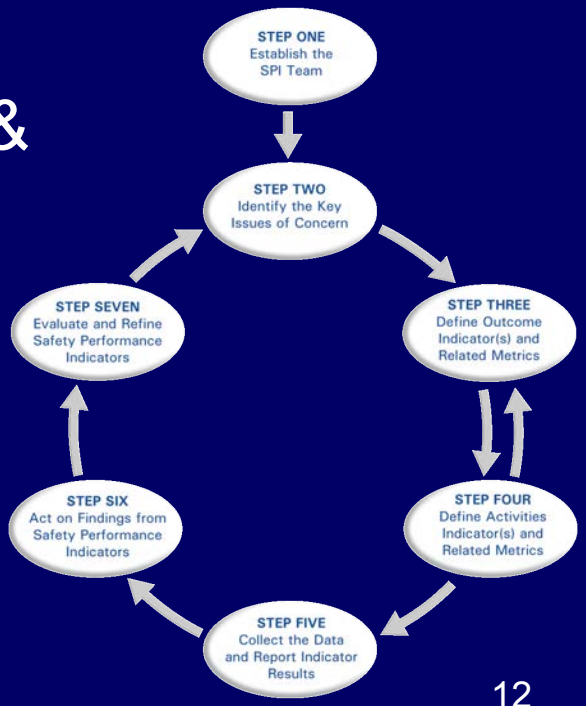
- **LEPCs will be part of a community-wide, all-hazards planning effort that includes hazardous materials. LEPCs will utilize their unique authorities under EPCRA to promote and support this effort.**

# WHAT DOES SUCCESS LOOK LIKE?

- LEPCs are actively promoting or conducting community right-to-know efforts so that members of the public are:
  - (1) aware of hazards in the community and
  - (2) understand their own preparedness obligations and opportunities.
- LEPCs use programs such as HMEP grants to identify risks, improve planning, and evaluate planning and training through exercises.

# How to Develop an SPI Program (Chapter 2)

- Step 1: Establish the SPI Team
- Step 2: Identify the Key Issues of Concern
- Step 3: Define Outcome Indicator(s) & Related Metrics
- Step 4: Define Activities Indicator(s) & Related Metrics
- Step 5: Collect the Data & Report Indicator Results
- Step 6: Act on Findings from SPIs
- Step 7: Evaluate & Refine SPIs



# School Lab Cleanup Project

**Overview**

- Parents of students from the local high school, who are also members of the LEPC, discover storage of chemicals in the school lab while visiting the school during a parent/teacher conference. Upon researching this further, the parents discovered that if these chemicals are not stored and handled properly, they can create a substantial hazard to students and first responders in the event of fire or spill. The parents have approached the school and LEPCs to work together to ensure processes are in place for the proper storage and handling of these chemicals and identify a mechanism to evaluate these processes.

# Step 1: Establish the SPI Team

- Identify person or team to lead effort & promote SPI Program
- Involve senior management
- Involve experts & other key employees
- Commit resources
- Establish timetable

# Example Application

**Example Step 1**

- Representatives of the LEPC, fire department, and other relevant regulatory agency - if any – along with the school principal, science faculty and parents meet to scope the project.

# Step 2: Identify the Key Issues of Concern

- Identify scope of project
  - “vision of success”
- Set priorities
- Avoid pitfalls

# Example Application

**Example Step 2**

- Following discussions among the team members, it was agreed that the “vision of success” was to reduce risk to students and faculty from chemical accidents
- Key issues of concern included:
  - Developing appropriate procedures for the safe storage and handling of hazardous chemical in school
  - Reducing the risks of a chemical accident by removal of old, unneeded, excess quantities or otherwise hazardous chemicals
  - Education of students and faculty on the hazards of chemicals used in the school labs

# Step 3 & 4: Define Indicator(s) & Related Metrics

- Define outcome indicator(s) addressing key issues of concern
  - Designed to convey whether actions are achieving their desired result
    - ★ lower accident risk
- Two components:
  - Definition: what is being measured
    - ★ Consider what would success look like
    - ★ Review possible targets & associated indicators
  - Metric: how the indicator is measured
    - ★ Consider available information
    - ★ Take into account measurement culture

# Example Application

**Example Step 3 & 4**

- The team determined that success of this effort would include:
  - Safe removal and disposal of unused, outdated and hazardous chemicals from the school lab,
  - All teachers and students are properly educated regarding the hazards presented and how to handle those chemicals,
  - Programs are implemented to prevent re-accumulation of chemicals, and
  - Procedures implemented for proper storage and use of hazardous chemicals.
- The metrics would include: quantities of chemicals removed, all teachers and students educated on chemical hazards of school chemicals, institution of inventory control programs as measured by whether old or excess quantities are present term to term and development of proper chemical storage procedures as measured by inspection.

# Step 5: Collect the Data & Report Indicator Results

- Identify how to collect & report results
- Evaluate data sources
- Establish data collection procedures
- Presentation of results should:
  - Be simple to facilitate understanding of deviations from tolerances & identify important trends
  - Show clear links between outcome & activities indicators
  - Take into account target audience

# Example Application

## Example Step 5

- The team decided that they would take an inventory of the amount and location of the hazardous chemicals and remove those that were a risk to the students and community.
  - Reported to the school, LEPC and public via a public meeting and report
- The team also decided to institute procedures on the safe handling and storage of hazardous chemicals as well as a training program for teachers and students.
  - Procedures reviewed by the science faculty and re-evaluated each term.
- The following data will be collected and reviewed:
  - Number of teachers/students trained on the procedures and competence of the teachers/students based on post-training testing.
  - Number of times procedures are not followed which will be tracked using log book sign in, observations by teachers of students using the chemicals, and number of accidents which occur due to misuse of the chemicals.
  - Number of times inspections showed a failure to follow procedures.

# Step 6: Act on Findings from Safety Performance Indicators

- Take action when SPI shows problems (*e.g.*, unexpected results, tolerances exceeded, disturbing trends)
- Ensure relevant personnel receive results from SPI Program in timely manner
- Review indicators (to improve SPI Program & address any inconsistencies between outcome & activities indicators)

# Example Application

**Example Step 6**

- The team agreed that each term, reports would be submitted to the school superintendent, PTA, student body, and LEPC with the results of the tracking of the activity indicators on inventory practices and chemical accidents.
- These reports would be reviewed by the LEPC/ fire department and school administration and faculty to determine if changes need to be made in the procedures and/or the training program.

# Step 7: Evaluate & Refine Safety Performance Indicators

- Periodically review & evaluate SPI Programs
  - Iterative process
  - Take into account experience, new issues, changes in priorities & continuing relevance
- Consider whether to expand SPI Program
- Share experience

# Example Application

**Example Step 7**

- At the end of each school year, the team would meet with the LEPC and PTA in order to review the project outcome and activity indicators to determine if they need to be revised or eliminated and whether new indicators need to be developed and implemented based on the results of the previous year and experienced gained in implementing the safety performance indicator program.



HOW NOT TO STORE CHEMICALS –

WHY THE PROJECT WAS NEEDED