



## Project Summary

# Technical Support to the South Coast Air Quality Management District Toxic Chemical Accidental Air Releases

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**The South Coast Air Quality Management District (SCAQMD) requested technical support toward developing a regulatory approach for controlling potential accidental air releases of toxic chemicals. This report provides some of the technical input and describes other support efforts. These efforts included preparation of the technical contents of an example draft rule applicable to facilities using or storing seven specific toxic chemicals and technical reference manuals concerning hazards and their control in such facilities.**

***This Project Summary was developed by EPA's Air and Energy Engineering Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).***

### Introduction

Concern for accidental toxic chemical air releases, and especially a Bhopal type incident, has prompted considerable interest in the prevention and mitigation of such releases. In January 1985, the Governing Board of the South Coast Air Quality Management District directed a study to be undertaken concerning prevention of and preparedness for a large toxic chemical air release in the South Coast Air Basin of Southern California. The two main objectives of the study were to assess: 1) the ability of the chemical industry to avoid a chemical

disaster of Bhopal proportions, and 2) the ability of the four counties comprising the district (Los Angeles, Orange, San Bernardino, and Riverside) to respond effectively if such a disaster occurred. The resultant study was the South Coast Air Basin Accidental Toxic Air Emissions Study, issued in September 1985.

As a result of this study, the SCAQMD decided to develop a rule for facilities that use or store any of several toxic chemicals in excess of certain quantities. The purpose of the rule would be to ensure that appropriate technical, administrative, and operational controls existed at designated facilities to minimize the potential for accidental toxic chemical air releases. SCAQMD approached EPA Region 9 for technical support.

Region 9 decided to provide technical support to SCAQMD under Section 105 State Grant Funds for the development of their rule. In their proposal, the SCAQMD identified a task to develop "implementation guidelines" which appeared to be similar to a series of Prevention Reference Manuals (PRM) that had been proposed for development by the U.S. EPA. EPA felt that support to the states in demonstration projects (e.g., a Region 6 inspection project and Region 2's interest in an inspector's training course) would help EPA increase its own expertise. The EPA Office of Research and Development (ORD) met with Region 9 and SCAQMD and agreed to proceed with a technical support project to SCAQMD with funding from Region 9 for technical input into the rule and the PRMs and from ORD for the

PRMs. The Air and Energy Engineering Research Laboratory (AEERL) was designated as ORD's project monitor, and subsequently contracted with Radian Corporation to do the work on the PRMs and simultaneously provide technical information to support the rule development. SCAQMD decided that the rule would be similar in format and structure to their existing air rules. SCAQMD also felt that the PRMs would be the type of technical support the rule needed, both as a guide to industry and to the regulators and inspectors in taking measures to reduce the probability and severity of accidental air releases of toxic chemicals. A primary technical approach favored by the SCAQMD for release prevention was redundancy.

### **Roles of EPA, Radian Corporation, and the SCAQMD**

Roles were clearly defined for the U.S. EPA, Radian Corporation, and the SCAQMD in this effort:

- EPA was to provide technical assistance in areas identified by the SCAQMD where the SCAQMD felt they needed support. This technical information was to be supplied to the SCAQMD in the form of a preliminary draft of a rule, as well as various PRMs when they were available.
- The SCAQMD was to write a final draft of the rule, conduct reviews, and follow through on their usual rulemaking procedures. At that stage further use of EPA input was to be optional
- Radian Corporation was charged with preparing the PRMs as well as providing an example draft of how a rule might be configured based on the technical requirements of release prevention through the technical information developed in the PRMs.

These three groups were to work together with a Technical Advisory Group (TAG) to meet the program's objectives. The TAG was to provide technical expertise and industrial experience as well as ensure the technical quality of EPA's input to SCAQMD. Members represented industry, the States, associations, and representatives from other EPA components.

A fundamental principle of this program is that the rule being developed is at the initiative and overall direction of the SCAQMD and does not represent any official policy of the EPA and is not to be perceived as EPA recommendations.

There is no intent that the example draft rule developed in this program is necessarily to be used by others. Reportable quantities of chemicals in the draft rule have no relation to other requirements such as EPA reportable quantities, and nothing in the rule is to take the place of any existing or future EPA requirements.

### **Background Work By The SCAQMD**

In conjunction with the SCAQMD study mentioned earlier, a formal survey was conducted by the SCAQMD of facilities in the District. This survey identified facilities and their inventories of specific chemicals on the SCAQMD list of chemicals of concern which was presented in the SCAQMD study. A summary of the findings of the survey in terms of types of facilities and reported inventories is presented in the full report for seven chemicals that, as a result of the study and survey, the SCAQMD decided might be subject to the rule: chlorine (CAS No. 7782-50-5), hydrogen fluoride (CAS No. 7664-39-3), hydrogen cyanide (CAS No. 74-90-8), ammonia (CAS No. 7664-41-7), carbon tetrachloride (CAS No. 56-23-5), sulfur dioxide (CAS No. 7446-09-5), and chloropicrin (CAS No. 76-06-2). The technical effort described in the report focuses on these seven chemicals.

SCAQMD identified its requirements in the following general areas: (1) format for the rule, (2) specific chemicals covered, (3) types of facilities, (4) procedures (applicability, registration, hazard identification, control plan, risk reduction plan, and record keeping), (5) emphasis on redundancy or backup control systems, and (6) technical aids for hazard identification and evaluation for permitting and inspection.

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*The complete report, entitled "Technical Support to the South Coast Air Quality Management District Toxic Chemical Accidental Air Releases," (Order No. PB 87-232 260/AS; Cost: \$18.95, subject to change) will be available only from:*

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