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ANALYSIS OF OFFSITE EMERGENCY PLANNING ZONES FOR THE ROCKY FLATS PLANT

PHASE III SITEWIDE SPECTRUM-OF-ACCIDENTS AND BOUNDING EPZ ANALYSIS

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**ANALYSIS OF OFFSITE
EMERGENCY PLANNING ZONES (EPZs)
FOR THE ROCKY FLATS PLANT**

PHASE III

**SITEWIDE SPECTRUM-OF-ACCIDENTS
AND BOUNDING EPZ ANALYSIS**

CHARTER

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25 October 1993

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REVIEWED FOR CLASSIFICATION/UCNI
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Date 05-05-94

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1.0 INTRODUCTION

1.1 Basic Structure

This Charter provides the basis for a cooperative, interagency effort to conduct Phase III of the "Analysis of Offsite Emergency Planning Zones (EPZs) for the Rocky Flats Plant" Project.

1.2 Purpose

The purpose of this Charter is to:

- Define the Project and
- Establish an Oversight Committee management structure together with responsibilities and commitments.

1.3 Commitments Summary

This Charter establishes a commitment on the part of the signing agencies to participate in a Phase III EPZ analysis to refine existing EPZs for the Rocky Flats Plant. These agencies agree to commit resources to this Project to fulfill their identified roles. The specific types and levels of resources committed by each agency will be determined as part of the Project planning process. This Charter does not commit any agency to any specific level of effort or resources. It does, however, commit these agencies to support the Phase III analysis to completion.

1.4 Charter Term

This Charter will remain in force from the date of signature through September 30, 1995, or until the completion of the Project, if later.

2.0 PROJECT DEFINITION

2.1 Project Name

The formal name for this Project is: "Analysis of Offsite Emergency Planning Zones (EPZs) for the Rocky Flats Plant, Phase III: Sitewide Spectrum-of-Accidents and Bounding EPZ Analysis." The short name is: "EPZ Phase III Project."

2.2 Client

The State of Colorado is the client for this Project.

2.3 Scope and Objectives

EG&G Rocky Flats, Inc., as a contractor to the U.S. Department of Energy Rocky Flats Office (DOE RFO) for management and operation of the Rocky Flats Plant, will develop methodology options for conducting the analysis, technical evaluations of the potential effects of a sitewide spectrum of accidents on the offsite population, and identification of EPZs. This analysis will incorporate current and cost effective technology for accident evaluation, dose and exposure projections, and the application of these projections to offsite populations surrounding the Rocky Flats Plant. The analysis will treat both radiological and nonradiological hazardous substances accidentally released to the atmosphere either individually or in combination. DOE RFO will submit these findings to the State of Colorado as options for use in evaluating its emergency planning for the Rocky Flats Plant.

In particular, the Phase III EPZ Project will apply recent reviews of plutonium release fractions toward an update of the release fractions to be used in this project as appropriate. In addition, a more comprehensive sitewide review of both radiological and nonradiological hazardous material scenarios will be performed. These scenarios will cover a broad spectrum of accidents including the Maximum

Credible Accident (MCA) scenario. The MCA provides a link to previous EPZ planning at the Rocky Flats Plant. The release fraction review, originally scheduled for Phase II of the Project, has been moved to Phase III by agreement of the Phase II Oversight Committee. The Terrain-Responsive Atmospheric Code (TRAC), a site-specific complex-terrain air dispersion model developed at the Rocky Flats Plant, will be used. New protective action criteria that the State of Colorado may recommend, using guidance provided by the U. S. Environmental Protection Agency (EPA), will be incorporated as appropriate.

2.4 Interagency Cooperative Effort

The Project will be conducted as an interagency, cooperative effort by the U.S. Department of Energy, the State of Colorado, Jefferson County, Boulder County, and EG&G Rocky Flats, Inc. EPA, Region VIII, and local governments will participate in an advisory role. Each organization will contribute to the coordination and technical efforts needed to reach the objectives described above. The concurrence signatures in this Charter indicate the formal commitment of each organization to jointly participate in this Project as appropriate.

2.5 Authority

The Project will be conducted under the following authorities:

- **Interagency**
 - Agreement in Principle between the U.S. Department of Energy and the State of Colorado, June 28, 1989, and
 - Federal Facility Agreement and Consent Order, between the U. S. Department of Energy and the U.S. Environmental Protection Agency, Region VIII, and the Colorado Department of Health, January 22, 1991.
- **U.S. Department of Energy**
 - U.S. Department of Energy Order 5400.1, *General Environmental Protection Program*, Revised, June 29, 1990.

- U.S. Department of Energy Order 5500.1B, *Emergency Management System*, April 30, 1991.
- U.S. Department of Energy Order 5500.3A, *Emergency Planning and Preparedness for Operational Emergencies*, April 30, 1991.
- U.S. Department of Energy, *Emergency Management Guide-Hazards Assessment*, June 26, 1992.
- State of Colorado
 - Final Report of the Governor's Rocky Flats Scientific Panel on Monitoring Systems (Recommendations),
 - Correspondence from Roy F. Romer, Governor of Colorado, to David P. Simonson, Manager, Rocky Flats Area Office, U.S. Department of Energy, December 18, 1989,
 - Colorado Disaster Emergency Act of 1992,
 - Draft Annex XXV of the Colorado Radiological Emergency Operations Plan, Rocky Flats Plant, January, 1993, and
 - Colorado Revised Statutes (CRS) 1989 as follows:
 - 24-32, Part 2105, *Office of Emergency Management*,
 - 25-7-112, *Air Pollution Emergencies Endangering Public Health*,
 - 25-7-113, *Air Pollution Emergencies Endangering Public Welfare*,
 - 25-11-103, *Radiation Control Agency, Powers and Duties*, and
 - 29-22-103, *Emergency Response Authority May Request Assistance*.
- EG&G Rocky Flats, Inc.
 - Rocky Flats Plant Emergency Plan, June 30, 1992.

3.0 PROJECT MANAGEMENT

3.1 Lead Organization

DOE RFO, Safety and Health Division, will be the lead organization. EG&G Emergency Preparedness Offsite Programs will assist and support DOE RFO according to current approved work package requirements for the Project. Emergency Preparedness

Offsite Programs will facilitate the Oversight Committee as mentioned in Section 3.3 below.

3.2 Structure

The analysis will be conducted by an interagency team. EG&G will perform the bulk of the technical effort. DOE RFO and the Colorado Department of Health (CDH) will also participate directly in the program through the EPZ Oversight Committee as described in 3.3. EPA Region VIII Radiation Programs and local government emergency managers will participate in an advisory capacity, consistent with the EPA mandate to provide protective action guidance for nuclear and hazardous materials accident response.

Completion of the Project within required schedules will require a substantial level of effort in several technical areas. A DOE RFO/EG&G multidisciplinary technical team will be assembled from individuals committed by their respective agencies to work on the Project.

Each organization will assign one or more representatives to participate in the efforts of the Oversight Committee. The organizations may reassign these responsibilities, as necessary, with notification to the Project Administrator and approval by the Oversight Committee.

3.3 Oversight Committee

This Charter establishes an interagency Oversight Committee to track Project performance and assure that the goals are being met at levels of detail and quality that will satisfy client, regulatory, and public needs. The Oversight Committee includes representatives from:

- U.S. Department of Energy, Rocky Flats Office, Safety and Health Division,
- Colorado Department of Health, Emergency Management Unit,

- Colorado Department of Health, Radiation Control Division,
- Colorado Department of Health, Air Pollution Control Division,
- U. S. Environmental Protection Agency, Region VIII.
- EG&G Rocky Flats, Inc., Emergency Preparedness Offsite Programs
- EG&G Rocky Flats, Inc., Safety Analysis Engineering, and
- Local governments.

The Oversight Committee has the following responsibilities:

- Conduct joint conceptual planning for the Project,
- Coordinate, review, and concur on detailed technical plans for the Project,
- Coordinate technical Project activities among participating organizations,
- Track Project progress, and
- Reach consensus resolution on conflicts concerning technical plans and efforts for the Project.

The Oversight Committee will meet periodically by committee agreement to conduct planning efforts, resolve Project issues, and review Project progress.

3.4 Administrative Management

The overall management for Phase III of the Project will be tasked to an EG&G Project Administrator. The Project Administrator will have overall responsibility for coordinating technical, financial, human resources, administration, and logistical aspects of the Project. The Project Administrator will coordinate all efforts, track Project progress against the schedule identified in the Project Plan, and coordinate adjustment of EG&G resource allocation and staff efforts, as necessary, to assure that Project objectives are met on schedule.

The Project Administrator will attempt to resolve issues among participating organizations that may develop during coordination of detailed Project planning. Additionally, the Project Administrator will address areas where operational actions by participating organizations may not be consistent with agreed-upon plans.

Whenever consensus and resolution cannot be reached, the Project Administrator will bring the matter before the Oversight Committee.

3.5 Organizational Roles and Responsibilities

The following organizational roles and responsibilities are assigned for the Project:

- **U.S. Department of Energy, Rocky Flats Office, Safety and Health Division**
Role: Lead Organization
Responsibilities:
 - Provide technical oversight for the Project,
 - Oversee EG&G activities for Project efforts,
 - Participate in providing results of the analysis to the public, and
 - Participate on the Oversight Committee.

- **Colorado Department of Health, Emergency Management Unit**
Role: Oversight and technical support for the State of Colorado
Responsibilities:
 - Evaluate Project results for emergency planning and response application,
 - At the State's discretion and in conjunction with the Department of Local Affairs, Office of Emergency Management, integrate Project results into applicable emergency response plans and procedures,
 - Communicate, as necessary, Project results to county emergency managers, local authorities, and the public,
 - Coordinate with DOE RFO and EG&G on emergency response issues,
 - Recommend new protective action criteria as appropriate,
 - Participate on the Oversight Committee.

- **Colorado Department of Health, Radiation Control Division**
Role: Oversight and technical support for the State of Colorado
Responsibilities:
 - Oversee technical efforts conducted by the Rocky Flats Plant,

- Evaluate data, and
 - Participate on the Oversight Committee.
- **Colorado Department of Health, Air Pollution Control Division**
Role: Oversight and technical support for the State of Colorado
Responsibilities:
 - Oversee technical efforts conducted by the Rocky Flats Plant through participation on the Oversight Committee and
 - Evaluate data.
- **U.S. Environmental Protection Agency, Region VIII**
Role: Oversight, technical, and advisory support for the State of Colorado
Responsibilities:
 - Provide guidance on protective action strategies and plans and
 - Participate on the Oversight Committee.
- **EG&G Rocky Flats, Inc., Emergency Preparedness Offsite Programs**
Role: Direct Support Organization
Responsibilities:
 - Provide Project Administrator for the Phase III EPZ Project,
 - Lead Project effort for technical and administrative requirements,
 - Develop a Project Plan,
 - Conduct quality assurance efforts for Project activities,
 - Produce and distribute the Project Charter, Project Plan, and other Project documentation,
 - Provide fiscal support for conducting the EPZ Phase III Project, and
 - Participate in providing Project results to the public.
- **EG&G Rocky Flats, Inc., Safety Analysis Engineering**
Role: Direct Support Organization
Responsibilities:
 - Conduct radiological and nonradiological hazards assessments for the sitewide spectrum of accidents and their consequences on offsite populations,

- Acquire and/or develop databases of site-specific hazardous material and radiological inventories to use as a basis for the material at risk,
 - Conduct Terrain-Responsive Atmospheric Code model analyses and other analyses,
 - Document all information necessary to support final analyses and conclusions,
 - Integrate with other safety analysis activities that impact EPZ work,
 - Prepare necessary documents, and
 - Participate on the Oversight Committee.
- Local governments
 - Role: Oversight
 - Responsibilities:
 - Provide guidance on protective action strategies and plans and
 - Participate on the Oversight Committee.

3.6 Project Planning

EG&G Emergency Preparedness Offsite Programs will develop a technical Project Plan for the Phase III EPZ Project. The plan will include and integrate all activities associated with the Project and accurately reflect the resource and schedule commitments made by each organization. Additionally, EG&G Emergency Preparedness Offsite Programs will submit a draft Project Plan for review and approval by the Oversight Committee.

3.7 Quality Assurance

The Project will include a quality assurance/quality control program, under the existing Rocky Flats Plant Quality Assurance Program, to assure the quality and integrity of the technical analyses and results. The purpose of the quality assurance/control program is:

- To identify potential problems that can cause the Project to fail to meet its objectives,
- Design and implement a process that will detect and avoid or correct these problems, and
- Assure the accuracy of the products.

EG&G will conduct a quality assurance/control program for all technical Project activities conducted by, at, or for the Rocky Flats Plant. EG&G will conduct these activities as specified in:

- DOE Order 5700.6C, Quality Assurance, August 21, 1991,
- ASME NQA-1, Quality Assurance Program Requirements for Nuclear Facilities, 1989, and
- EG&G Rocky Flats Quality Assurance Manual, 1993.

3.8 Deliverables

The deliverables for the Project include:

- Project Charter,
- Project Plan,
- Project Progress Reports,
- Meeting Minutes,
- Quality Assurance Plan and Report for the Project, and
- Final Report(s) containing the technical analyses and results including:
 - Hazards Assessment Documents and
 - Accident Analysis Calculations.

3.9 Coordination with Other Efforts

The Phase III EPZ Project requires coordination with the following allied efforts:

- TRAC State Approval process,
- Sitewide Safety Analysis Report (SAR) effort, and
- Consolidated Hazards Assessment Work Package effort.

3.10 Communication of Results

DOE RFO and EG&G will support periodic CDH progress reports for the Project to be made available to the public as agreed upon by the Oversight Committee.

With the exception of progress reports and meeting minutes, all technical and administrative deliverables identified in the Deliverables Section above will be published as Rocky Flats Plant formal technical reports and provided to the State of Colorado.

The State of Colorado will use the technical products as options for its use in revising, as appropriate, its emergency planning for the Rocky Flats Plant.

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END