UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 12 1994

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

OSWER Directive No. 9285.7-17

MEMORANDUM

Subject: Role of the Ecological Risk Assessment in the Baseline Risk Assessment

From: Elliott P. Laws
Assistant Administrator

To: Directors, Waste Management Divisions
Directors, Environmental Services Divisions

Purpose

I want to emphasize the importance of selecting remedies at Superfund sites that are protective of the environment as well as human health. I also want to make it clear that an ecological risk assessment (ERA) will be conducted during the Remedial Investigation (RI) at all Superfund sites.

Background

The Regions are to be commended for their efforts to deal with risks to ecosystems, especially with the limited Agency guidance that has been available. However, ecological risks at many sites have only been addressed superficially, or not until the site is in remedial design.

The National Contingency Plan (NCP) requires that a baseline risk assessment be conducted by the lead agency during the RI/FS in order to "characterize the current and potential threats to human health and the environment"(§300.430 (d)(4)). Administrator Browner stressed the importance of balancing human health and ecological assessments in a memorandum (December 30, 1993) to Assistant and Regional Administrators that included the following statement:

> Although not traditionally considered a "component" of an ecosystem, humans are integrally linked to the processes that operate within their environment. Human health cannot be divorced from the "health" of the environment.

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The condition of the ecosystem, therefore, can either enhance or degrade the well-being of the humans occupying the ecosystem. By integrating ecosystem protection into current programs (including those that are directed to protect human health) we will realize benefits to the entire ecosystem, including the human component through a more integrated approach.

In light of this statement, it is essential that we address both ecological risk assessments and human health assessments with comparable professional diligence.

Definition and Purpose of the ERA

An ecological risk assessment estimates the likelihood that adverse ecological effects (e.g., mortality, reproductive failure) will occur as a result of a release of a hazardous substance at a Superfund site. The purpose for conducting the ERA is to: 1) identify and characterize the current and potential threats to the environment from a hazardous substance release, 2) evaluate the ecological impacts of alternative remediation strategies, and 3) establish clean-up levels in the selected remedy that will protect those natural resources at risk.

Scope of the ERA

While an ERA will be conducted at all Superfund sites, the scope of the assessment will depend upon a number of site-specific factors. The physical characteristics of the site, the toxicity and fate of the contaminants, the proximity to ecological receptors and likelihood of exposure, and the ecosystem types potentially at risk should all be considered when planning the ERA.

Next Steps

Steps are being taken at Headquarters that will significantly enhance the Region's risk assessment capability and provide programmatic consistency. A guidance document for conducting ecological risk assessments (consistent with the process described by the Risk Assessment Forum in the Framework for Ecological Risk Assessment (EPA/630/R-92/001)) and a list of screening level, eco-thresholds are being developed by the Office of Emergency and Remedial Response.

If you have any questions about this memorandum, please contact Stephen Ells, Section Chief, Toxics Integration Branch, Office of Emergency and Remedial Response, at (703) 603-8822.

cc: Superfund Branch Chiefs, Regions 1 - 10
BTAG Coordinators, Regions 1 - 10