Conclusion— Opportunities and Dangers

leanup of the DOE Nuclear Weapons
Complex offers the opportunity to define
and advance the standard of health and
safety protection provided to workers engaged in the growing, world-wide industry of environmental remediation. To meet this challenge,
DOE and other federal agencies must recognize
that protection of those who do the work of
cleaning up is urgent and has been too long neglected.

Characterization and remediation of polluted environments pose numerous work-related health and safety hazards. During environmental cleanup operations at non-federal sites, worker protection issues have been given insufficient attention. Experience at these sites indicates that many issues compete for management attention. The regulations and procedures of Superfund and RCRA do not emphasize worker protection issues. Environmental compliance, schedule deadlines, cleanup costs, and community concerns about possible off-site health risks are usually given higher priority than occupational health and safety. Worker protection is often neglected by managers, or addressed only in written health and safety plans that do not accurately portray site hazards or work practices.

Under OSHA's Hazardous Waste Operations and Emergency Response Standard (HAZWOP-ER), employers are responsible for identifying site hazards, designing effective programs to protect cleanup workers, and ensuring that such programs are properly implemented and enforced. OSHA has not issued regulatory guidance for this complex regulation, which has left some technical provisions of the standard subject to controversial and diverse interpretations. In addition, OSHA's limited capacity to inspect work practices or enforce OSH standards at cleanup sites has meant that enforcement of HAZWOPER is left largely to voluntary efforts by employers. The quality and effectiveness of cleanup worker protection is reported to vary greatly.

Worker protection problems at DOE are even more critical than in the private sector due to the scope and complexity of environmental contamination at the NWC and organizational features of DOE's approach to occupational safety and health. DOE has not yet institutionalized its stated commitment to a culture of excellence and accountability in environment, health, and safety matters. The meager staff and resources allocated to OSH matters within the Office of Environmental Restoration and Waste Management indicates a neglect of this crucial area. To date, DOE has failed to develop cleanup-specific OSH policies, or to effectively monitor or enforce contractors' OSH programs. Unless this is changed, effective cleanup worker protection throughout the NWC will not be achieved.

The reorganized DOE Office of Environment, Safety and Health has issued some proposals to revise existing DOE OSH orders that would, if adopted, provide a more coherent and workable approach to worker protection programs generally. EH has little capacity to oversee DOE line managers' or contractors' OSH practices in the field, however, and no authority to actually enforce OSH orders. In the absence of independent enforcement authority or close collaboration with, and commitments from, the DOE line organizations, EH efforts—no matter how valid — will remain largely reactive.

As the owner-manger of the largest environmental cleanup effort in history, DOE is positioned to develop the organizational approaches, information, and technologies that would advance the state of the art of occupational health and safety practices for the growing, world-wide cleanup industry. To accomplish this, DOE must, at minimum, acknowledge the urgency of the worker protection issues that confront the department and significantly augment OSH expertise at EM headquarters and in the field. An approach to site characterization and cleanup must be devel-

oped that takes worker health and safety hazards into account, and that allows risks to cleanup workers to be weighed against the benefits of proposed remediation plans. Means of monitoring contractor OSH performance must be developed and an incentive system that levies appropriate rewards and penalties for OSH practices must be put in place. Achieving these goals will most likely require the cooperation of government agencies and experts outside of DOE.

As the cleanup workforce expands, so do the chances of accidents, toxic exposures, and further loss of trust in DOE's willingness or ability to demonstrate responsible oversight of contractor practices and to make good its promise to "honor environment, safety and health as fundamental organizational priorities." DOE has an opportunity to create policies, programs and technologies for cleanup worker health and safety that could set the standard for the entire environmental remediation industry. But it must move swiftly.

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