VISTA Technologies, Inc.
Radiation Safety Program

PROCEDURE - 14

PERSONAL PROTECTIVE EQUIPMENT

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ABBREVIATIONS AND ACRONYMS

APR	-	Air-purifying respirator
DAC	-	Derived Air Concentration
EPA	-	U.S. Environmental Protection Agency
HEPA	-	High Efficiency Particulate Air
MSA	-	Mine Safety Appliances Company
ORPO	-	On-Site Ionizing Radiation Protection Officer
PPE	-	Personal Protective Equipment
RA	-	Restricted (radiation) area
VHSP	-	VISTA Health and Safety Program
VRSP	-	VISTA Radiation Safety Program

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) selected for ionizing radiation health and safety hazards is similar to that specified for chemical hazards. Radioactive contaminants are often co-mingled with chemical contaminants at a VISTA project work site, requiring VISTA personnel to wear PPE that provides protection against both hazards. ß particle- and γ ray-emitting radioactive materials may present a dermal contact hazard as do certain chemical substances.

Particle-emitting radioactive materials generally are a contact hazard to intact skin. Skin radioactive contamination by α particle emitters is to be avoided since hand to face contact can result in unnecessary ingestion or inhalation of radioactive materials.

"PPE and Clothing" of the Vista Health and Safety Plan (VHSP) provides guidance on the selection of appropriate PPE. Prior to the start of work in a Restricted Area (RA), the Vista On-Site Radiation Protection Officer (ORPO) will review the chemical protective clothing requirements specified to determine whether they would also provide adequate control of radioactive contamination. PPE is usually not required in areas where removable contamination levels are less than half of those specified in Vista Radiation Safety Plan (VRSP) Procedure 8 Section 2.3 "Limits of Exposure to Ionizing and Non-Ionizing Radiation." Generally, Environmental Protection Agency (EPA) C Level of Protection PPE is used for protection against airborne radioactive materials at Vista project work sites.

Vista uses Mine Safety Appliance Company (MSA), full-face, Ultra-Twin® Air Purifying Respirators (APR), or equivalent, with GMSHP-H combination cartridge filters for protection against airborne radioactive dusts and aerosols. Depending on the hazard and activity, Self-Contained Breathing Apparatus (SCBA) may be required. In general, respiratory protection is not required in areas having airborne concentrations that are less than 10 percent of the Derived Air Concentration (DAC).

The selection of respiratory protection, its use, and maintenance will be performed in accordance with 29 CFR 1910.134, "Respiratory Protection," and "Respiratory Program" of the VSHP. Respirator selection criteria must take into account both the chemical and radioactive contaminants present. When the criteria for use of an APR is satisfied, full-face APRs with appropriate cartridges may be used.

Full-face APRs equipped with High Efficiency Particulate Air (HEPA) cartridges may be used for protection against airborne radioactive dusts, including radon daughters, at concentrations up to the Vista administrative limit of 10 times the DAC. In general, APRs cannot be used for protection against radioactive gases such as tritiated water vapor and radon gas.

All contaminated laundry will be treated as radioactive waste. Knowledge of the contamination will play a role in laundry disposal. When the contamination is short lived the laundry may be re-used after sufficient decay of the contaminant has occurred. Long lived contamination will be be handled much more rigorously (i.e., according to it's potential hazard).

Note: For the purposes of this document, Ionizing Radiation includes certain types of Non-Ionizing Radiation.