

Rocky Mountain Arsenal Medical Monitoring Program
Rocky Mountain Arsenal Environmental Monitoring Data Presentation Techniques

I. Background: Publication of a quarterly community bulletin has been recommended by the Environmental Monitoring and Public Information and Education Subcommittees. This bulletin will be used to impart information about the Rocky Mountain Arsenal (RMA) Medical Monitoring Program and the neighboring communities' health status during the clean up. It will be important to summarize and clearly communicate air quality data to demonstrate that the remediation is being conducted safely. Therefore, the Environmental Monitoring Subcommittee (Subcommittee) conferred with its technical consultants for recommendations on objective and effective air quality data presentation techniques.

II. Data Availability: The Subcommittee recommends a tiered approach to air quality data reporting and availability.

Level 1 - Quarterly Bulletin summary includes focused summary data reporting with information for accessing more complete data sources

Level 2 - Medical Monitoring Program Web Page includes a more detailed data summary with links to other important Internet sites (RMA Web Page)

Level 3 - Full data set available through RMA records facility

In its *Environmental Monitoring Community Outreach* recommendation, the Subcommittee advised that the complete RMA air quality data set be made available to interested persons through the Army's Joint Administrative Record Document Facility. The Medical Monitoring Program quarterly bulletin will, by necessity, contain only a top-level synopsis of the previous quarter's or year's air monitoring data in order to appeal to a wide audience and be appropriate for a newsletter format. The bulletin format is not meant to limit access, in fact, it is the Subcommittee's hope that it will whet the readers' interest and prompt them to seek more information through one of the other available avenues. Providing access to the full data set shows that the Remedial Venture Office (RVO) has confidence in its data and is willing to open itself to scrutiny. The *Environmental Monitoring Community Outreach* recommendation also provided that the second level of data availability should be the Medical Monitoring Program Web Page. The Web Page will be used for electronic distribution of the quarterly bulletin, transmitting more detailed summaries of the environmental data and links to other sources of information.

III. Data Presentation Challenges: Complex environmental monitoring data must be reported so as to be understandable to a broad audience. Data reports must allow the reader to understand the significance of the measures presented (e.g., the health significance of the numeric or graphic display.) The data must be presented in a scientifically correct manner. Graphical presentations, such as bar charts, can be used to display data as a concentration in the media of interest (e.g., mass of contaminant per unit volume of air). Graphical presentation can also be used to present concentrations as a "risk estimate", whether they be probabilities (such as added lifetime cancer risk) or comparisons to chronic or acute reference values (hazard quotient or index). However, expression of exposure as a cancer or

chronic systemic risk is only valid after a prolonged hypothetical or actual exposure. Estimates of acute health risk are not similarly hindered.

IV. Recommended Approach: The general recommended approach is shown on the attachment. We believe that this example is a useful approach, however, other methods may also be used and CDPHE will continue to seek community feedback to improve data communication techniques.

The air quality data presentation approach will:

- C Use a format that allows the reader to quickly see how the monitored data compare to the RMA criteria.
- C Display air monitoring data compared with acute fence line values on a quarterly basis.
- C Display a longer-term average compared with chronic fence line values.
- C Use a wind rose periodically to show typical wind directions, but include information about its significance and limitations.
- C Include odor in the data summary. The bulletin may also include information about the number of RMA-related odor complaints and describe how this information relates to the graphical display.
- C Include particulate information in the data summary, at least periodically.
- C Locate potentially-affected communities and air monitoring station locations on bulletin maps.
- C Locate the areas on maps where the quarter's clean up activities occurred.
- C Describe the quarter's activities and air quality monitoring results with accompanying narrative.
- C Focus on the most significant chemicals in terms of potential health risk.
- C Include necessary information and points-of-contact to access other sources and/or levels of information (e.g., contact names and Web Page address, etc.)