

**PACKAGE ID** - 001116IB48601 RAAS1.1

**KWIC TITLE** - Remedial Action Assessment System

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**LIMITATION CODE** -COPY                   **AUDIENCE CODE** - LIM

**COMPLETION DATE** - 06/01/1996   **PUBLICATION DATE** - 09/01/1996

**DESCRIPTION** - RAAS1.1 is a software-based system designed to assist remediation professionals at each stage of the environmental analysis process. RAAS1.1 provides a template for environmental restoration analysis, and provides the user with key results at each step in the analysis. RAAS1.1 assists the user to develop a coherent and consistent site description, estimate baseline and residual risk to public health from the contaminated site, identify applicable environmental restoration technologies, and formulate feasible remedial response alternatives. In addition, the RAAS1.1 methodology allows the user to then assess and compare those remedial response alternatives across EPA criteria, including: compliance with objectives; short-term and long-term effectiveness; extent of treatment; and implementability of the technologies. The analytic methodology is segmented and presented in a standardized, concise, easy-to-use format that can be viewed on the personal computer screen, saved and further manipulated, or printed for later use. Each screen and analytic step is accessed via a user-friendly personal computer graphical interface. Intuitively-designed buttons, menus, and lists help the user focus in on the particular information and analysis component of interest; the corresponding results are presented in a format that facilitates their use in decision-making.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Installation Instructions (2 pages); ReadMe File (1 page); Excerpted Figures; Media Includes Executables, User's Guide;

**SOURCE CODE INCLUDED?** - No

**MEDIA QUANTITY** - 10 3.5 Diskettes for RAAS documentation (PNL-8751 Rev.3) 8 3.5 diskettes for RAAS program and 2 3.5 Diskettes for Acrobat Adobe Reader

**METHOD OF SOLUTION** - The site conceptual model or description is developed based on data requirements identified by the methodology, and is used to formulate an initial estimate of baseline risk. RAAS1.1 prompts the user for data to identify potential remediation strategies consistent with site specific cleanup objectives. Based on these strategies and previously

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**METHOD OF SOLUTION - (CONT)** defined site-specific data, RAAS1.1 identifies potentially applicable technologies and links them into feasible remediation alternatives. RAAS1.1 then evaluates the performance of these remedial alternatives in terms of contaminant-specific residual concentration and residual risk levels, which may be compared with corresponding cleanup objectives. In addition, for each alternative, RAAS1.1 defines any secondary waste streams that may be generated, and calculates both a completion time estimate and a preliminary cost estimate for the alternative. These analytical results may then be used to compare remedial alternatives and support selection of a preferred alternative.

**COMPUTER** - IBM PC 486

**OPERATING SYSTEMS** - 486 PC or greater, Windows V3.1 or greater, with a minimum of 16MB RAM; 30 MB available hard disk storage space and a mouse.

**PROGRAMMING LANGUAGES** - Microsoft Virtual Basic, C++

**SOFTWARE LIMITATIONS** - The software is available at this time for only stand-alone, individual personal computers. Only a single user may access the software and database at a time.

**SOURCE CODE AVAILABLE (Y/N)** - N

**UNIQUE FEATURES** - The methodology, modeling and all data and information comprising RAAS1.1 was subjected to a formal, external technical peer review process that included technical experts from DOE, DOD, EPA, private industry, and universities/colleges. The rules used for screening, categorizing and sorting technologies into categories were also reviewed and judged to be representative of current industry practices and experiences. The user-friendly, graphical interface utilizes intuitively designed buttons, menus, and user help features to aid the user throughout the methodology. Extensive engineering judgement data, definitions of technical terms and acronyms may be accessed by using the About this Form and Engineering Judgement Data functionally within the software. The software also comes with electronic documentation (in addition to the on-line features noted in the above paragraph) comprising over 2500 pages specifically detailing the models and algorithms used in the 101 technology models contained in RAAS1.1.

**RELATED SOFTWARE** - ReOpt is a companion product to RAAS1.1. The rules programmed in ReOpt to sort and identify applicable environmental restoration technologies are consistent with those modeled in RAAS1.1. The contaminant database, including referenced physical parameter data, is consistent in both software programs also. The risk estimation paradigm included within the RAAS1.1 methodology was adapted from the previously copyrighted software methodology,

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**RELATED SOFTWARE - (CONT)** MEPAS (Multimedia Environmental Pollutant Assessment System).

**HARDWARE REQS** - IBM-compatible 486 class or greater; 16MB RAM; 30 MB hard disk storage space; Windows V3.1, VGA color monitor with display supporting 640 x 480 pixels; 3.5 high-density disk drive; and a mouse.

**TIME REQUIREMENTS** - RAAS1.1 functions in real time, Analysis times varies considerably and is correlated strongly with the complexity of the problem being analyzed. Typically, most executions within the software occur in a matter of seconds; the longest wait for an individual step within a typically designed case analysis is approximately less than 2.5 seconds.

**ABSTRACT STATUS** - submitted 2/19/97. Released AS-IS 2/28/97

**SUBJECT CLASS CODE** - R

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
R CODES  
REMEDIAL ACTION  
PERSONAL COMPUTERS  
FEASIBILITY STUDIES  
DECONTAMINATION  
SITE CHARACTERIZATION  
RISK ASSESSMENT  
PROGRAM MANAGEMENT

**EDB SUBJECT CATEGORIES** -

990200 054000 990100

**SPONSOR** - DOE/RW

**PACKAGE TYPE** - AS - IS