

**PACKAGE ID** - 000638IBMPC00 RCIP-RR

**KWIC TITLE** - Oil Reserve Replacement Cost Forecast

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**LIMITATION CODE** -UNL                   **AUDIENCE CODE** - UNL

**COMPLETION DATE** - 07/01/1988   **PUBLICATION DATE** - 07/01/1988

**DESCRIPTION** - RCIP-RR, the Reserve Replacement version of the Replacement Cost Integration Program, forecasts the future cost of domestic oil in the United States based on the assumption that oil is discovered at the same rate that it is produced and consumed.

**PACKAGE CONTENTS** - Software Abstract; NESC Note; ORNL/TM-10143; Media Includes Source Code, Executables, Sample Problem, Library, Library, Auxiliary Information;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 5.25 Diskette

**METHOD OF SOLUTION** - The primary data input to RCIP-RR take the form of oil demand schedules and undiscovered resource bases broken down by region and production cost. Other parameters address resource availability as a function of time (leasing and technology constraints) and availability of enhanced oil recovery (EOR) production. The user has control over many of these parameters in the form of choices among pre-established estimates. There is also a more limited capability for direct input of parameter values. RCIP-RR processes the user-controlled and intrinsic data sets to create a large table of resources available for discovery. This table is subdivided into resource regions and cost-of-production brackets. During each 5-year time period, RCIP attempts to replace that period's oil production by selecting available resources from this table. Resources are selected in a priority order until either the production quota is met, or available resources are exhausted. The priority for selection is primarily by cost (inexpensive resources being selected first) and then by a predetermined regional priority scheme (in general, resources are selected first in those areas where oil production has a significant history, and latest in those areas requiring novel technologies or remote from existing processing infrastructure). During each period, the resource availability table is updated by addition of resources previously unavailable due to technological or leasing constraints. The calculation is repeated for each period (1983 through 2005), and the results are retained internally. Four results may be output for each region and period: the average cost of the new reserves, the range of costs, the quantities added to reserves, and the average lead time for actual production from the new reserves. For each of these elements, a table can be generated on the screen or

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**METHOD OF SOLUTION - (CONT)** on a printer.

**COMPUTER** - IBM PC

**OPERATING SYSTEMS** - MS-DOS

**PROGRAMMING LANGUAGES** - Turbo Pascal

**SOFTWARE LIMITATIONS** - RCIP-RR has 21 regional sources of crude oil.

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

**RELATED SOFTWARE** - RCIP-PS is the Production Schedule version of RCIP. The cost resource data input to RCIP are derived from a modified version of the REPCO code. A modified version of REPCO, which calculates marginal replacement costs for domestic oil, is used to produce the cost distributions for each resource region used as input to RCIP-RR, file PQ1.DAT.

**HARDWARE REQS** - 64 Kbytes of memory and an IBM PC, PC/XT, or /AT with 2 disk drives (flexible or fixed)

**TIME REQUIREMENTS** - A typical problem requires 15 seconds.

**REFERENCES** - J.R. Einstein and L.D. Trowbridge, Replacement Cost Integration Program (Reserve Replacement Version) User's Guide, ORNL/TM-10143, September 1986; RCIP-RR, NESC No. 9551, RCIP- RR Flexible Disk Cartridge Description, National Energy Software Center Note 88-96, July 29, 1988.

**ABSTRACT STATUS** - Abstract first distributed July 1988. IBM PC version submitted January 1988.

**SUBJECT CLASS CODE** - R

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
R CODES  
COST ESTIMATION  
PETROLEUM DEPOSITS  
RESOURCE ASSESSMENT  
PETROLEUM  
RESERVES  
DOMESTIC SUPPLIES  
COST  
FORECASTING

**EDB SUBJECT CATEGORIES** -  
990200 020700

**SPONSOR** - DOE/FE

**PACKAGE TYPE** - AS - IS