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# Center for Nuclear Waste Regulatory Analyses

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February 24, 1995  
Contract No. NRC-02-93-005  
Account No. 20-5704-192

U.S. Nuclear Regulatory Commission  
Attn: Dr. J.D. Randall  
Two White Flint North (79F-35)  
Washington, DC 20555

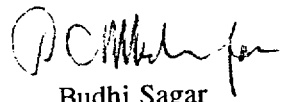
Subject: Transmittal of Intermediate Milestone 5704-192-501: Paper on Advanced Computational  
Method for Solving Unsaturated Flow Equation

Dear Dr. Randall:

The subject paper is identified as a deliverable in the PA Research Project Plan. The paper is entitled "Mixed Transform Finite Element Method for Solving the Equation for Variably Saturated Flow." The paper describes a new computational method for solving the nonlinear equation governing infiltration and deep percolation phenomena in porous media. The new computational method is expected to be implemented in a number of existing unsaturated flow codes currently used by the CNWRA. The paper was recently submitted for NRC programmatic review and was subsequently approved. The paper will be submitted for publication in *Water Resources Research*.

The subject paper, which fulfills IM 5704-192-501, is submitted for your review and acceptance. If you have any questions on this report, please call R.G. Baca at 210/522-3805.

Very truly yours,

  
Budhi Sagar  
Technical Director

RGB/mag  
f:Mix-Tran2.ltr  
Attachment

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