

SECTION IV. TASK 4. APPLICATION OF INTEGRATED CODES

Objective

The objective of this task are to evaluate the integrated comprehensive codes for pulverized coal and fixed-bed reactors and to apply the codes to selected cases of interest to METC.

Task Outline

This task will be accomplished in two subtasks, one for the entrained-bed lasting 45 months and one for the fixed-bed lasting 36 months. Each of these subtasks will consists of three components: 1) Simulation of demonstration cases on BYU computers; 2) Implementation on a work station at AFK (the Apollo DN580 workstation with "Turbo" has been chosen); and 3) Simulation of demonstration cases on the workstation.

IV.A. SUBTASK 4.a. - APPLICATION OF GENERALIZED PULVERIZED COAL

COMPREHENSIVE CODE

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Objective

Implement the comprehensive entrained-bed code developed in Task 3 at AFR. Simulate reactors of interest to METC.

Accomplishments

Three Sun supermicrocomputers were acquired by Advanced Fuel Research, Inc. during the last quarter of the year. The PCGC-2 code was brought up on the SUN 3/260 system. The run time for a test case of the full code without the NO_x submodel was 3 hours, 15 min. This compares with 7 hours on an Apollo DN 580T which was the machine originally planned for use on the program.

Plans

Continue the integration of the FG/DVC model into PCGC-2.

IV.B. Subtask 4.b. - Application of Fixed-Bed Code

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Objective

Simulate coal conversion reactors of interest to METC.

Accomplishments

No work scheduled.

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