

SECTION 5 COMPARISON WITH COBRA

In addition to the WESTAR comparisons discussed in Section 4, a comparison was also made between COBRA-IIIC/MIT (Reference 6) and the current and improved THINC-IV models. The COBRA-IIIC/MIT run was provided by Virginia Power company. The following conditions were assumed (Case 11):

Loops: Fuel: Heated Length: Axial shape: $F_{\Delta H}$: Flow: Bypass: Power: T_{in} : Pressure:	[+ (a,c)
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The Thermal-Hydraulic parameters for this case are more severe than the conditions currently analyzed for a 3 loop Westinghouse plant with 17x17 standard fuel. The present and improved THINC-IV models show deviating mass velocities (see Figures 5.1 and 5.2) for this set of conditions, and therefore this case provides a good checkpoint for a comparison with the COBRA code.

The mass velocity comparisons are shown in Figures 5.1 and 5.2. The improved THINC-IV mass velocities agree with those calculated using COBRA within about $[] + (a,c)$ percent. Mass Velocities obtained with the WESTAR code for this case are also plotted on these figures. It can be seen that excellent agreement is obtained between all three codes. The minimum DNBR comparisons between the improved THINC model and the COBRA code using the WRB-1 correlation are shown below.

Cell Typ Thm	[Improved THINC-IV COBRA Delta DNBR, %	+ (a,c)
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FIGURE 5.1
CASE 11 - TYPICAL CELL
(Mass Velocity vs. Elevation)

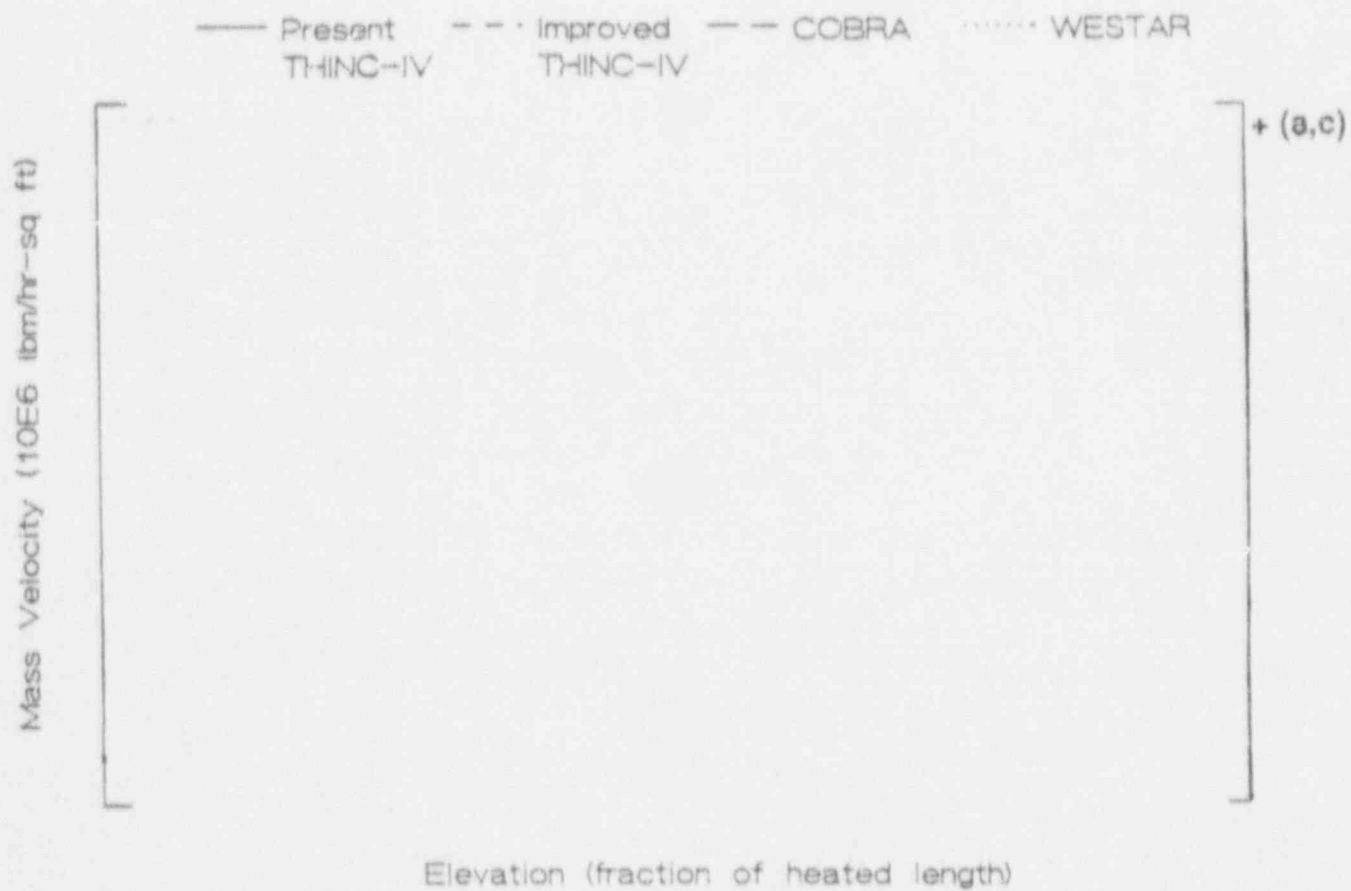


FIGURE 5.2
CASE 11 - THIMBLE CELL
(Mass Velocity vs. Elevation)

