



Commonwealth Edison  
Braidwood Nuclear Power Station  
Route #1, Box 84  
Braceville, Illinois 60407  
Telephone 815/458-2801

November 21, 1994  
Bw/94-0174

Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington D.C. 20555

Attention: Document Control Desk

Subject: Inferred Positive Moderator Temperature Coefficient For Braidwood  
Unit 2 Cycle 5

References: 1) NUREG-1276, "Technical Specifications, Braidwood Station  
Unit Nos. 1 and 2, Docket Nos. STN 50-456 and STN 50-457"

Specification 3.1.1.3a of Reference (1) requires that the Moderator Temperature Coefficient (MTC) shall be less positive than  $0 \Delta k/k/^{\circ}F$  for the all rods withdrawn, hot zero Thermal Power condition in Modes 1 and 2 with  $K_{eff}$  greater than or equal to 1.

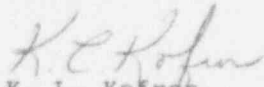
Measurements conducted and analyzed on November 17, 1994, in accordance with Surveillance Requirement 4.1.1.3.a have inferred that an MTC of  $+4.6E-6 \Delta k/k/^{\circ}F$  will occur at a core burnup of 4000 Megawatt Days per Metric Ton Uranium (MWD/MTU). This MTC value is the inferred most positive MTC for Braidwood Unit 2 Cycle 5 operations. The current measured MTC is  $-2.04E-5 \Delta k/k/^{\circ}F$ .

Rod withdrawal limits have been established per Action Requirement "a" of Specification 3.1.1.3 to ensure that MTC remains negative. Curves depicting these rod withdrawal limits are attached. These limits will remain in effect until Braidwood Unit 2 Cycle 5 core burnup reaches 8000 MWD/MTU. At this burnup, the Hot Zero Power, All Rods Out, Xenon free MTC has been calculated to be less than  $0 \Delta k/k/^{\circ}F$ . This value represents the most positive/least negative MTC.

This information is being transmitted in accordance with Specification 3.1.1.3 Action a.3 which requires that a Special Report be prepared and submitted to the Nuclear Regulatory Commission pursuant to Specification 6.9.2 within 10 days. This report shall describe the value of the measured MTC, the interim control rod withdrawal limits, and the predicted average burnup necessary to restore the positive MTC to within its limit for the all rods withdrawn condition.

Please direct any questions regarding this submittal to Douglas S. Huston, Braidwood Regulatory Assurance, Licensing Group, (815)458-2801 extension 3182.

Sincerely,

  
K. L. Kofron  
Station Manager  
Braidwood Station

KLK/DSH/cjm

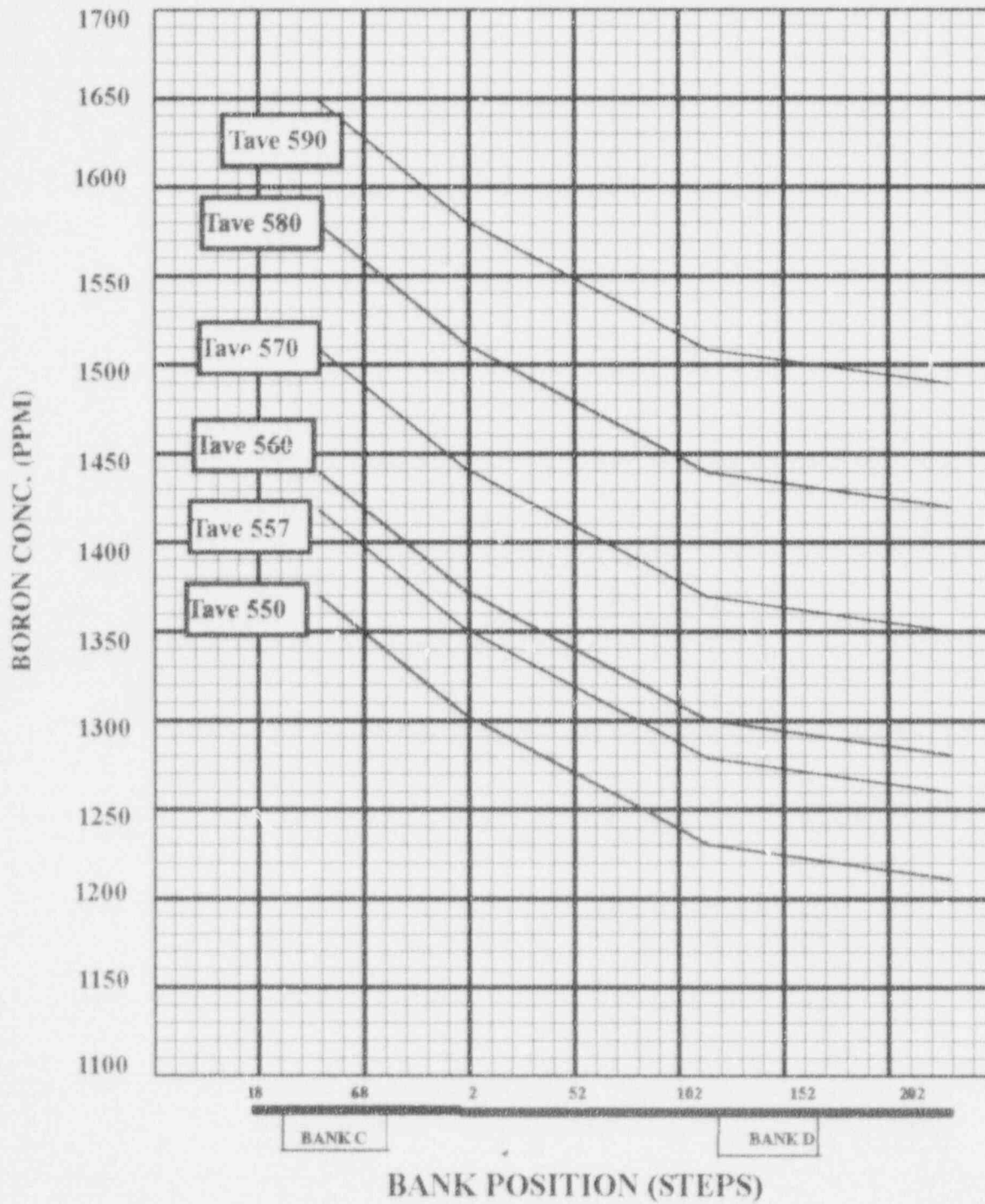
Attachment

cc: S. G. DuPont, Senior Resident Inspector - Braidwood  
R. R. Assa, Braidwood Project Manager - NRP  
B. Clayton, Branch Chief - RIII  
D. M. Saccomando - NLA  
K. G. Bartes, Regulatory Assurance Supervisor  
L. Kepley, System Engineering

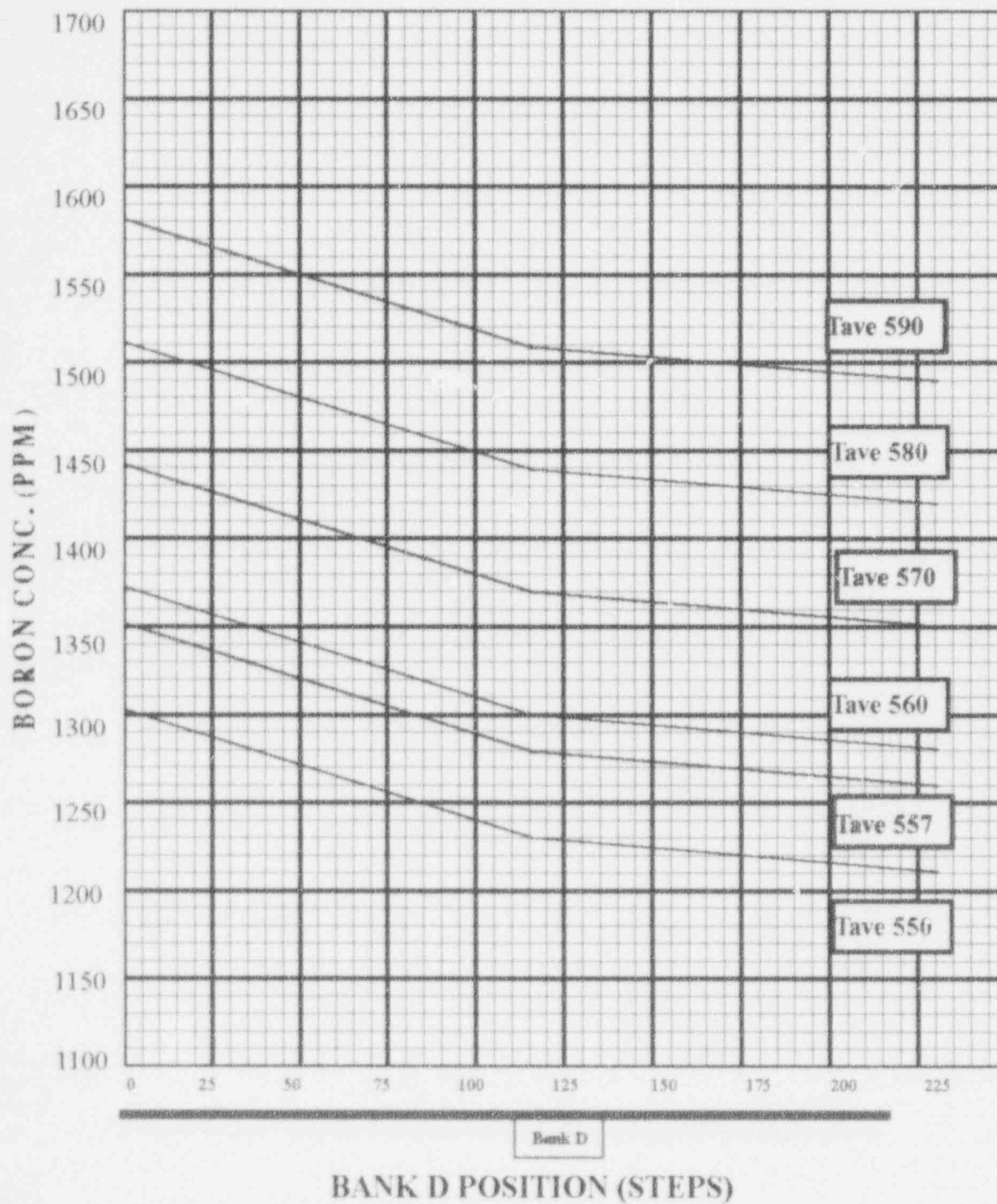
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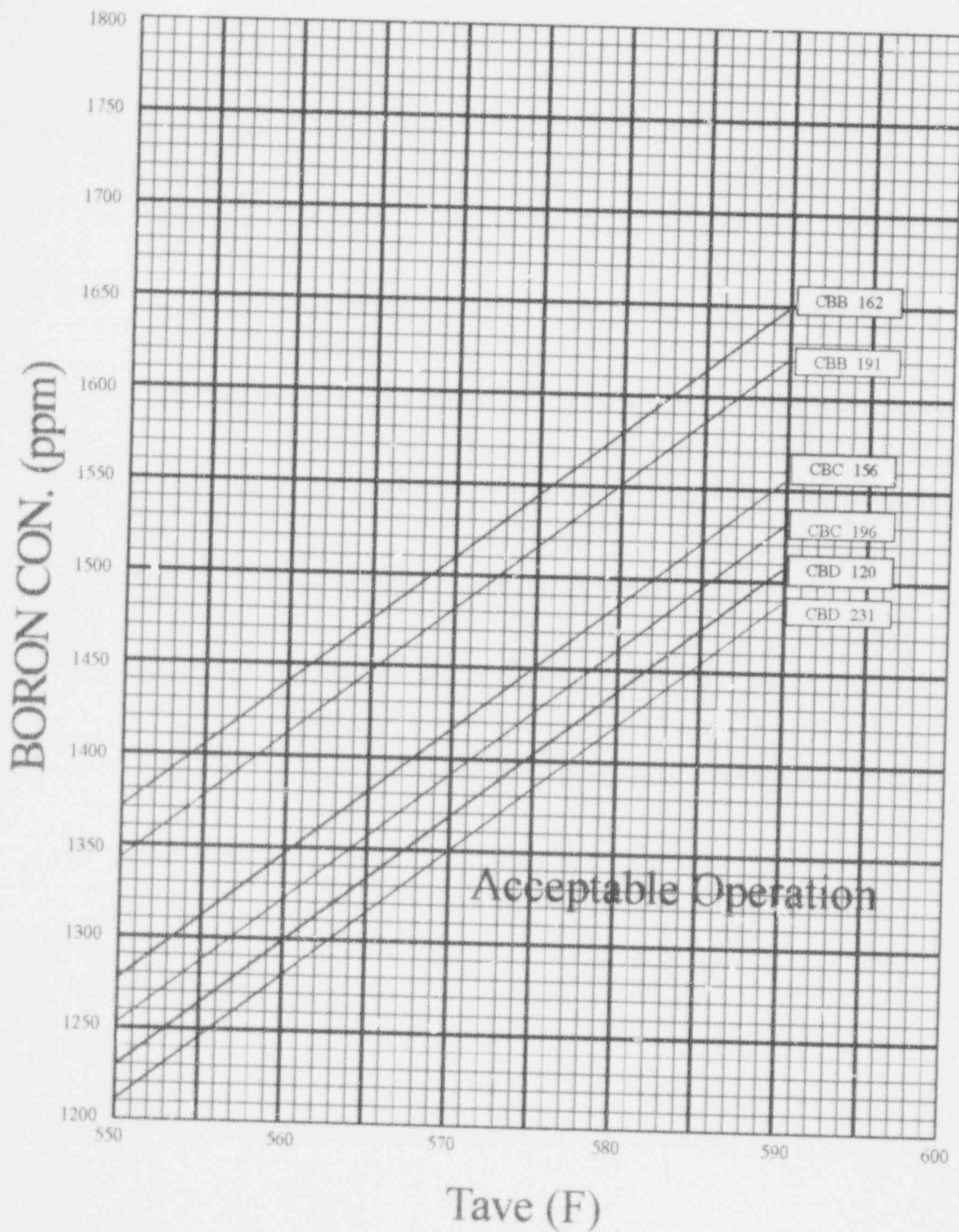
CONTROL ROD WITHDRAWAL LIMITS  
CONSTANT TEMPERATURE  
UNIT 2 CYCLE 5



CONTROL ROD WITHDRAWAL LIMITS  
CONSTANT TEMPERATURE  
UNIT 2 CYCLE 5



# CONTROL ROD WITHDRAWAL LIMITS AS A FUNCTION OF CONSTANT ROD POSITION





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