

February 9, 1990

Docket 50-255

MEMORANDUM FOR: John O. Thoma, Acting Director  
 Project Directorate III-1  
 Division of Reactor Projects - III,  
 IV, V & Special Projects  
 Office of Nuclear Reactor Regulation

FROM: Albert W. De Agazio, Sr. Project Manager  
 Project Directorate III-1  
 Division of Reactor Projects - III,  
 IV, V & Special Projects  
 Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MEETING WITH CONSUMERS POWER COMPANY -  
 PALISADES PORV BLOCK VALVE (TAC 75926)

A meeting was held in Orlando, Florida on January 24, 1990, to discuss certain aspects of the staff's analysis of the data collected during block valve and Pilot-Operated Relief Valve (PORV) tests. The testing was conducted for Consumers Power Company (CPCo) at the Wylie Laboratory test facility in Norco, California. Enclosure 1 is the list of attendees at the meeting.

The meeting focused upon the reliability of block valve (MO-1042A) test results relating to thrust (stem force). Most of the data discussed were provided by CPCo and were analyzed by EG&G, Idaho, serving as consultant to the staff.

The staff's presentation culminated with the tentative conclusion that the thrust data for MO-1042A appear unreliable. The staff did note, however that based on our analysis of torque and motor current test data, which are considered reliable, and the successful closures of the valve during testing, there is adequate margin to assure operability for the present. However, the operability margin has not been quantified because of the uncertain thrust measurements. The margin is of concern because it can be affected by valve degradation and maintenance activities.

Enclosure 2 contains copies of the data plots that were discussed at the meeting.

*original signed by*

Albert W. De Agazio, Sr. Project Manager  
 Project Directorate III-1  
 Division of Reactor Projects - III, IV,  
 V & Special Projects  
 Office of Nuclear Reactor Regulation

Enclosures: As stated

CONTACT:  
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 492-1325

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## MEETING ATTENDANCE

DATE: January 24, 1990

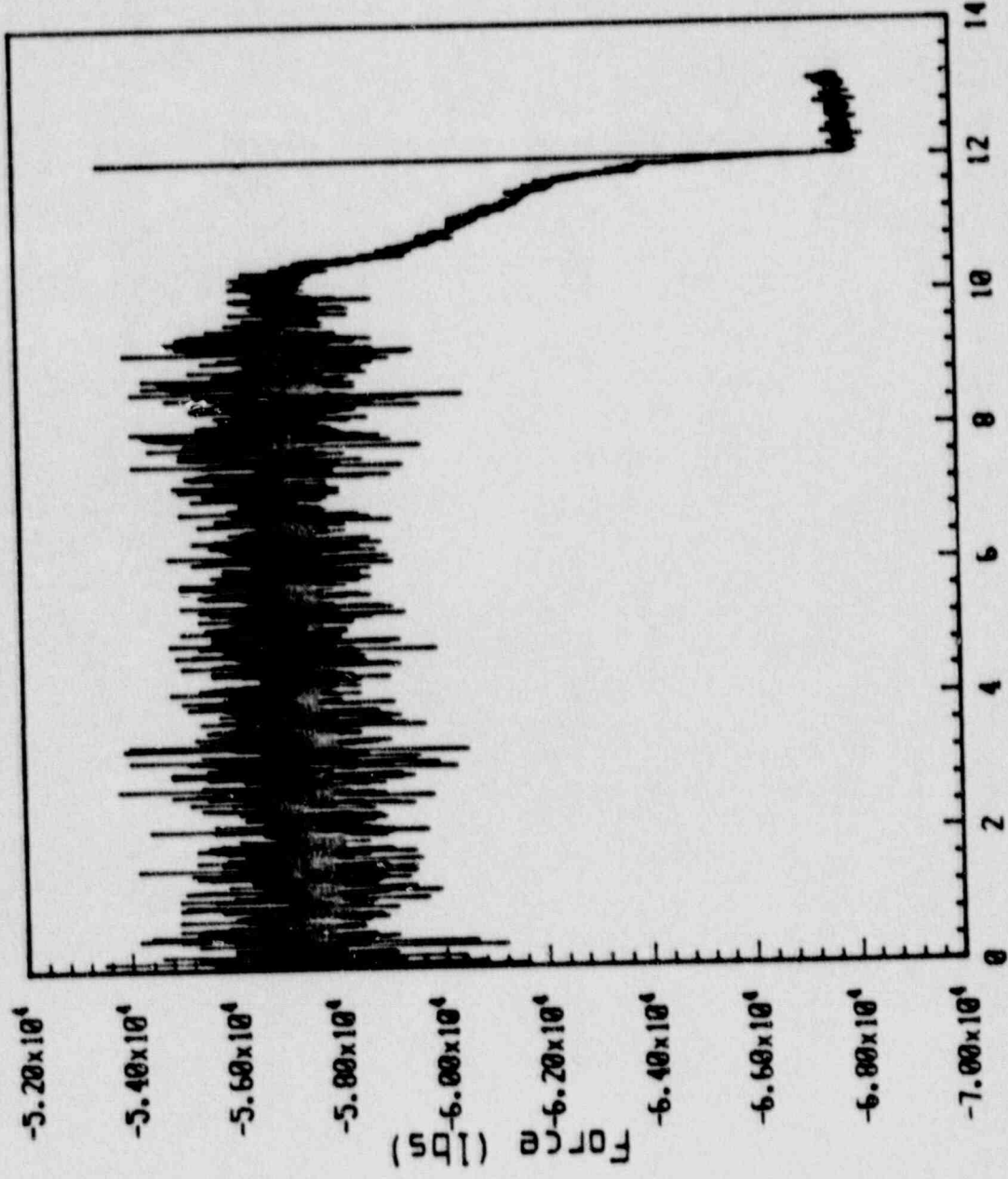
PLACE: Orlando, Florida

UTILITY AND DOCKET NO: Consumers Power Co. (Palisades Plant)  
Docket No. 50-255

SUBJECT: Consumers Power Company block valve and PORV test results

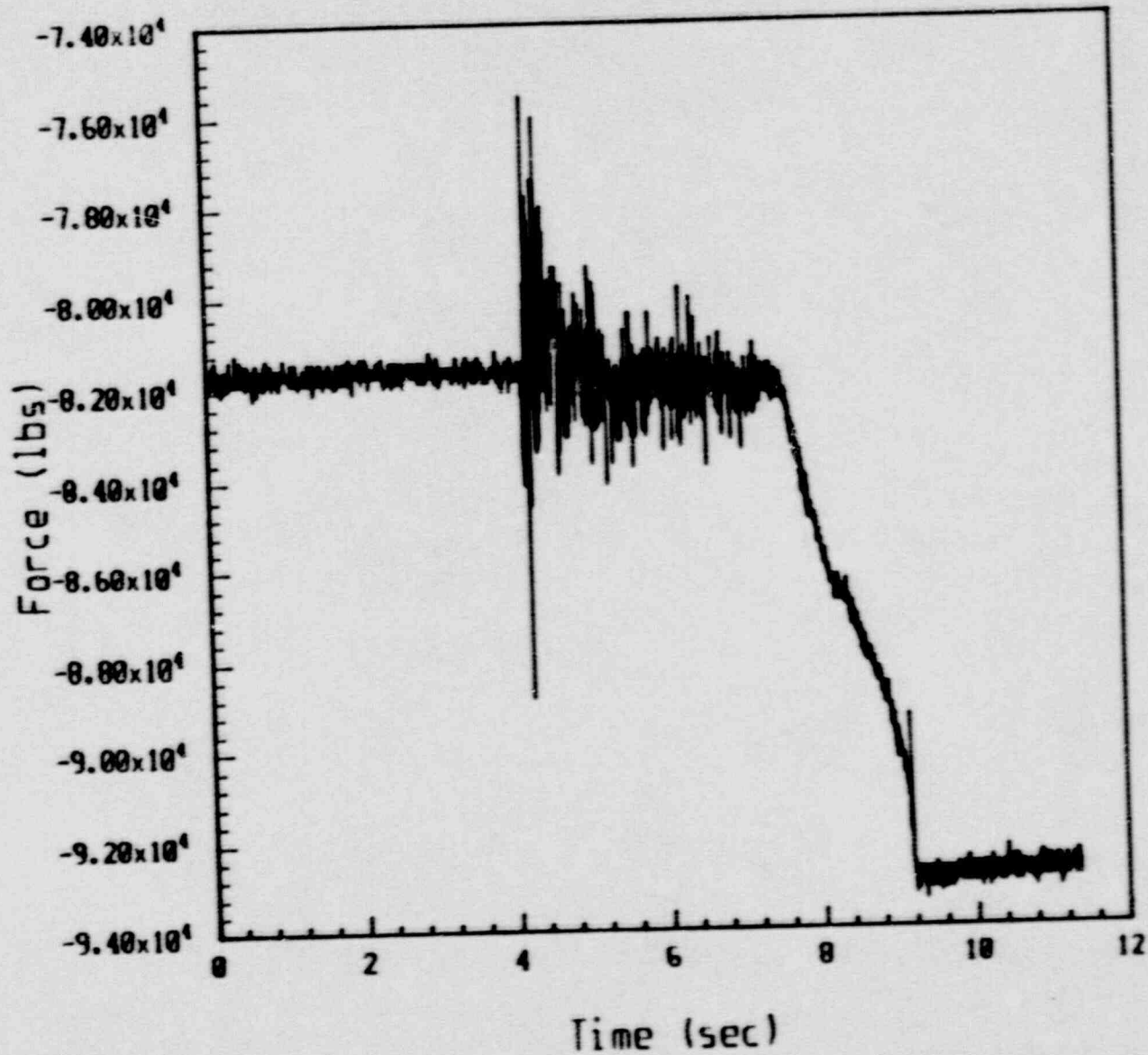
<u>NAME</u>	<u>AFFILIATION</u>
Paul Damereil	MPR Associates
Albert De Agazio	NRR/DRSP/PDIII-1
Richard Kiessel	NRR/DOEA/OGCB
Robert Leon	Liberty Technology
Thomas Scarbrough	NRR/DET/EMEB
Richard Smedley	Consumers Power Company
George Smith	Consumers Power Company
Robert Steele	INEL
Edmund Sullivan	NRR/DET/EMEB

Uncorrected Force Data  
Palisades Test 13

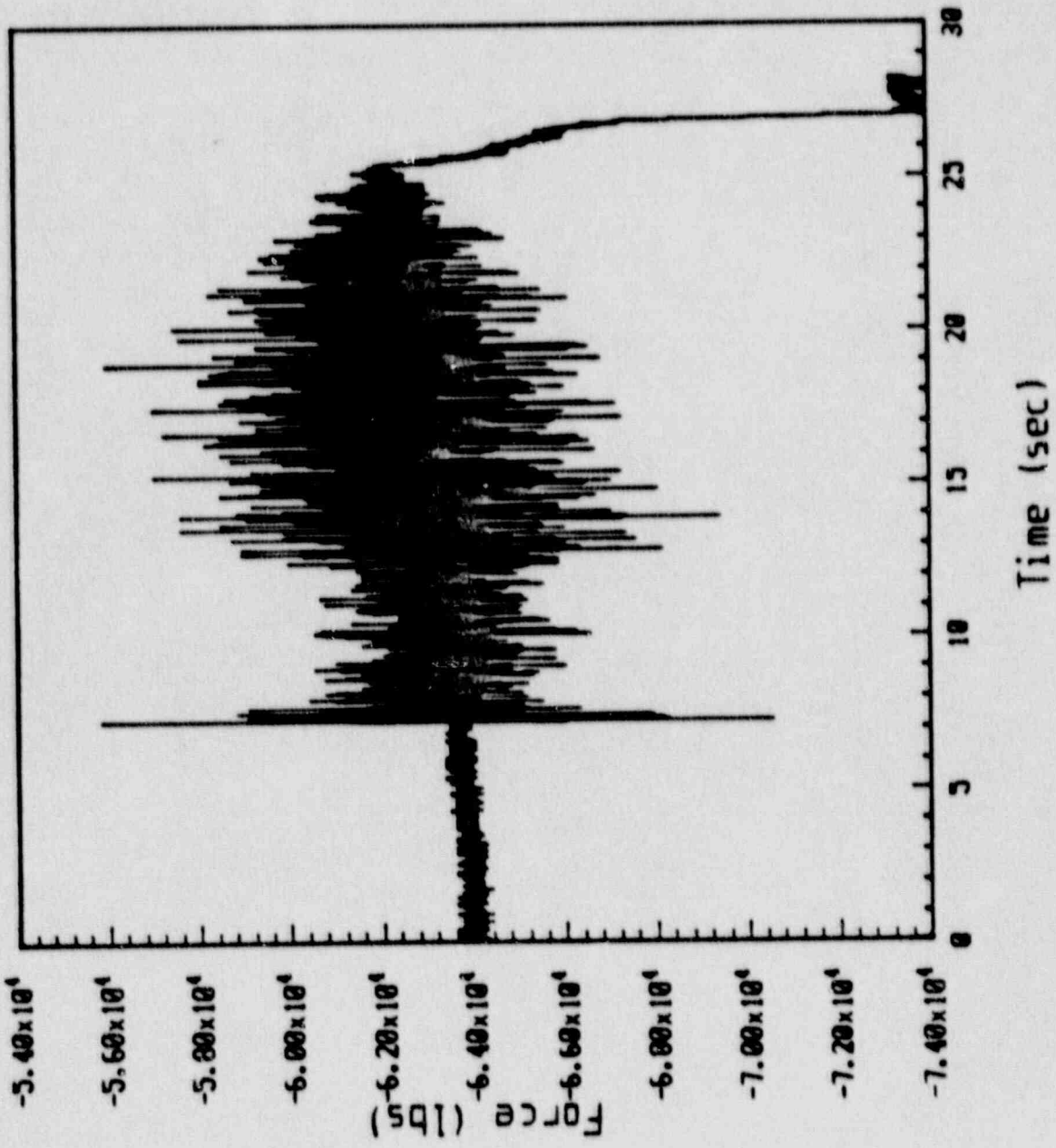


Time (sec)

# Uncorrected Force Data Palisades Test 14



Uncorrected Force Data  
Palisades Test 15



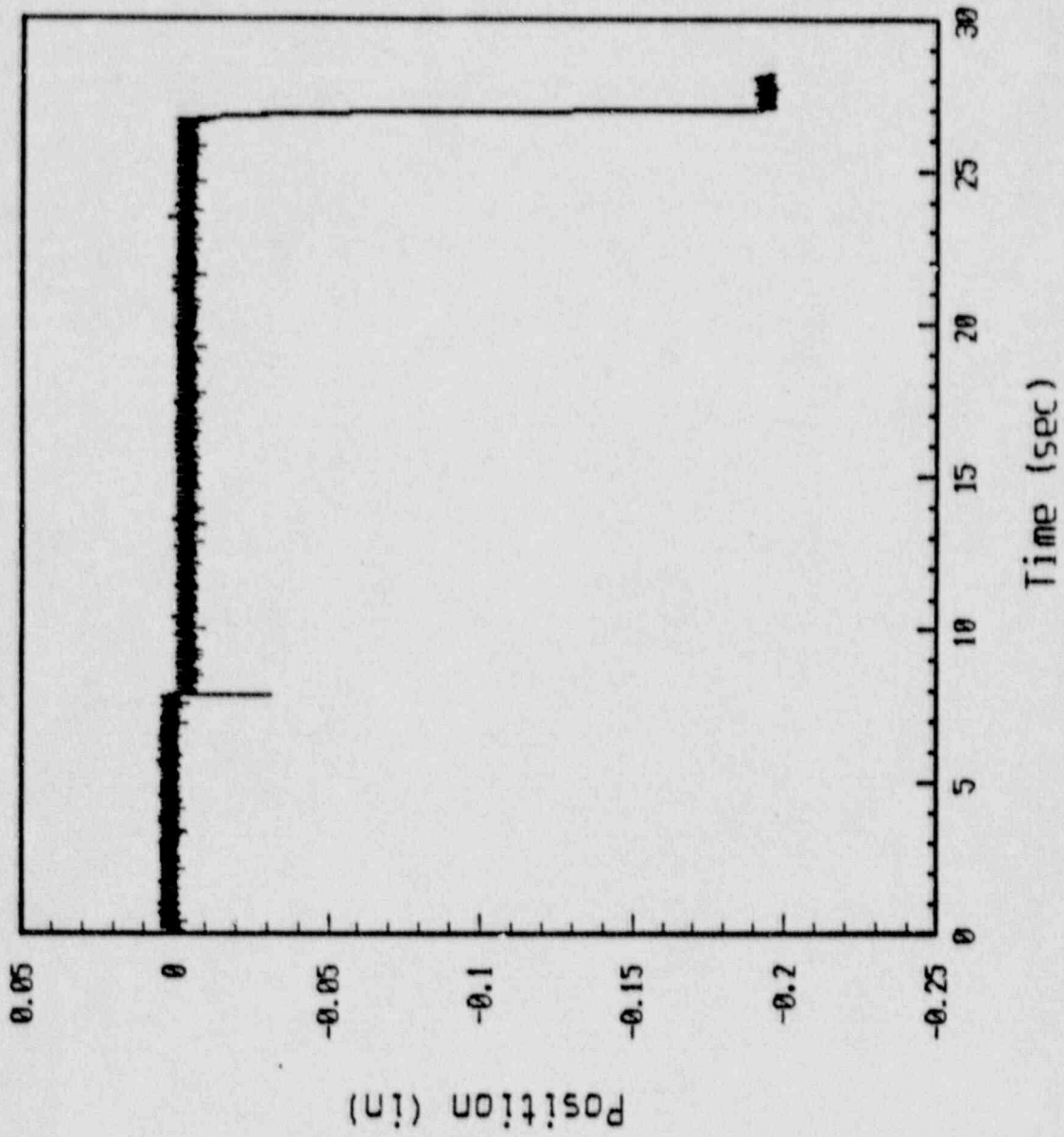


Figure 2. Block valve motor operator spring pack deflection history Test No. 15.

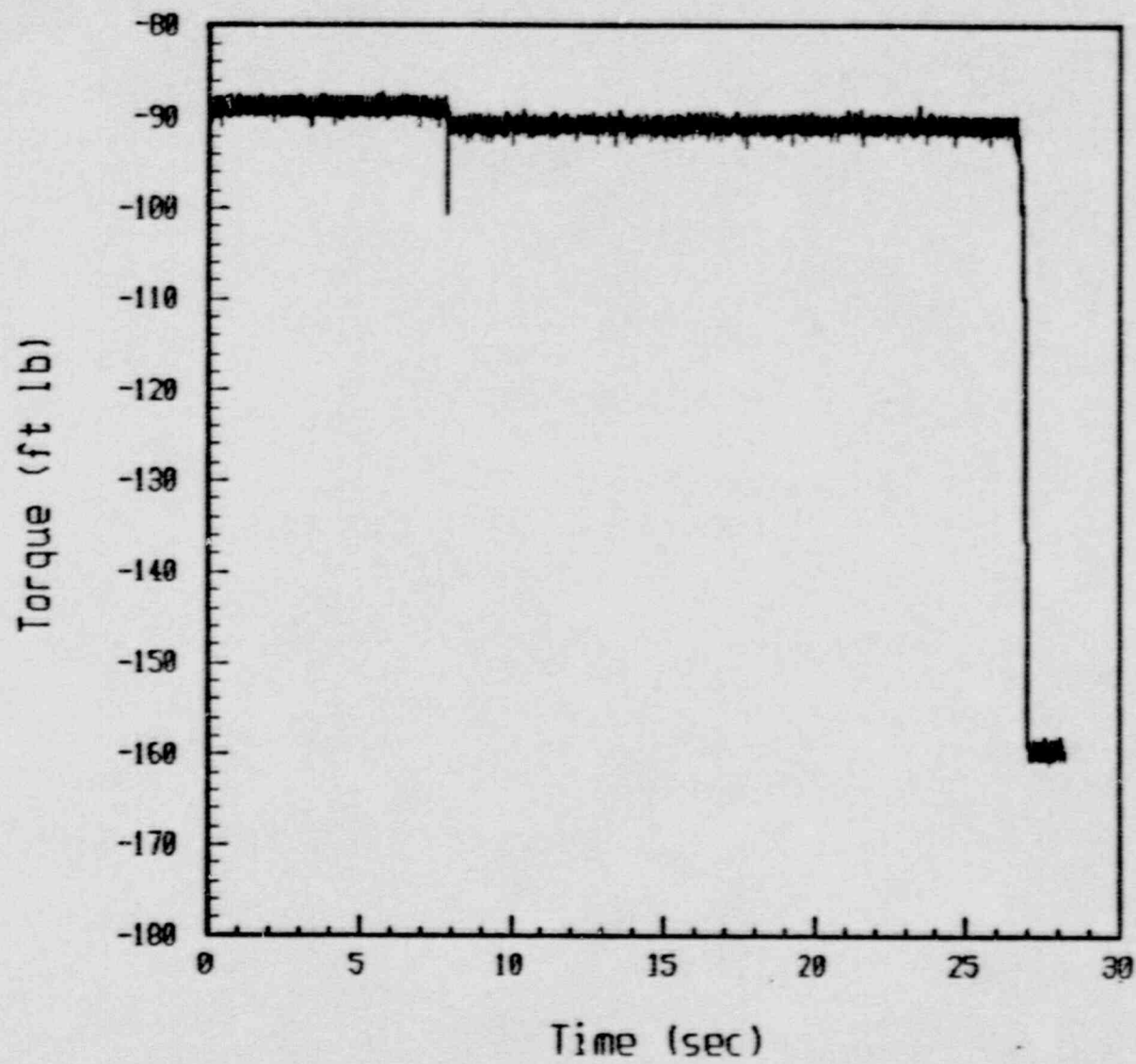


Figure 3. Block valve motor operator torque history Test No. 15.

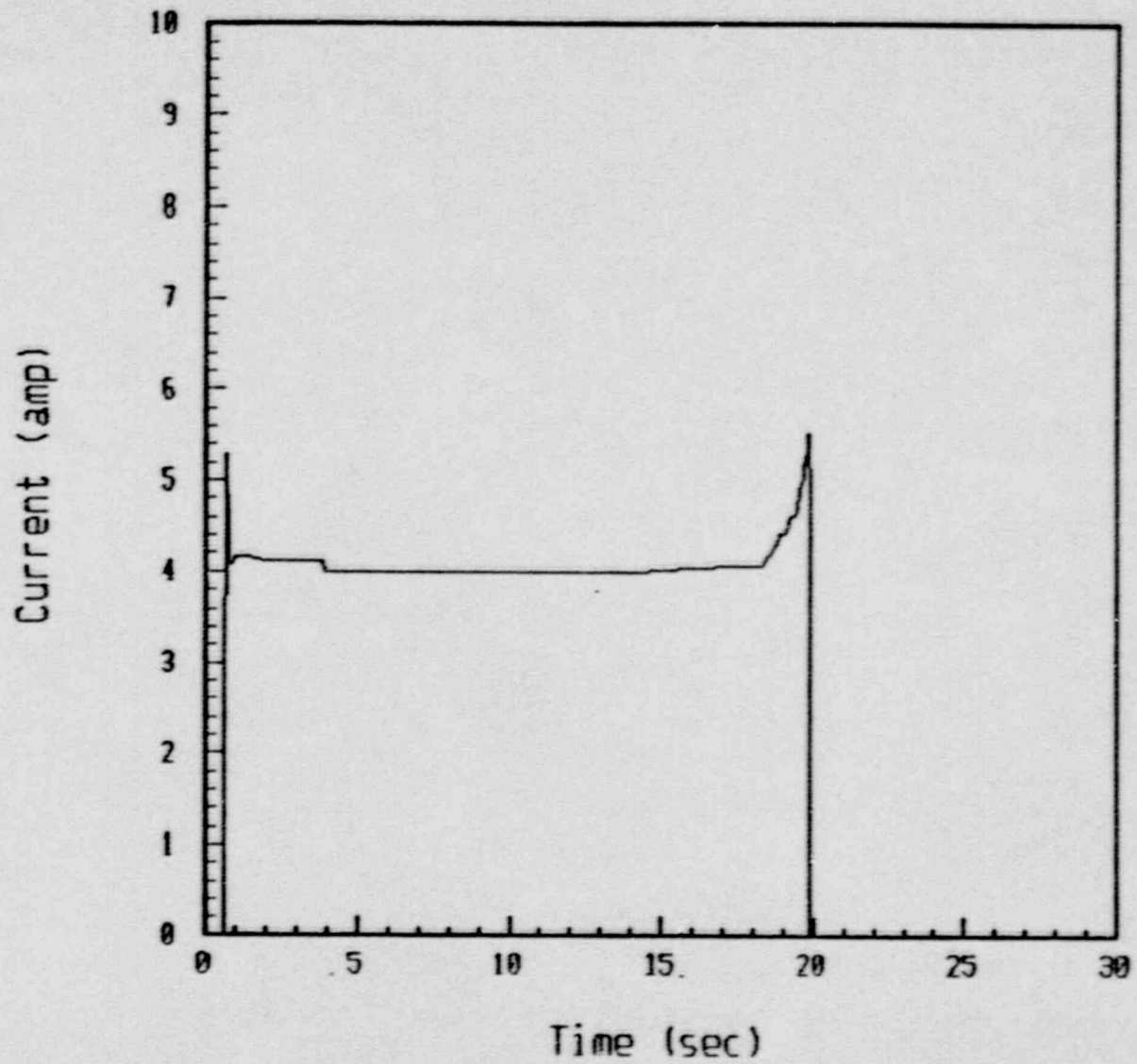


Figure 4. Block valve motor operator motor current history Test No. 15.



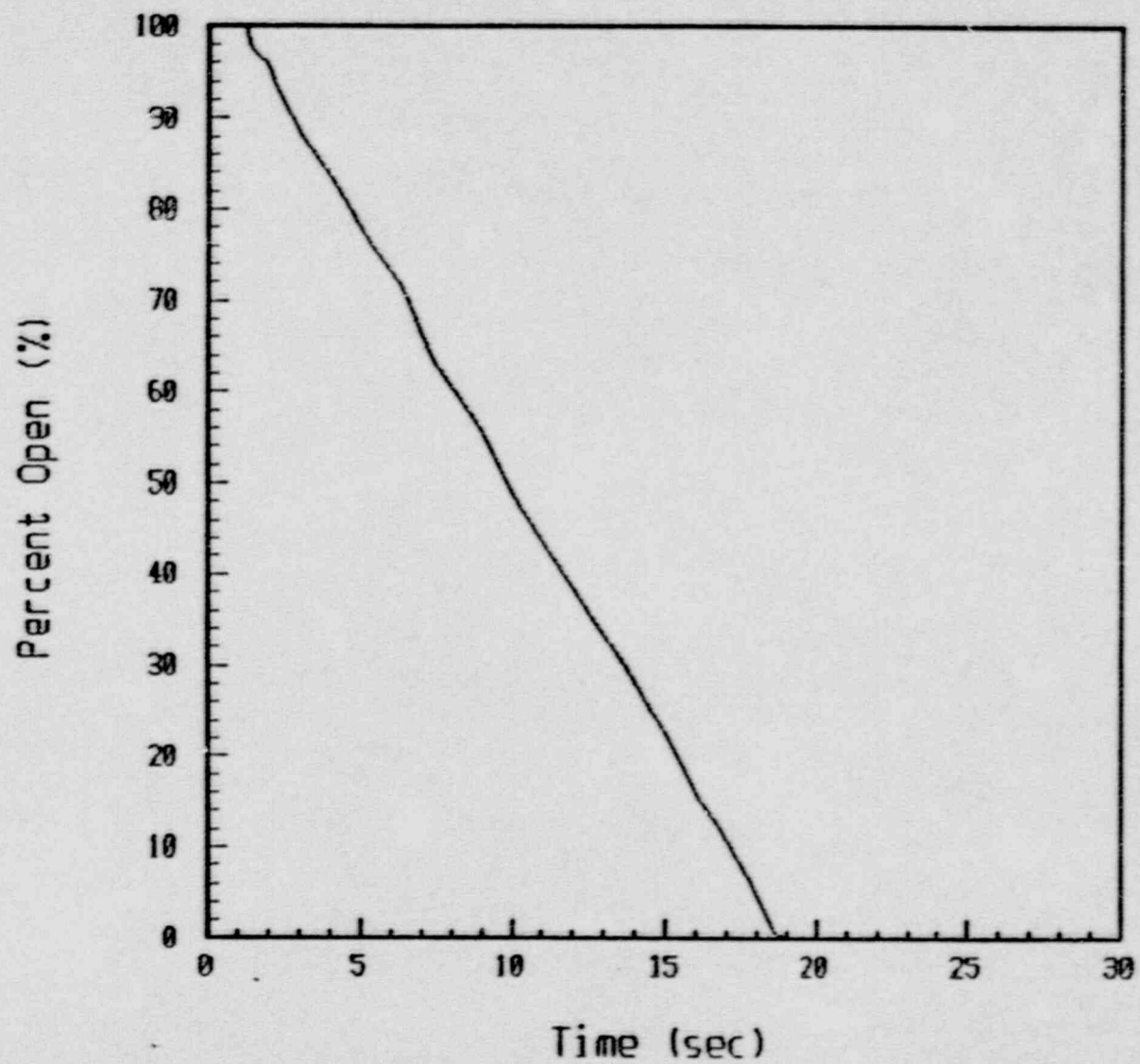


Figure 5. Block valve, valve stem position history Test No. 15.

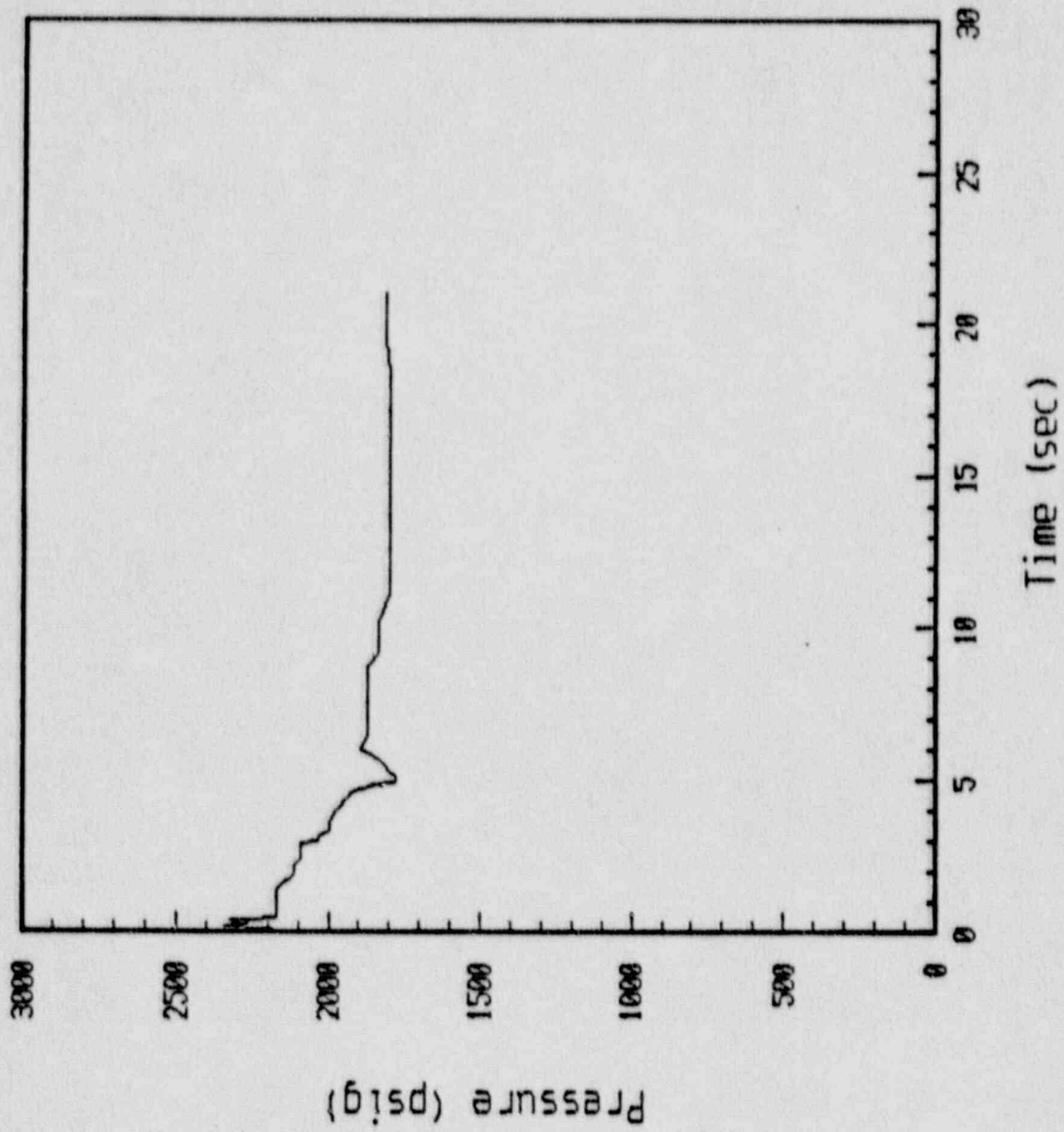


Figure 6. Block valve upstream static pressure history Test No. 15.

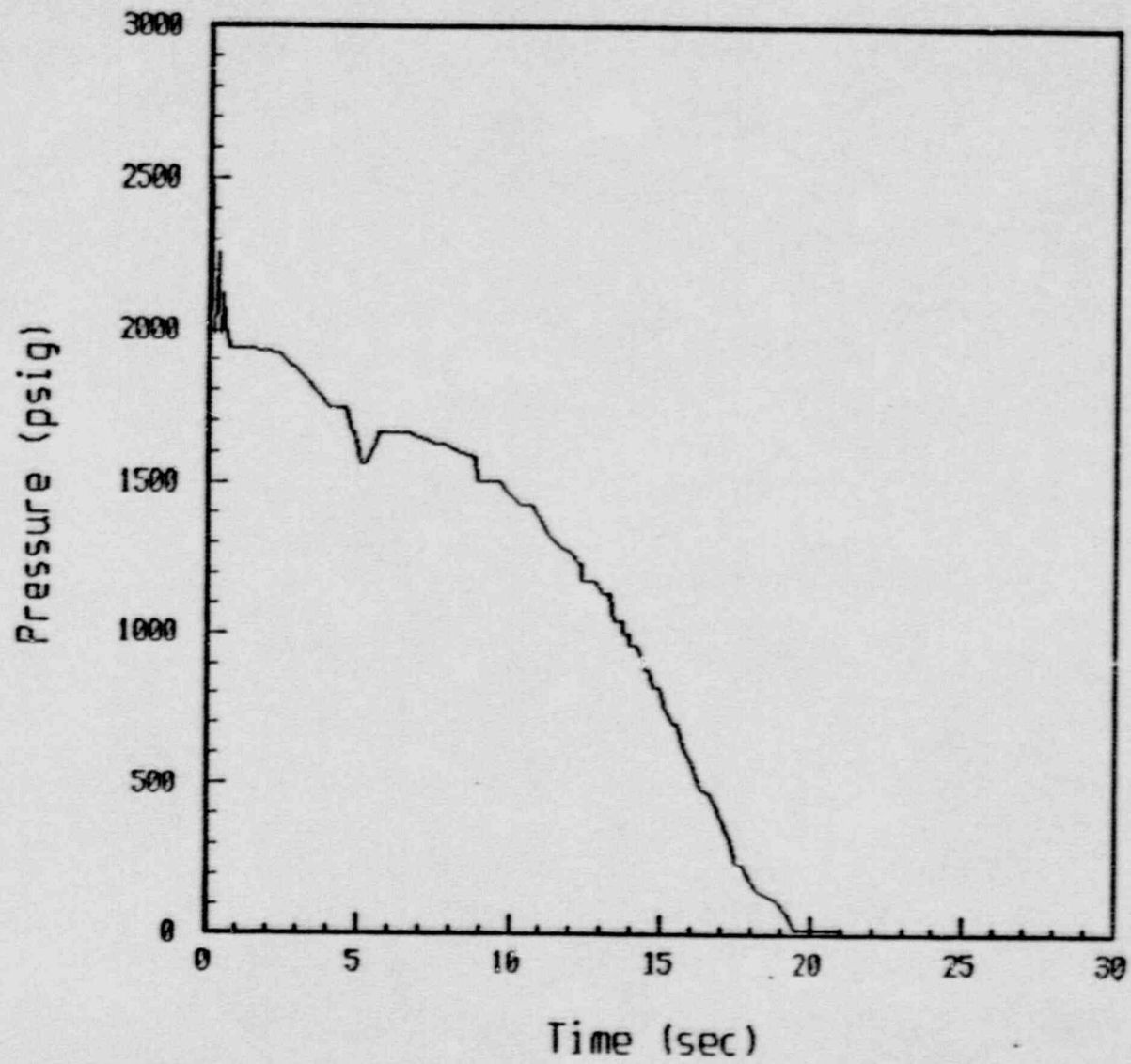


Figure 7. PORV upstream static pressure history Test No. 15.

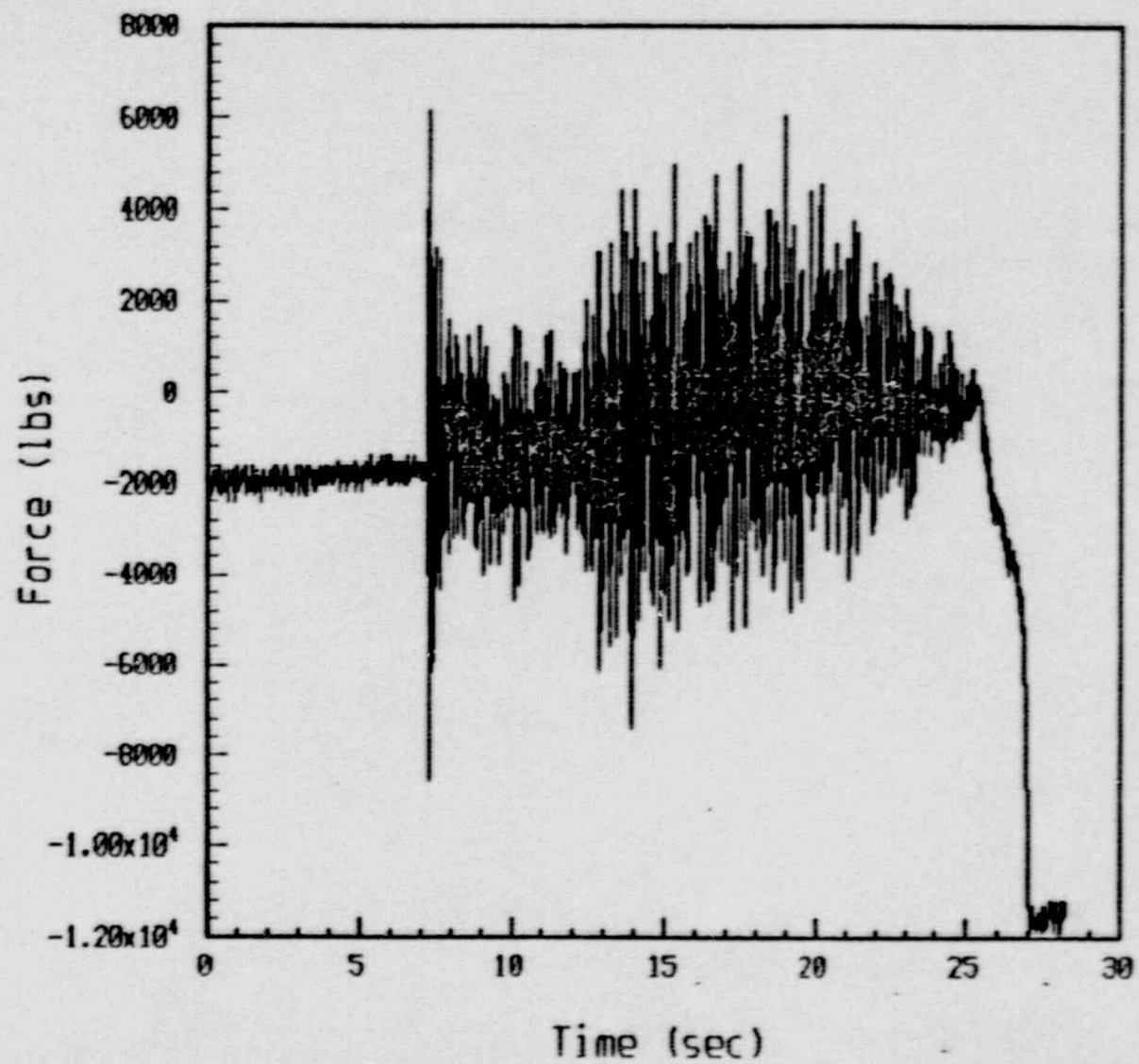


Figure 11. Block valve stem force history Test No. 15.

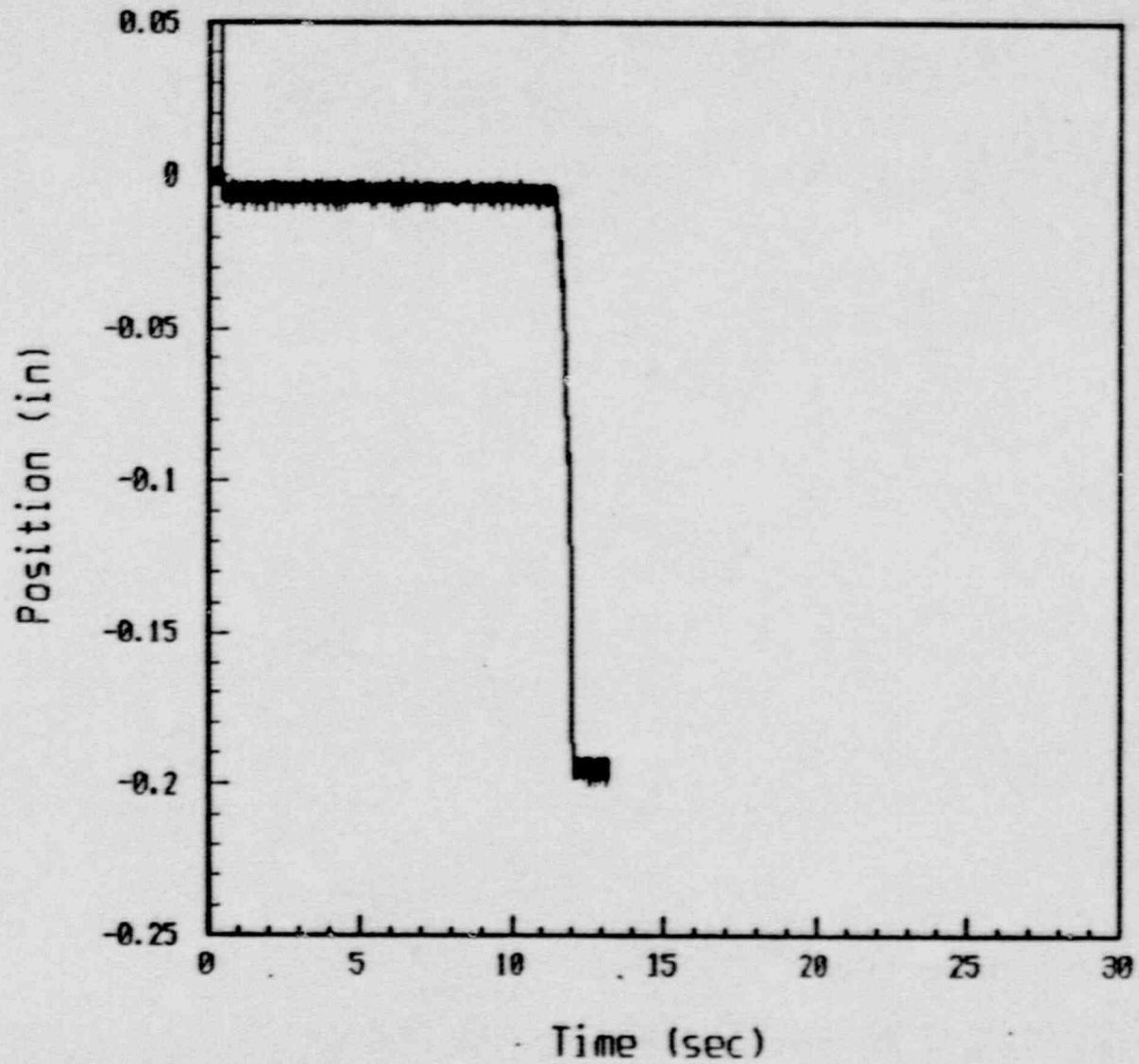


Figure 12. Block valve motor operator spring pack deflection history Test No. 13.

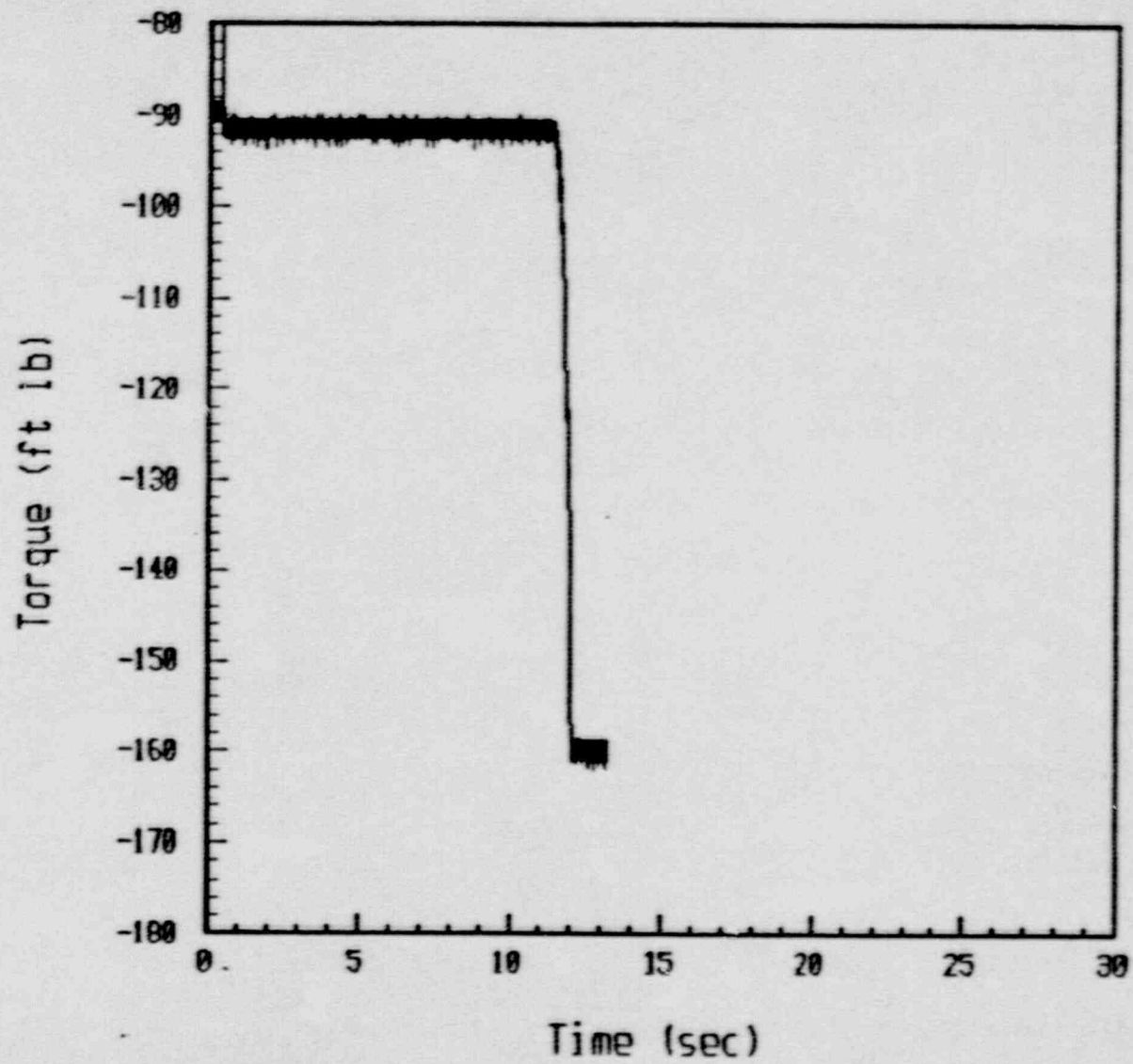


Figure 13. Block valve motor operator torque history Test No. 13.

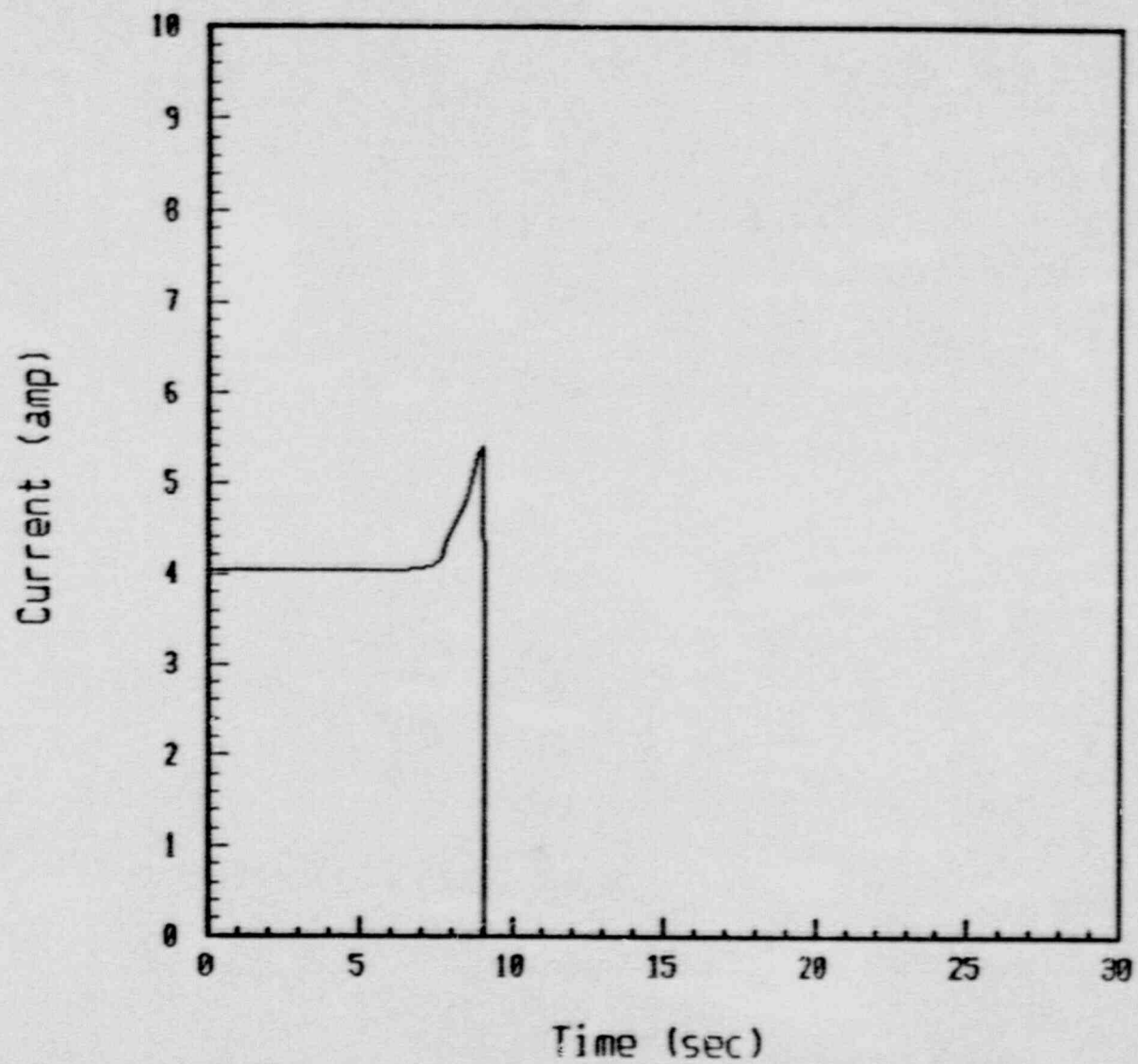


Figure 14. Block valve motor operator motor current history Test No. 13.

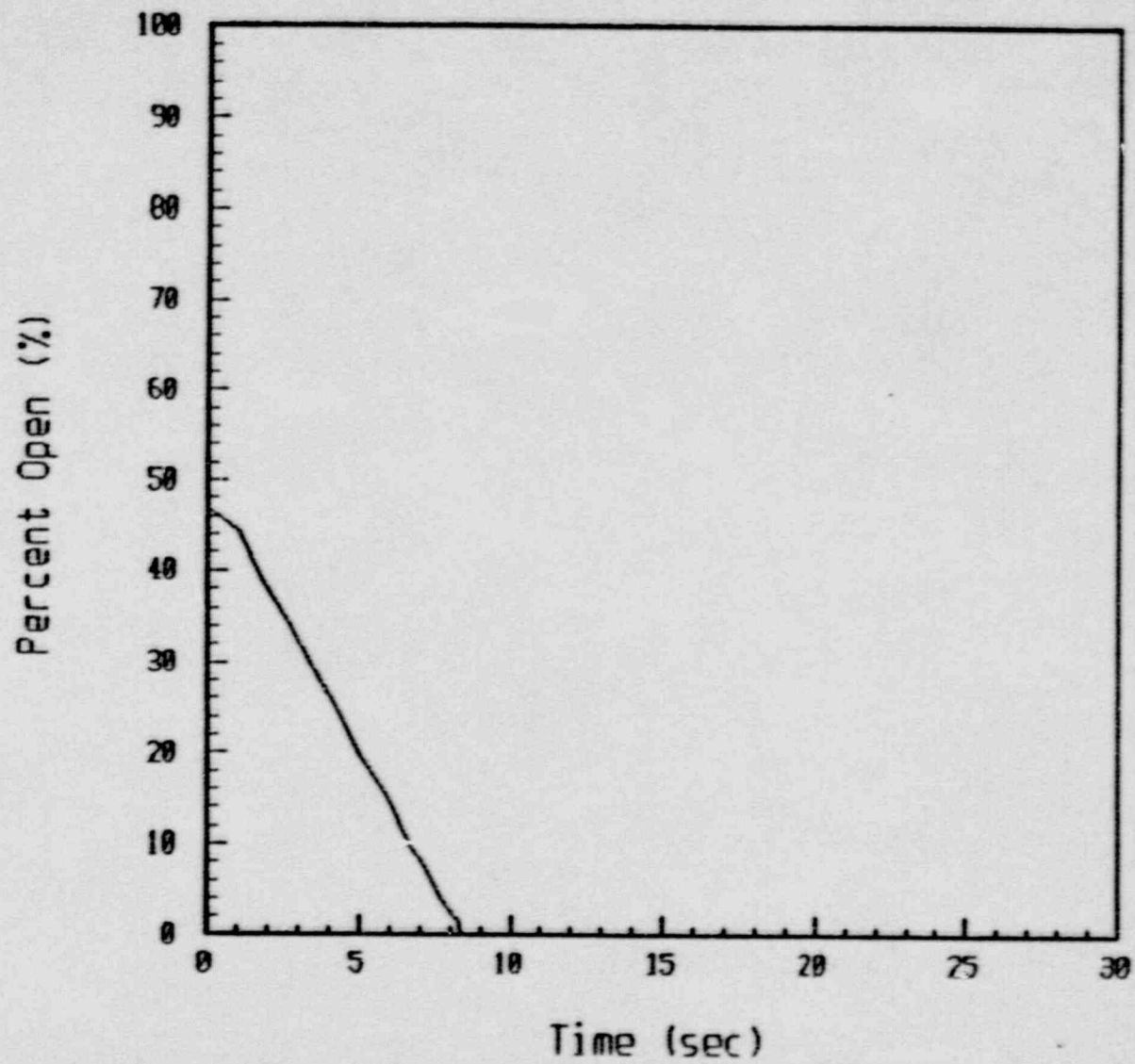


Figure 15. Block valve, valve stem position history Test No. 13.



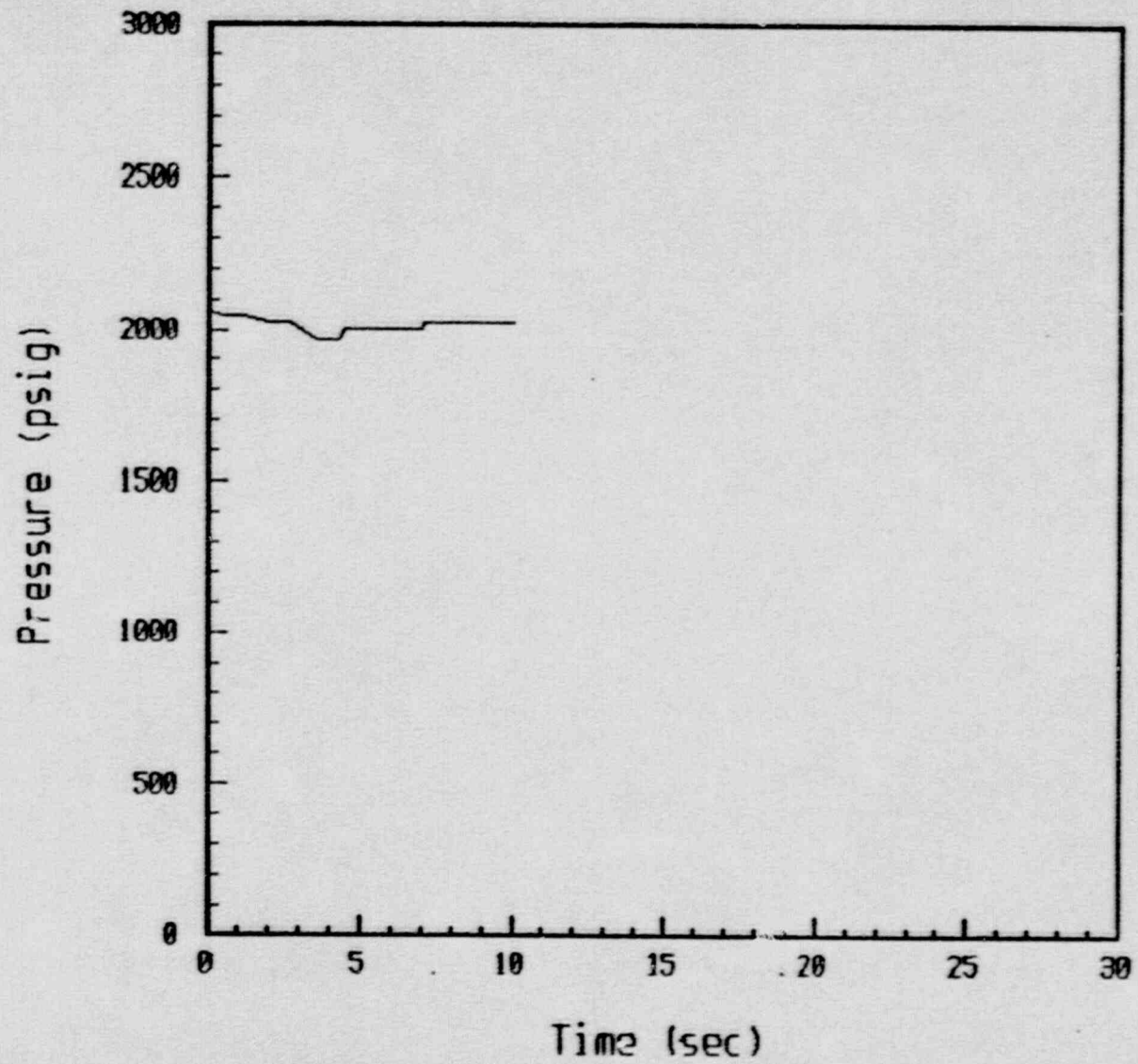


Figure 16. Block valve upstream static pressure history Test No 13.

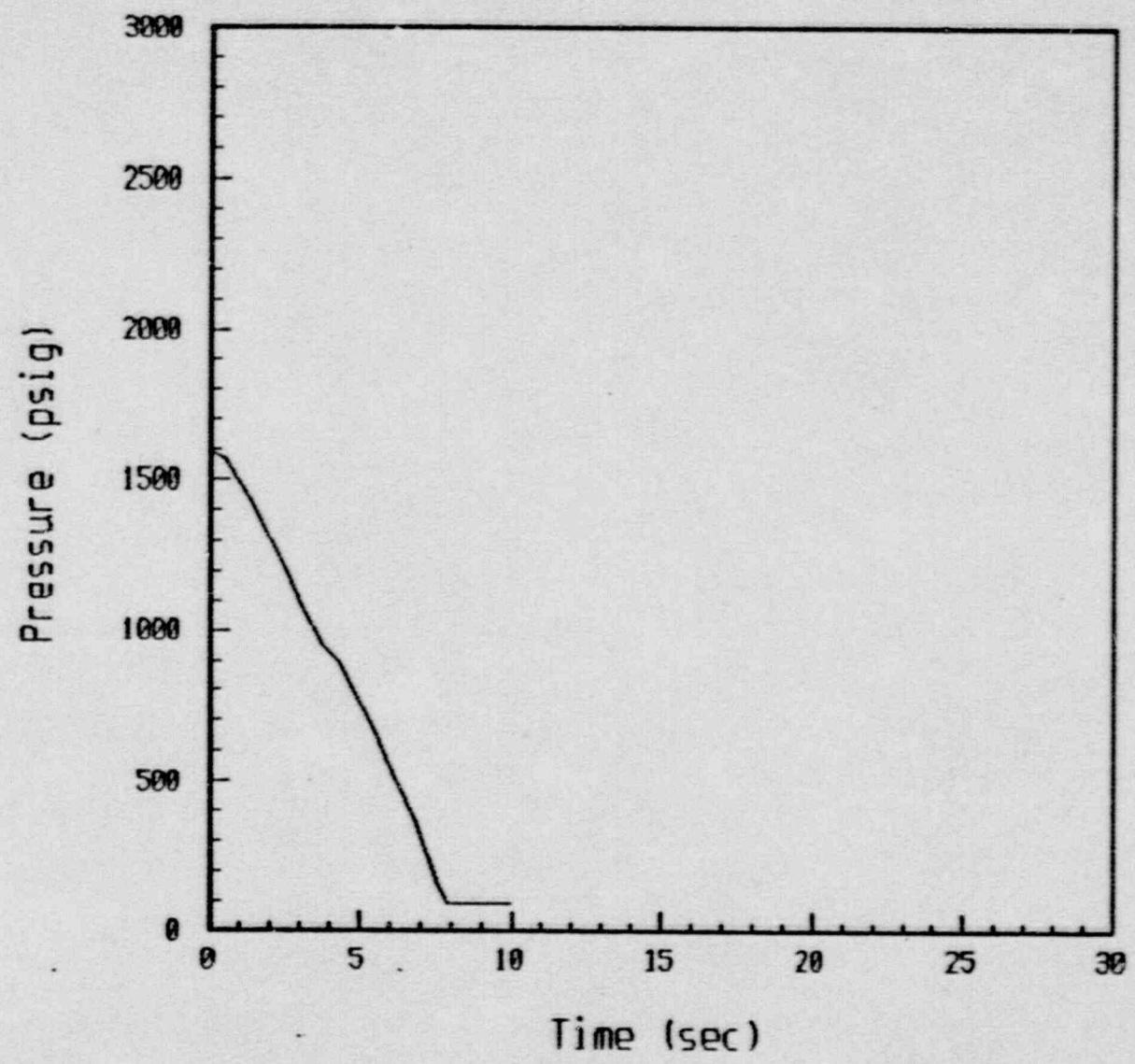


Figure 17. PORV upstream static pressure history Test No. 13.

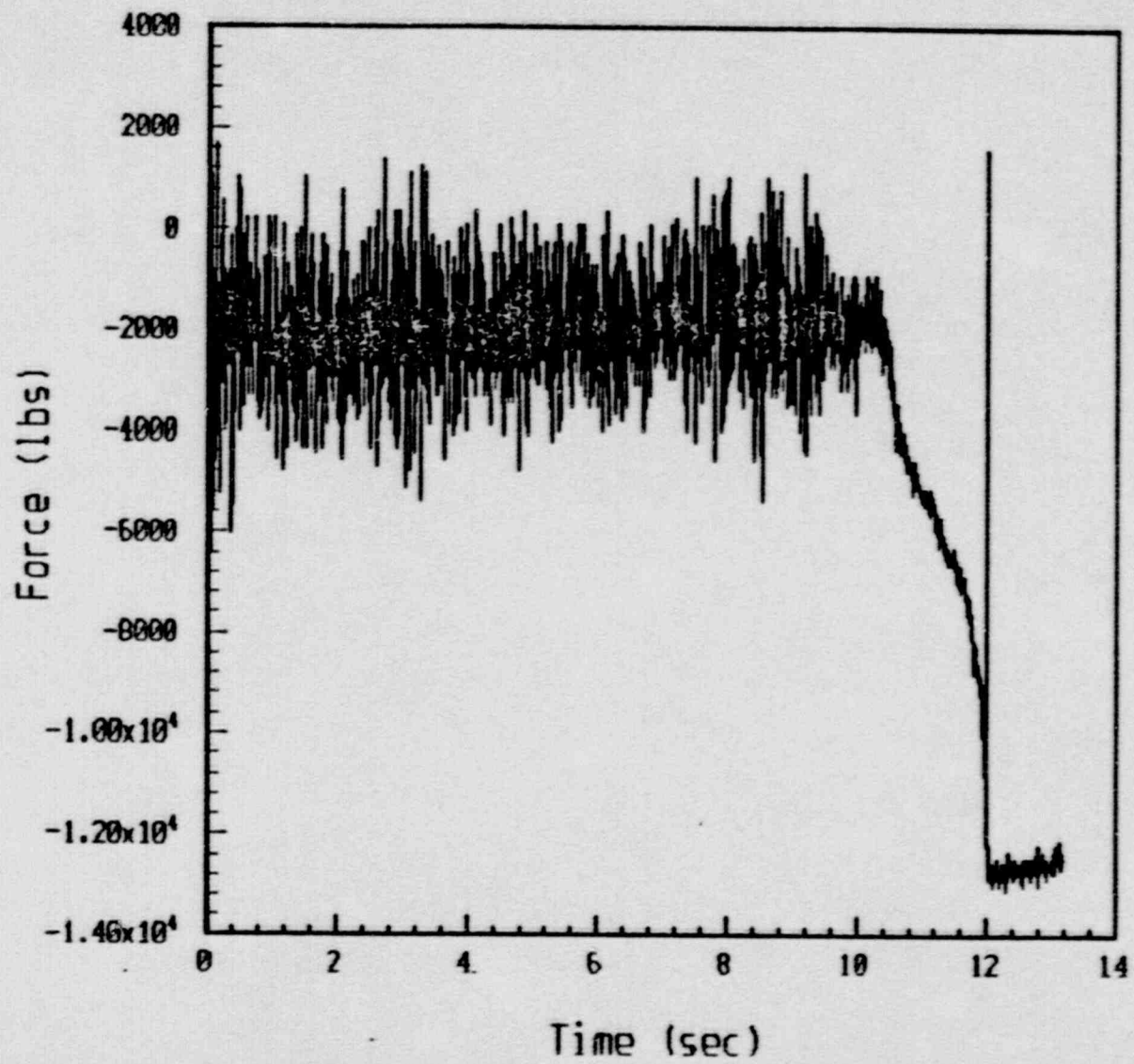


Figure 21. Block valve stem force history Test No. 13.

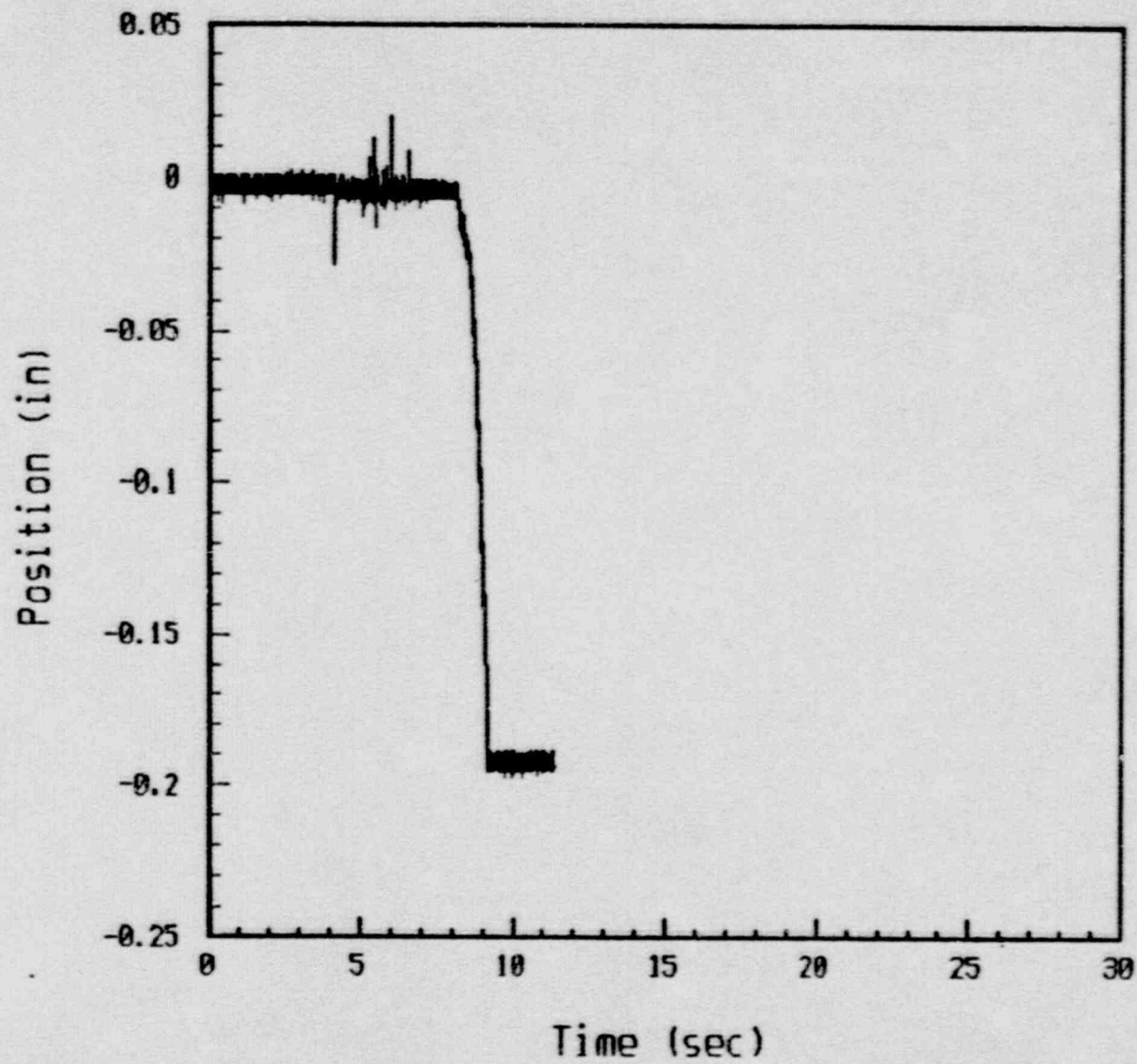


Figure 22. Block valve motor operator spring pack deflection history Test No. 14.

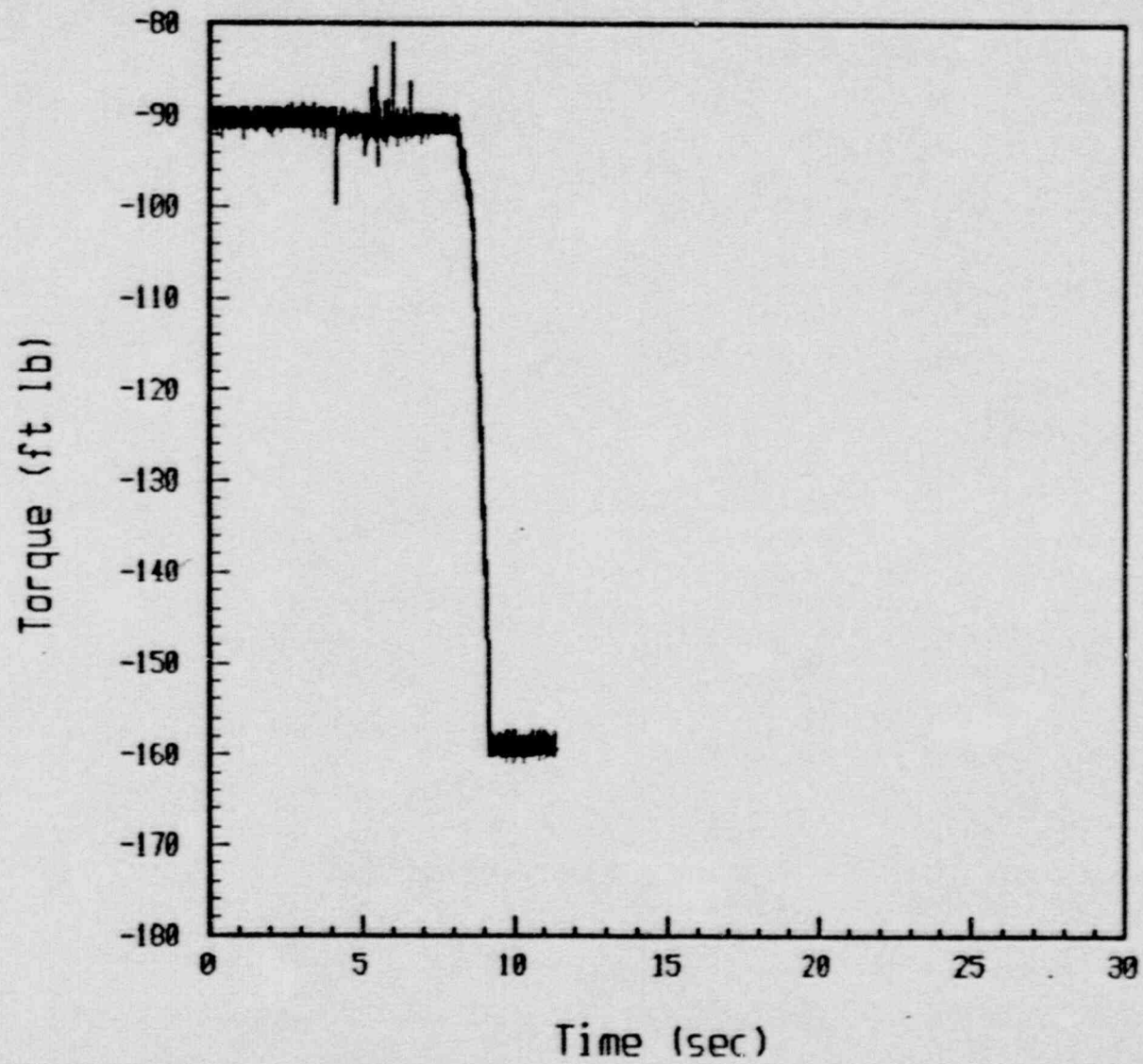


Figure 23. Block valve motor operator torque history Test No. 14.

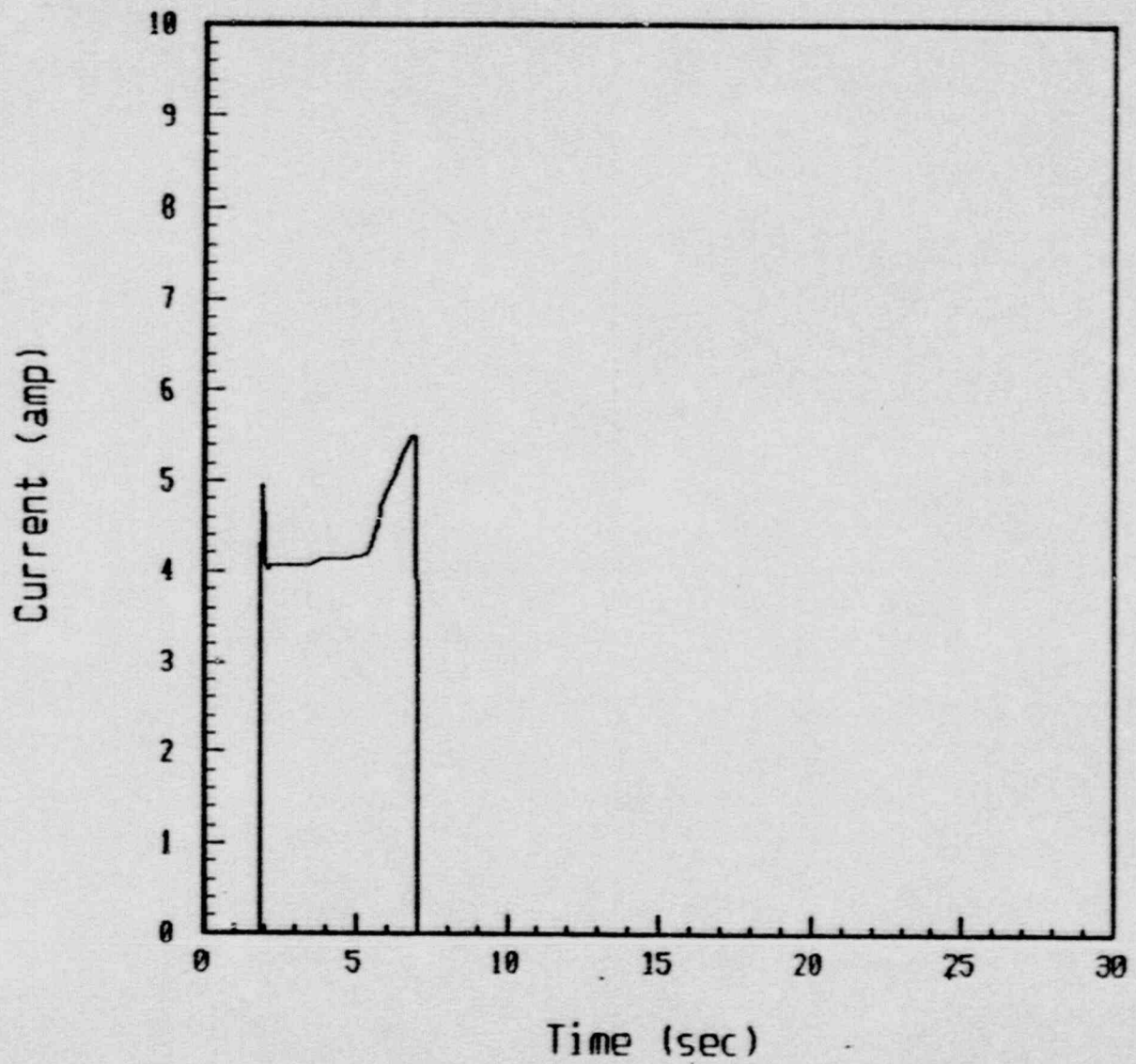


Figure 24. Block valve motor operator motor current history Test No. 14.

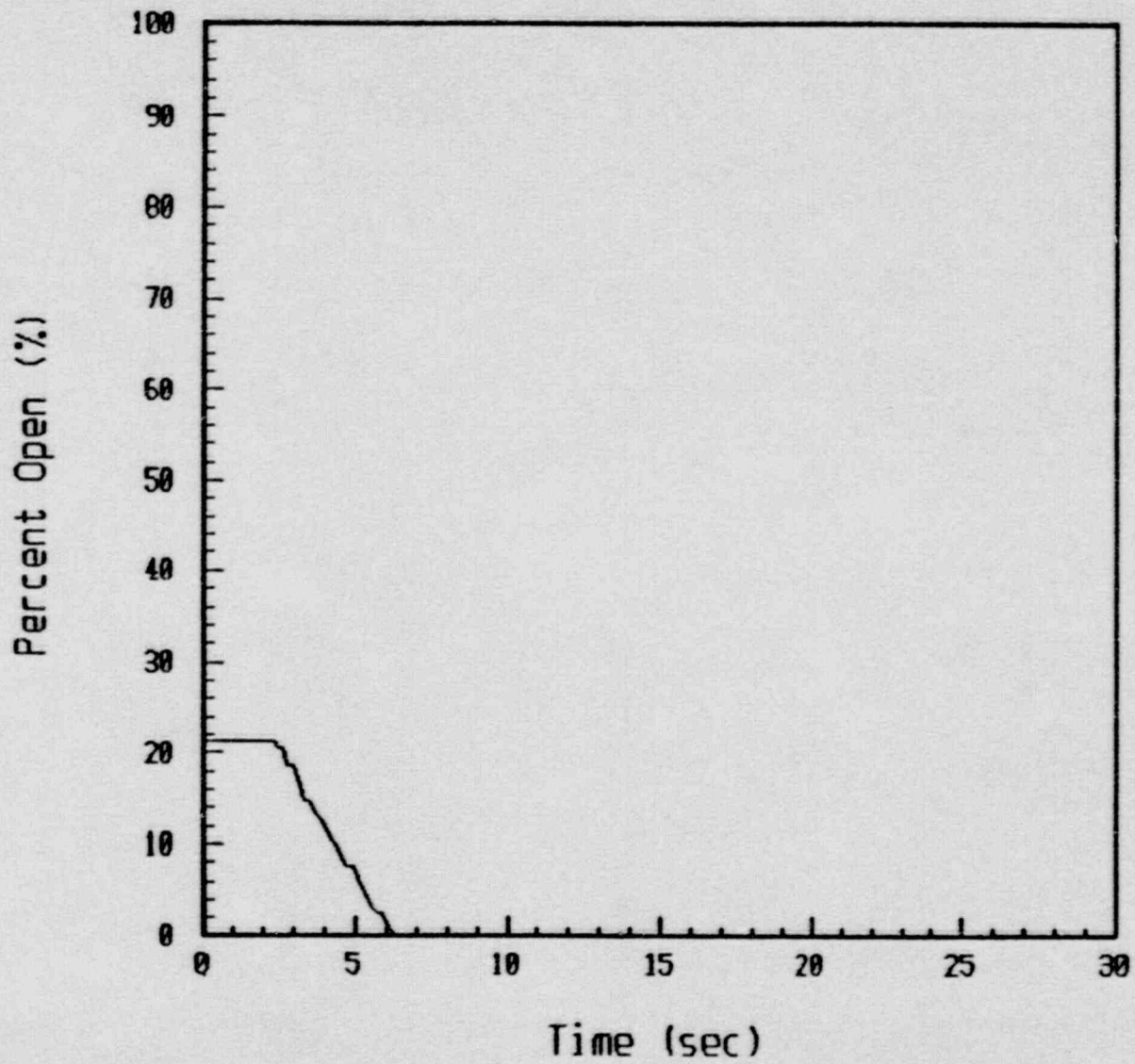


Figure 25. Block valve, valve stem position history Test No. 14.

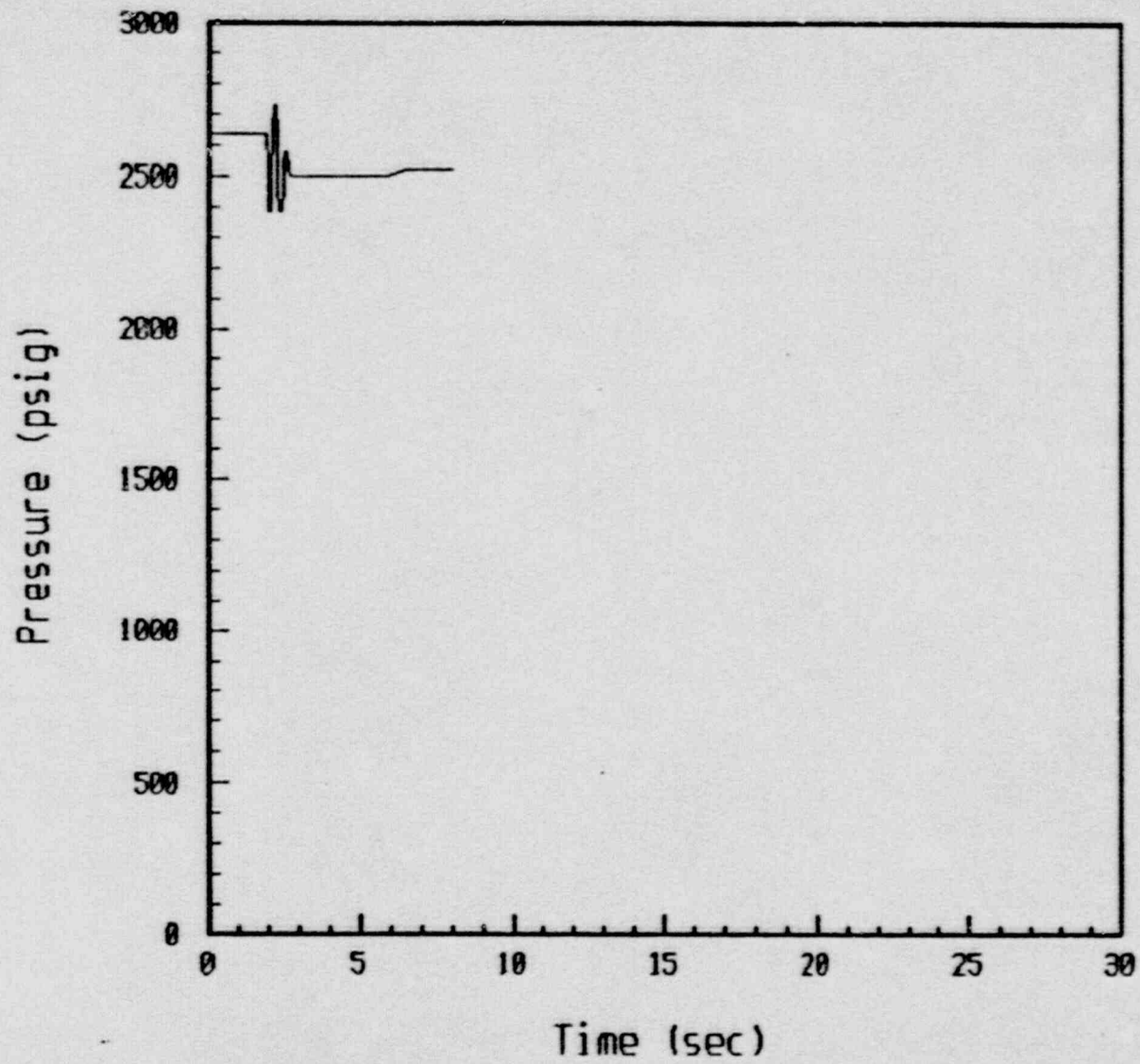


Figure 26. Block valve upstream static pressure history Test No. 14.



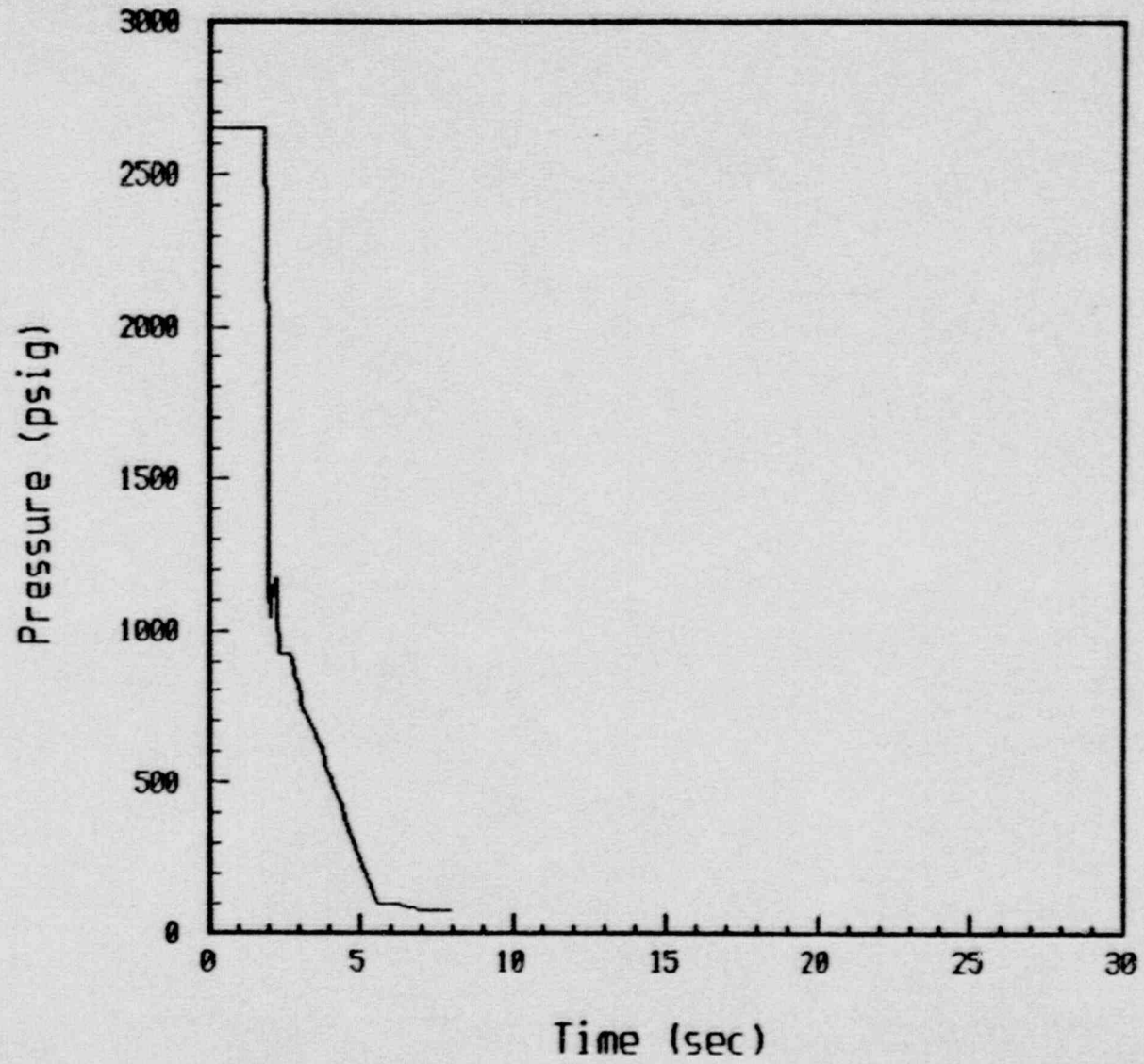


Figure 27. PORV upstream static pressure history Test No. 14.

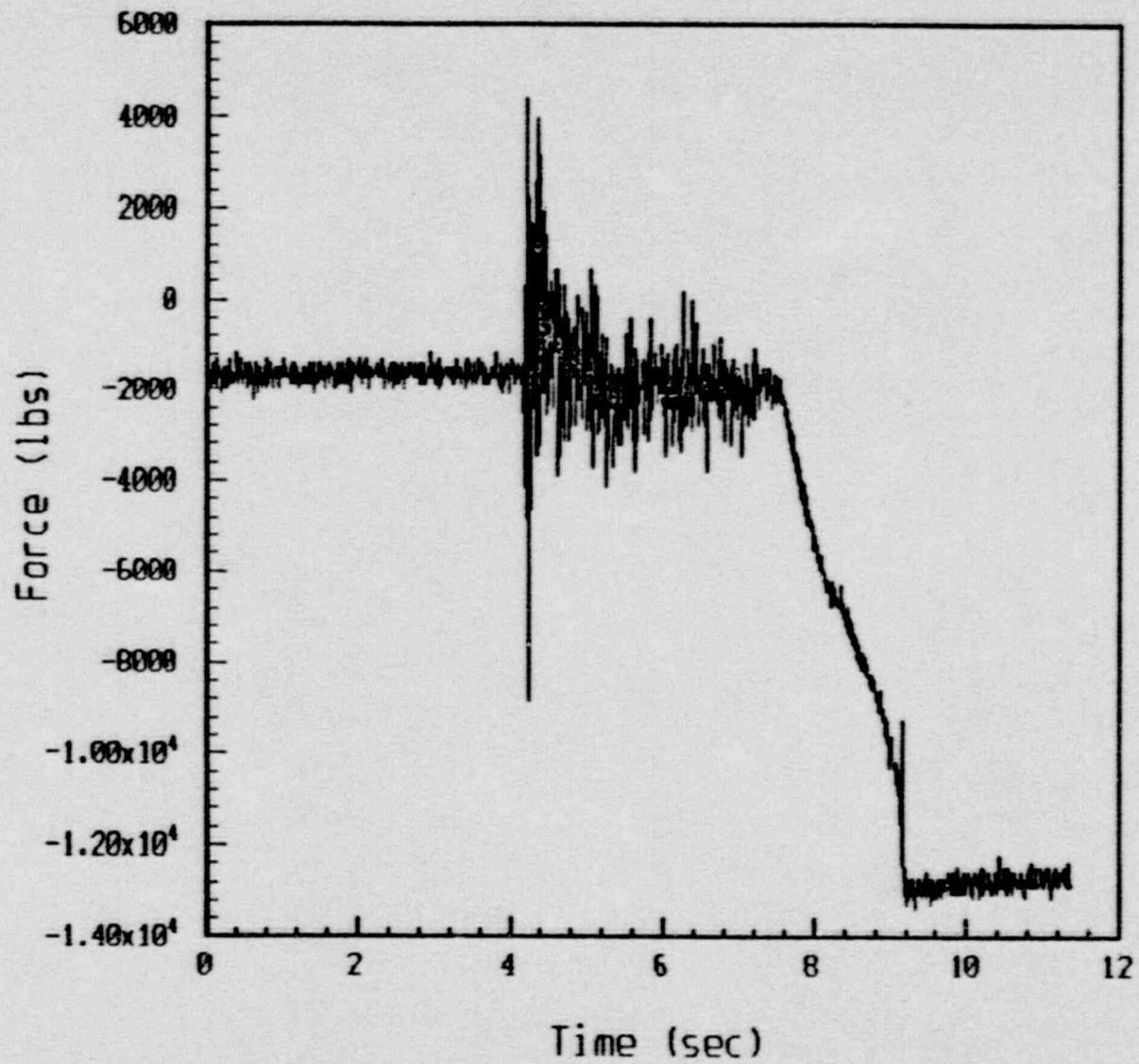


Figure 31. Block valve stem force history Test No. 14.

A-4

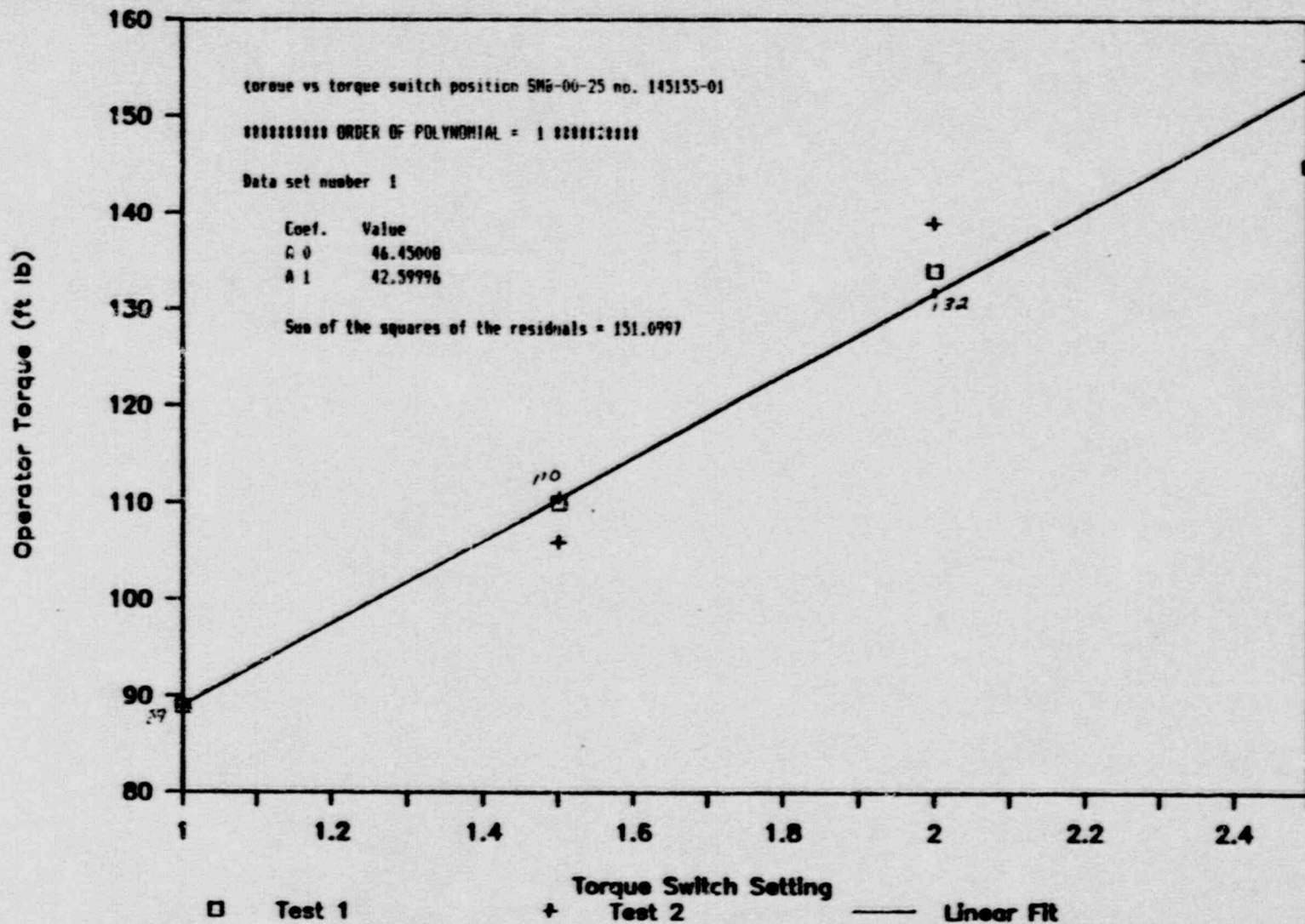


Figure A-3. Torque versus torque switch position based on limitorque motor operator calibration.

A-5

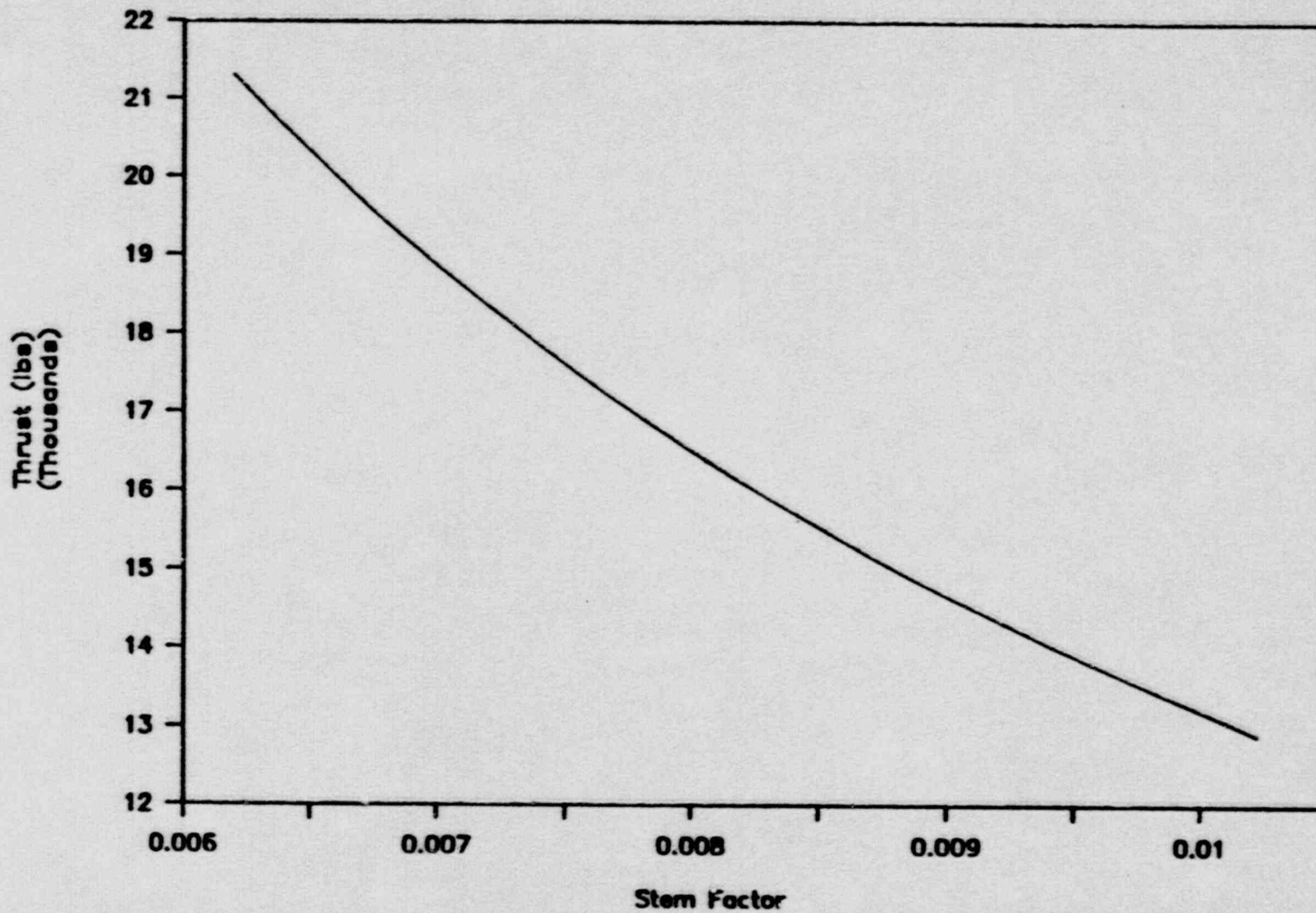


Figure A-4. Thrust versus stem factor at 132 ft lb torque.

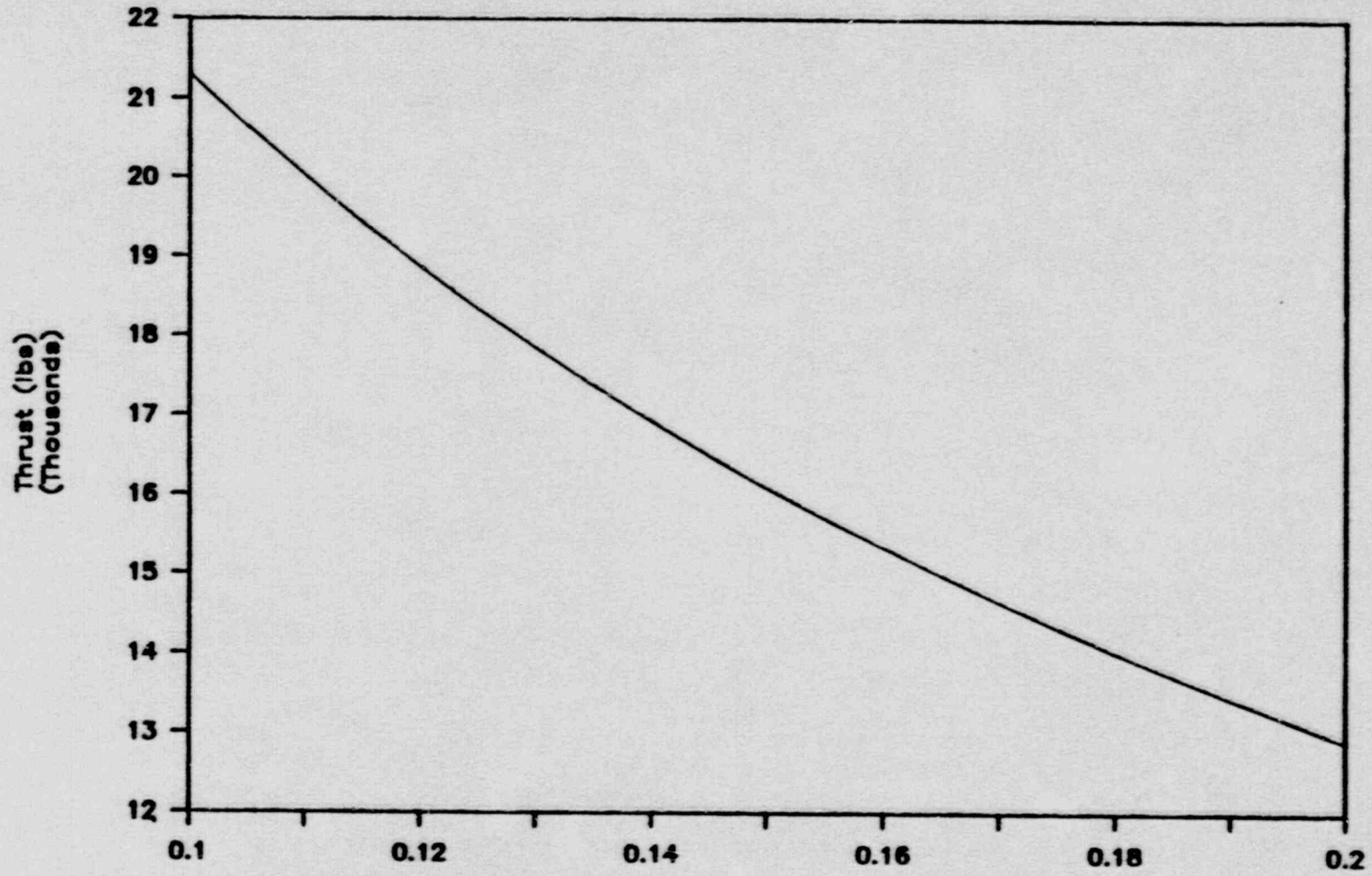


Figure A-5. Thrust versus stem nut coefficient of friction at 132 ft lb torque.

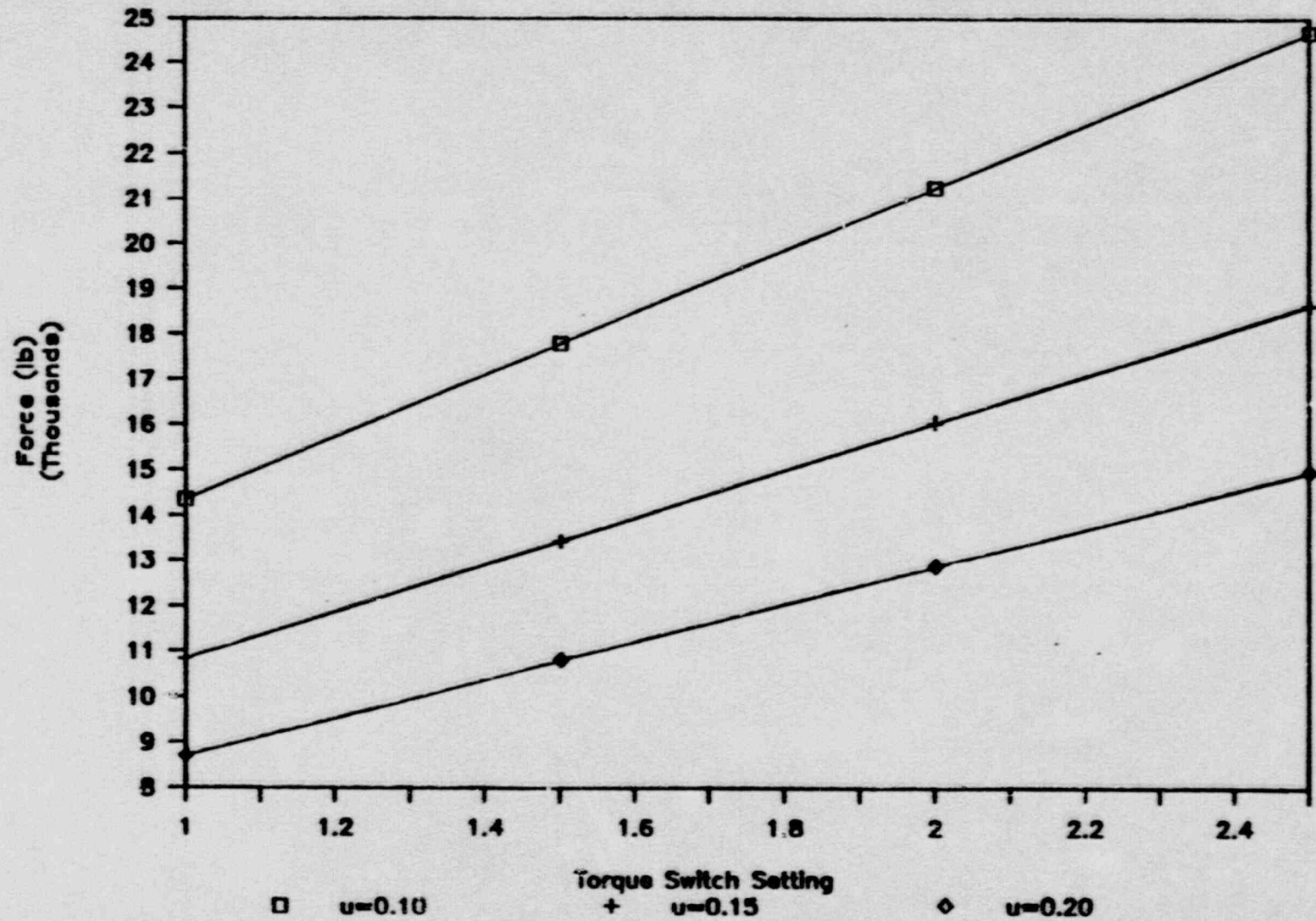


Figure A-6. Calculated stem force versus torque switch position at three stem nut coefficients of friction.

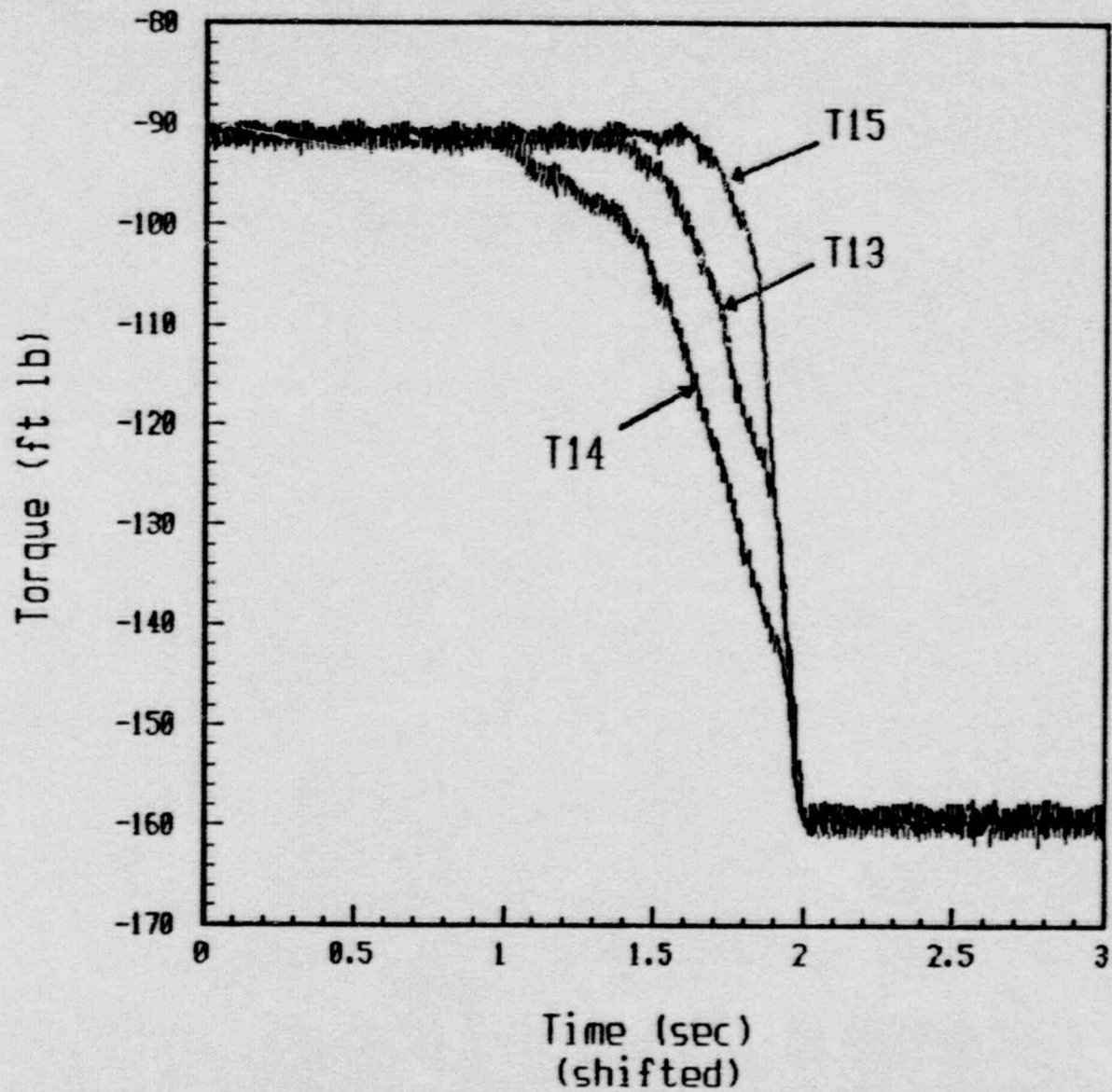


Figure A-7.  $\Delta P$  effects on final torque comparisons.

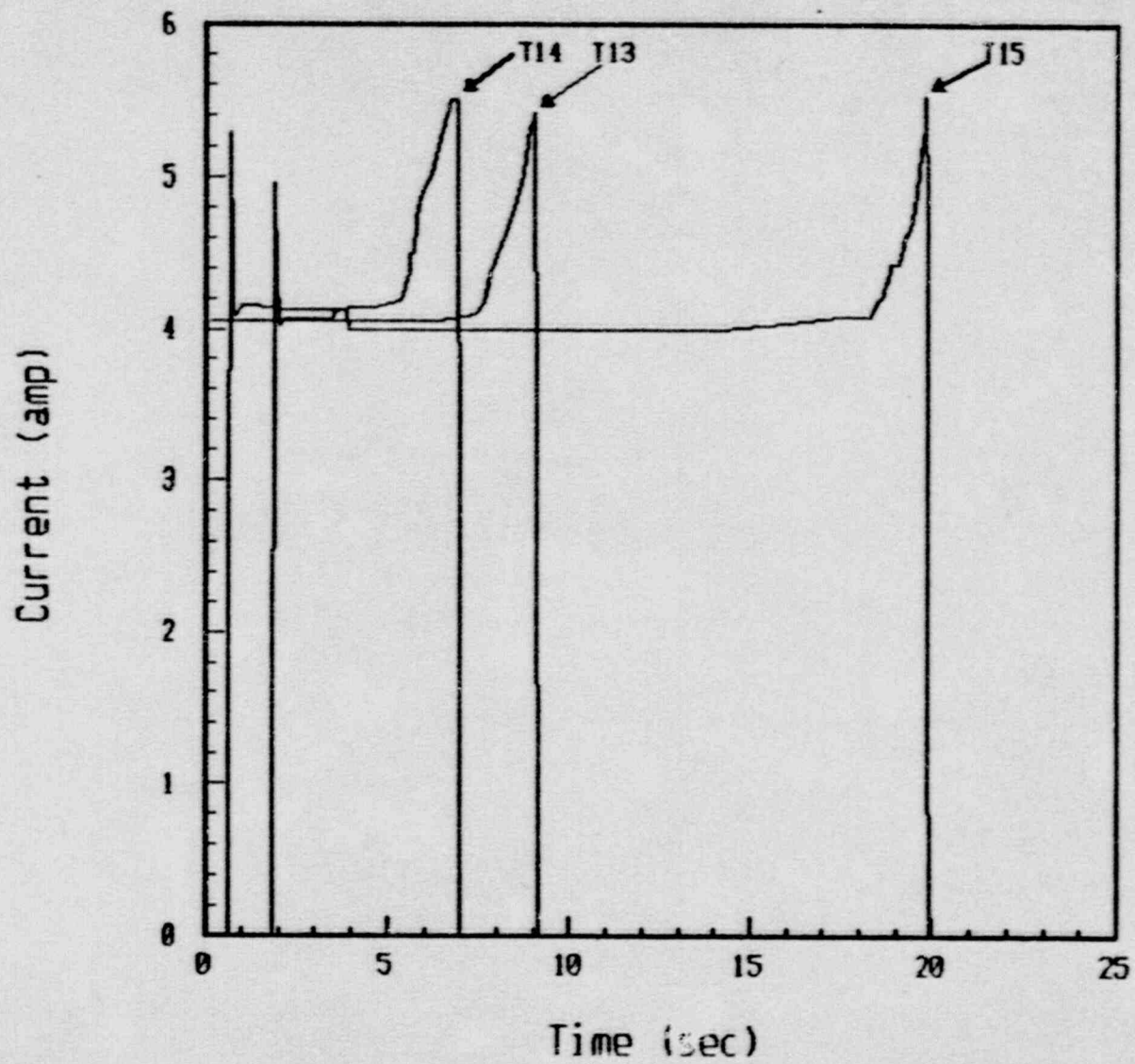


Figure A-11. Motor operator motor current history comparisons for test Numbers T-13, 14 and 15.