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MECREDY,R.C. Rochester Gas & Electric Corp.
RECIP.NAME RECIPIENT AFFILIATION
VISSING,G.S.

SUBJECT: Forwards response to RAI re review of request for amend dtd 970929 for TS related to main steam line isolation signal setpoints.

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ROBERT C. MECREDY
Vice President
Nuclear Operations

April 17, 1998

U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Guy S. Vissing
Project Directorate I-1
Washington, D.C. 20555

Subject: Response to Request for Additional Information (RAI)
Rochester Gas & Electric Corporation
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Reference: Letter from G.S. Vissing, NRC, to R.C. Mecredy, RG&E, Subject: *Request for Additional Information - Review of Request for Amendment Dated September 29, 1997 - Change to the Technical Specification Related to the Main Steam Line Isolation Signal Setpoints (TAC No. M99702)*, dated April 3, 1998.

Dear Mr. Vissing:

Enclosed please find a response to the referenced RAI. Please contact us if we may be of any further assistance.

Very truly yours,

Robert C. Mecredy

Subscribed and sworn to before me
on this 17th day of April 1998.

Deborah A. Piperni
Notary Public

DEBORAH A.PIPERNI
Notary Public in the State of New York
ONTARIO COUNTY
Commission Expires Nov. 23, 1999

MDF\961
Attachment

1/1
A001

xc: Mr. Guy S. Vissing (Mail Stop 14B2)
Project Directorate I-1
Division of Reactor Projects - I/II
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Washington, D.C. 20555

Regional Administrator, Region 1
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U.S. NRC Ginna Senior Resident Inspector

Mr. F. William Valentino, President
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Corporate Plaza West
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Albany, NY 12203-6399

Response to RAI of April 3, 1998

1. *You stated in the February 6, 1998 letter that LOFTRAN code was used to reanalyze steam line break events using the revised values (i.e., allowable value and setpoint). Please provide the version of the code used in this amendment. Has this code and version been approved by the NRC (give reference to NRC approved Westinghouse topical report)?*

   The NRC approved Westinghouse topical report for LOFTRAN is:

   a. WCAP-7907-P-A, "LOFTRAN Code Description," April 1984
   b. WCAP-7907-A, "LOFTRAN Code Description," April 1984

   Version 12.00 of LOFTRAN was used by RG&E which is the same version used by Westinghouse to perform the RG&E analyses documented in the Ginna Station UFSAR.

2. *Please provide the results of your reanalysis.*

   The analysis performed by RG&E was for a 0.66E6 lbm/hr steam break in one steam generator. This case was compared to the bounding HZP Case 5-O described in UFSAR Section 15.1.6.3. As stated in the UFSAR, the criterion for Case 5-O is that the reactivity insertion rate should be bounded by the rate resulting from a rod withdrawal from subcriticality.

   Attached Figures 1 through 7 represent parameters from Case 5-O. Figures 8 through 14 represent parameters from the 0.66E6 lbm/hr steam line break in one steam generator described in the February 6, 1998 RG&E letter (hereafter referred to as Case SLB). A comparison of the parameters shows:

   a. Resulting nuclear power is less for Case SLB;
   b. Resulting RCS temperature reduction is less for Case SLB;
   c. Resulting pressurizer pressure reduction is less for Case SLB;
   d. Resulting steam generator pressure reduction is less for Case SLB;
   e. Steam generator mass trends illustrate the difference between a feedwater malfunction and a steam break;
   f. Total reactivity insertion is less for Case SLB but occurs over a longer time frame; and
   g. The rate of reactivity insertion is less for Case SLB.

   In summary, the parameters indicate that the Case SLB is less severe than Case 5-O and that the limiting criteria with respect to the reactivity insertion rate is less than that for Case 5-O. Therefore, UFSAR Case 5-0 remains bounding.

3. *UFSAR indicates that the reactor control system is designed to accommodate a 10% step change or 5% ramp increases... without a reactor trip in the range of 12.8% to 100% reactor power. However, you stated in the September 29, 1997 letter that a reactor trip would not occur in the range of 15% to 100% reactor power. Please clarify.*

The UFSAR refers to permissive P-2 which allows automatic rod withdrawal once first stage pressure reaches an equivalent 12.8% reactor power. During plant startups, the rod control system is operated in manual with the operators switching to automatic rod control at some point above 12.8%. Similarly, during shutdowns, the control rods are switched to manual before reaching this 12.8% value. The September 29, 1997 text was intended to acknowledge that the operators are not necessarily performing the switchover to automatic rod control at exactly 12.8%, but at some point above this. Specifically, the NIS is designed to accommodate a 10% step change when rods are in automatic.

Figure 1

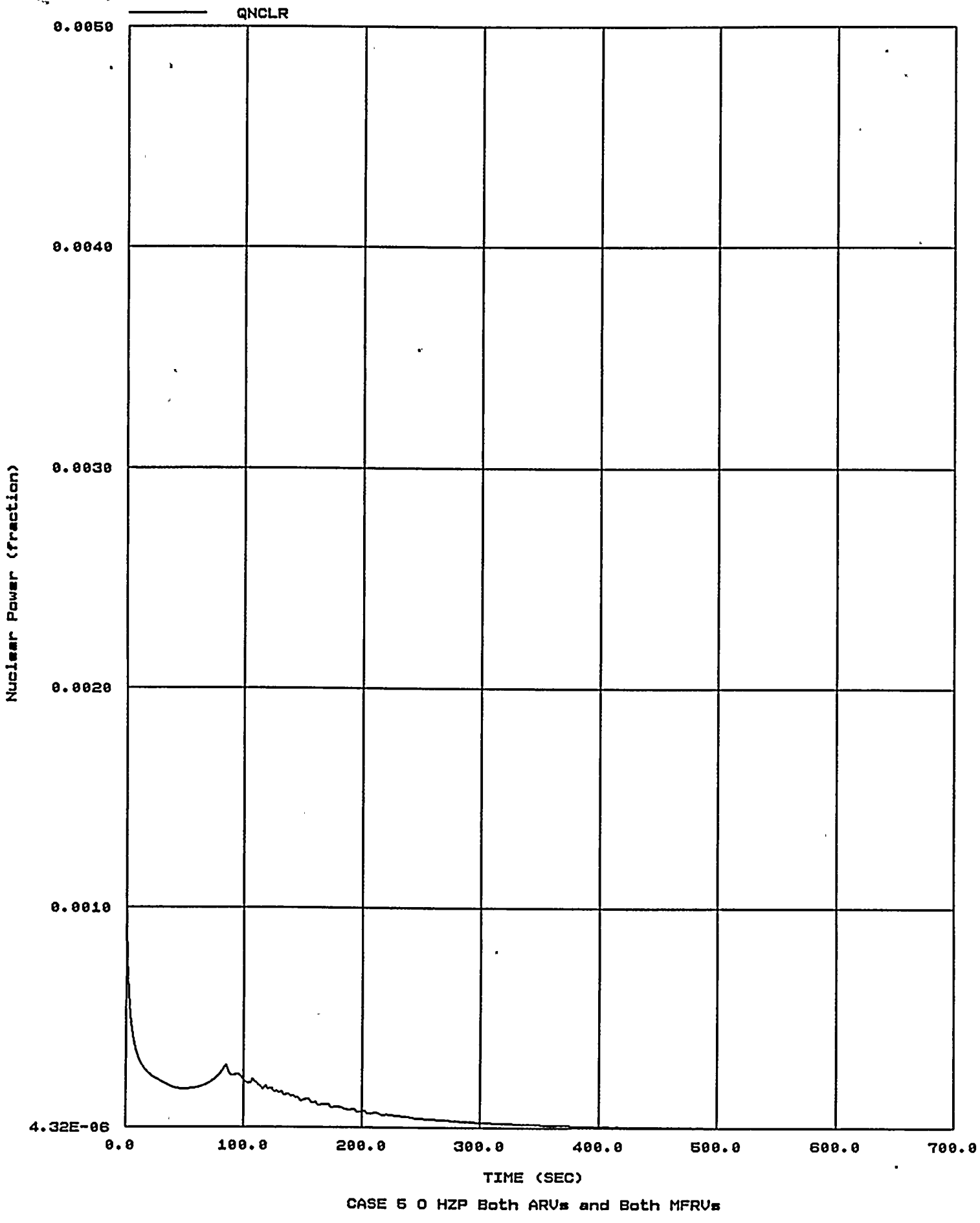

QNCLR
0.0050
0.0040
0.0030
0.0020
0.0010
4.32E-06
Nuclear Power (fraction)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 2

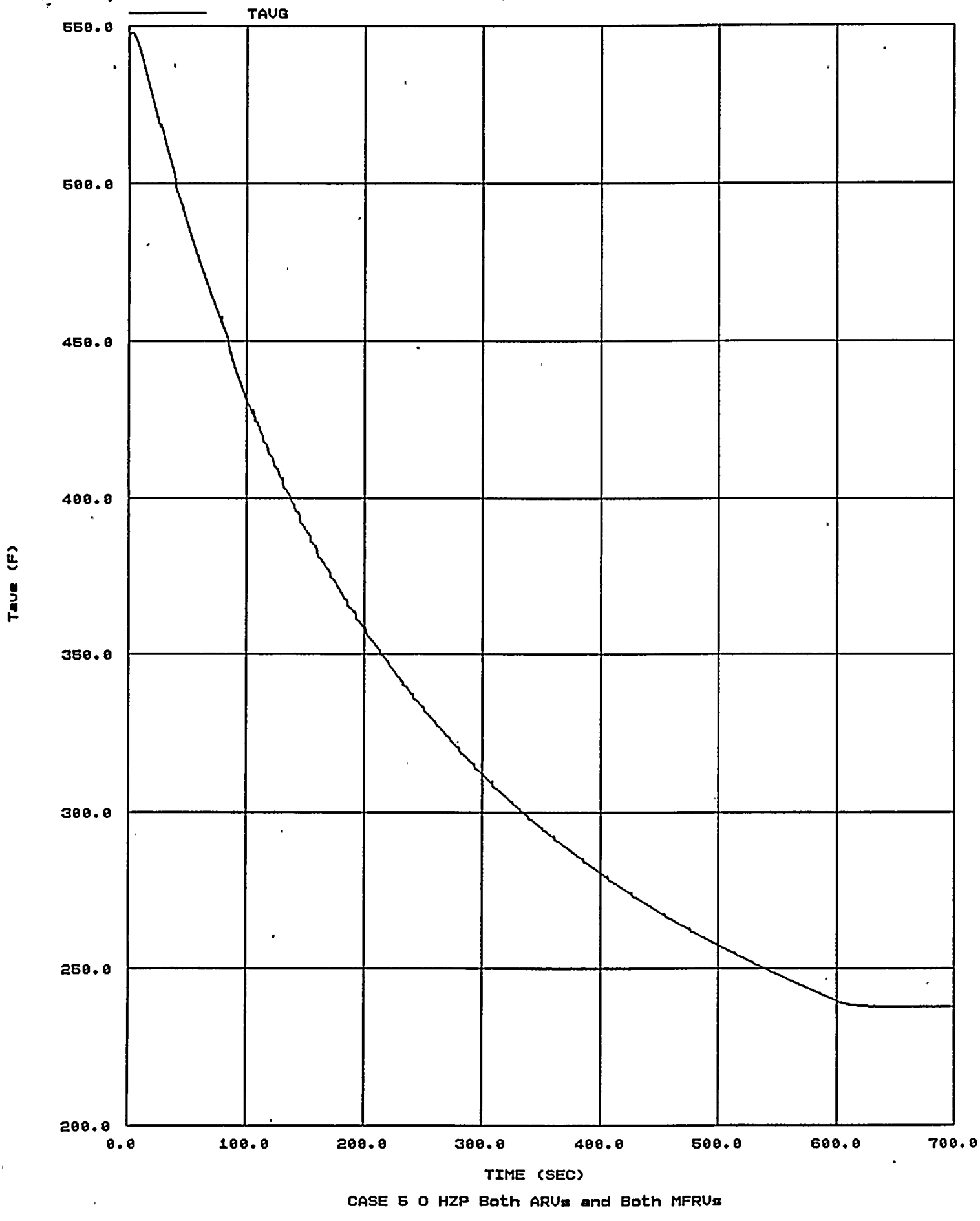

TAVG
550.0
500.0
450.0
400.0
350.0
300.0
250.0
200.0
Tave (F)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 3

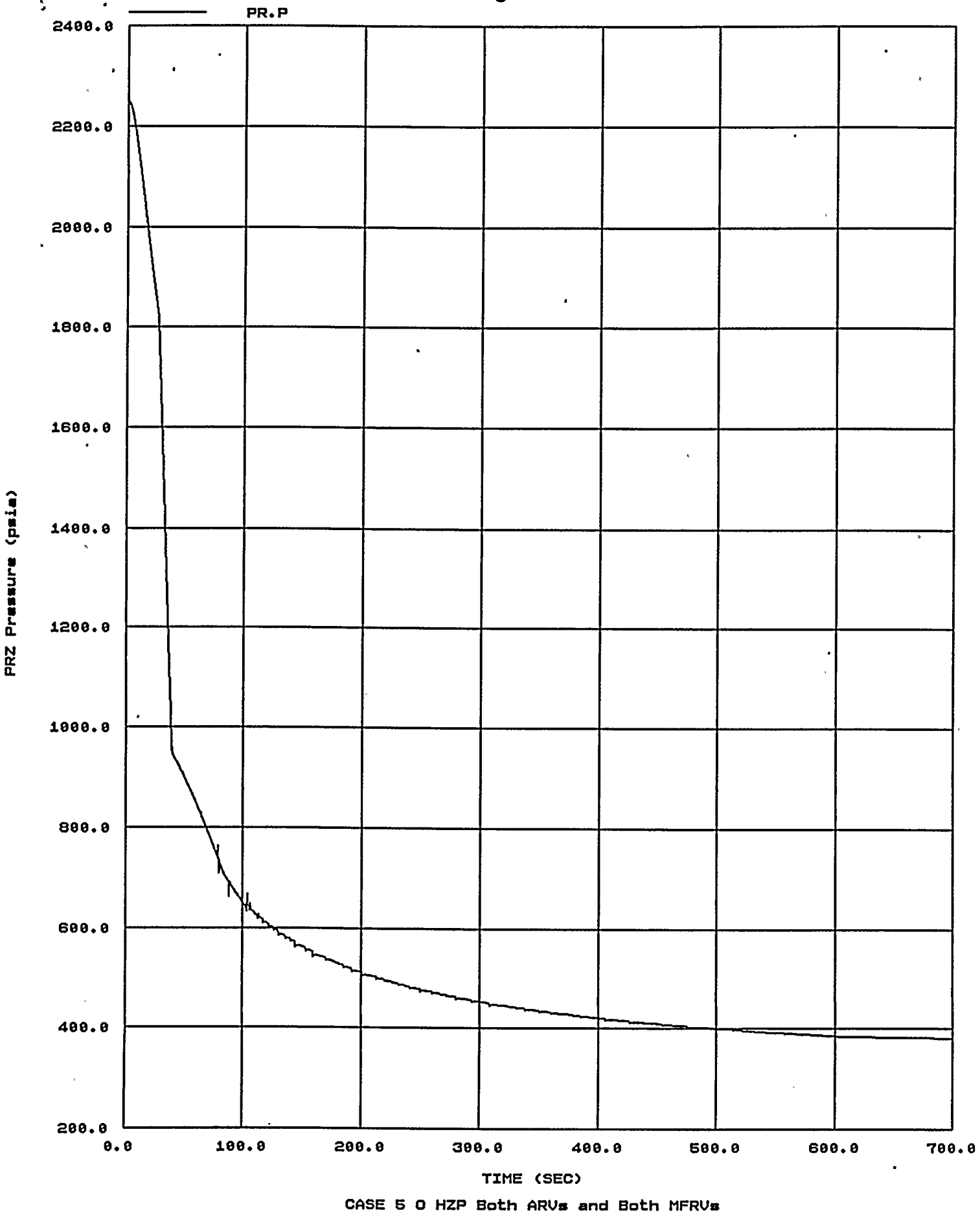

PR.P
2400.0
2200.0
2000.0
1800.0
1600.0
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
PRZ Pressure (psia)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 4

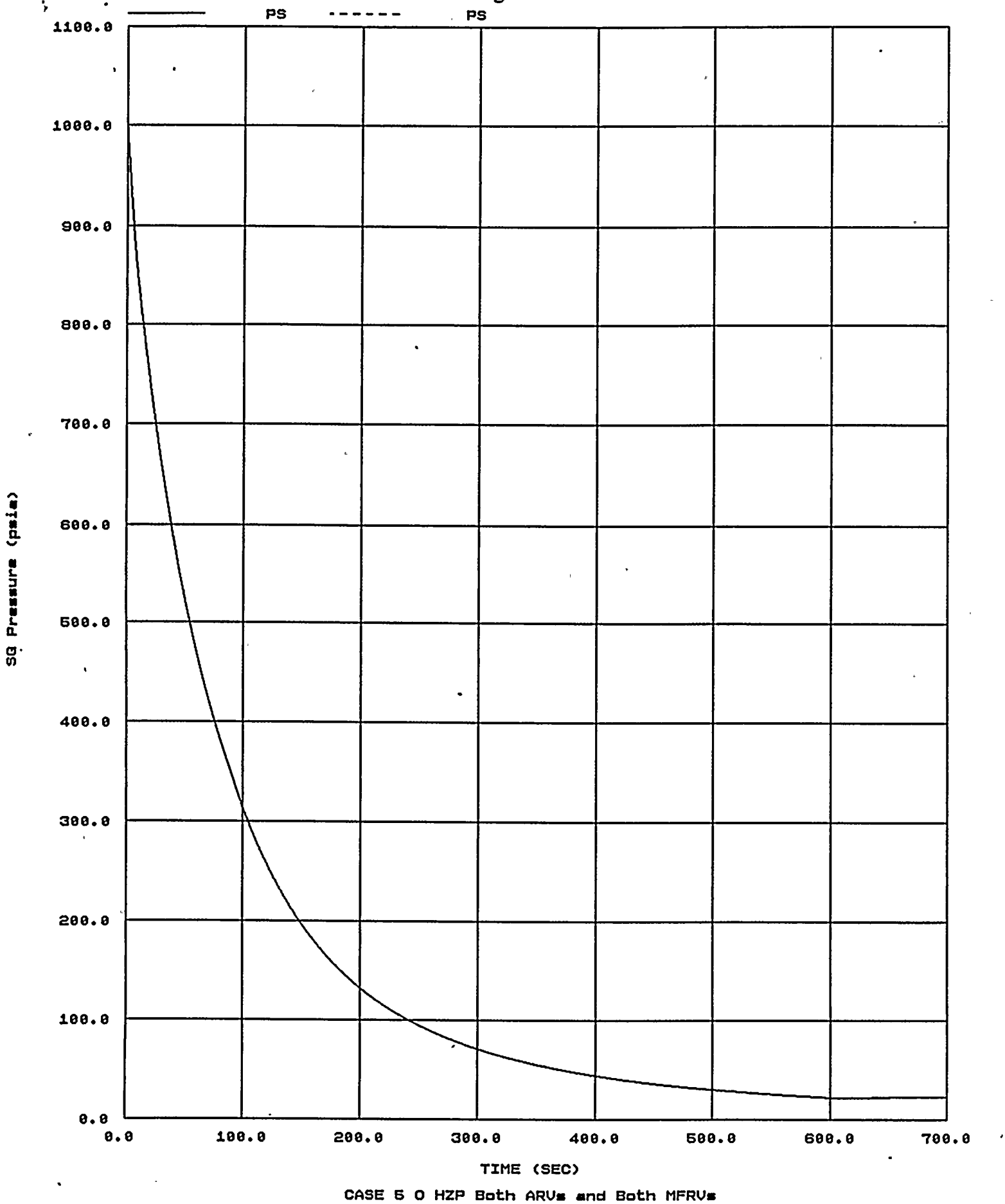

PS
PS
1100.0
1000.0
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
SG Pressure (psia)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 5

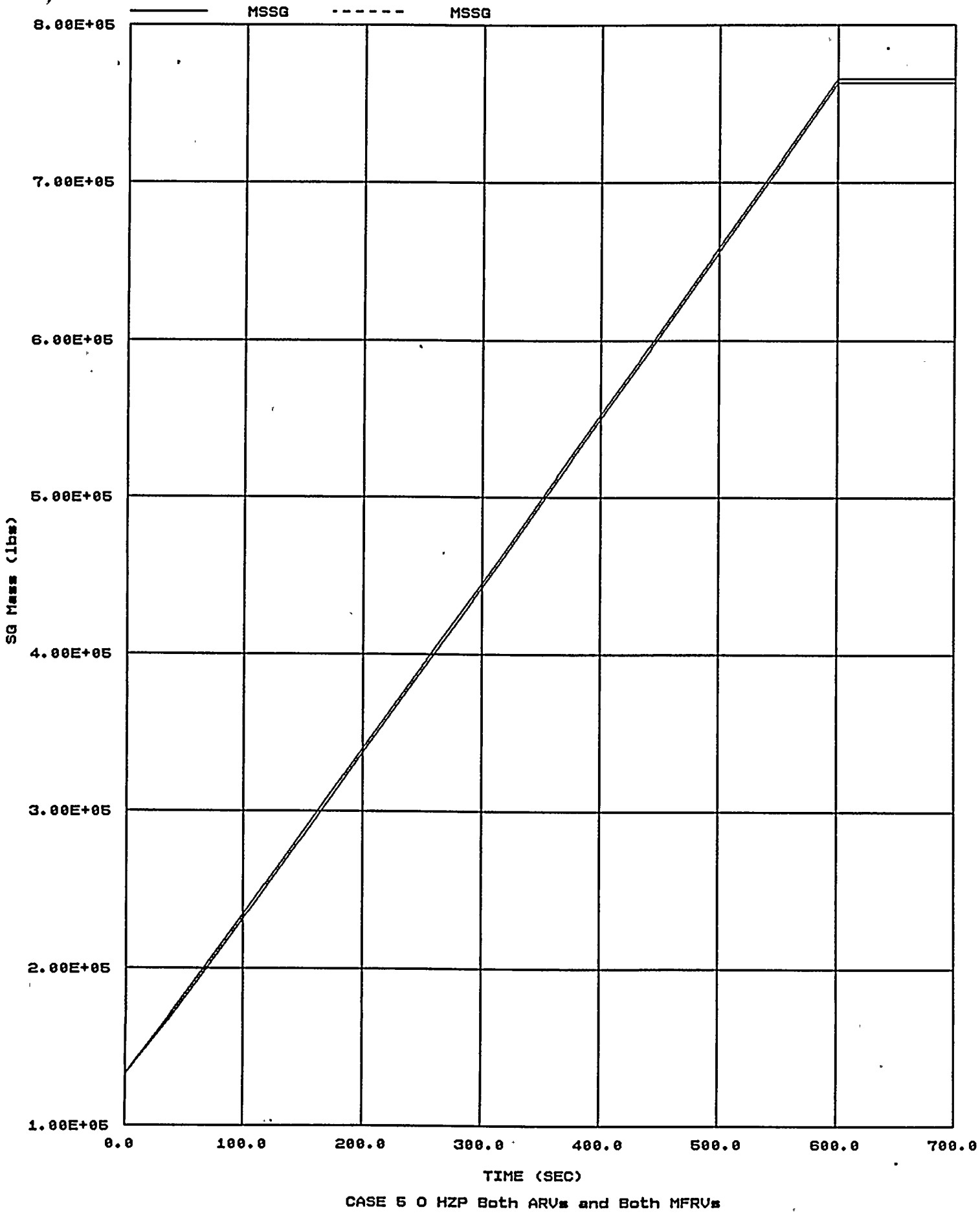

MSSG
MSSG
8.00E+05
7.00E+05
6.00E+05
5.00E+05
4.00E+05
3.00E+05
2.00E+05
1.00E+05
SG Mass (lbs)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 6

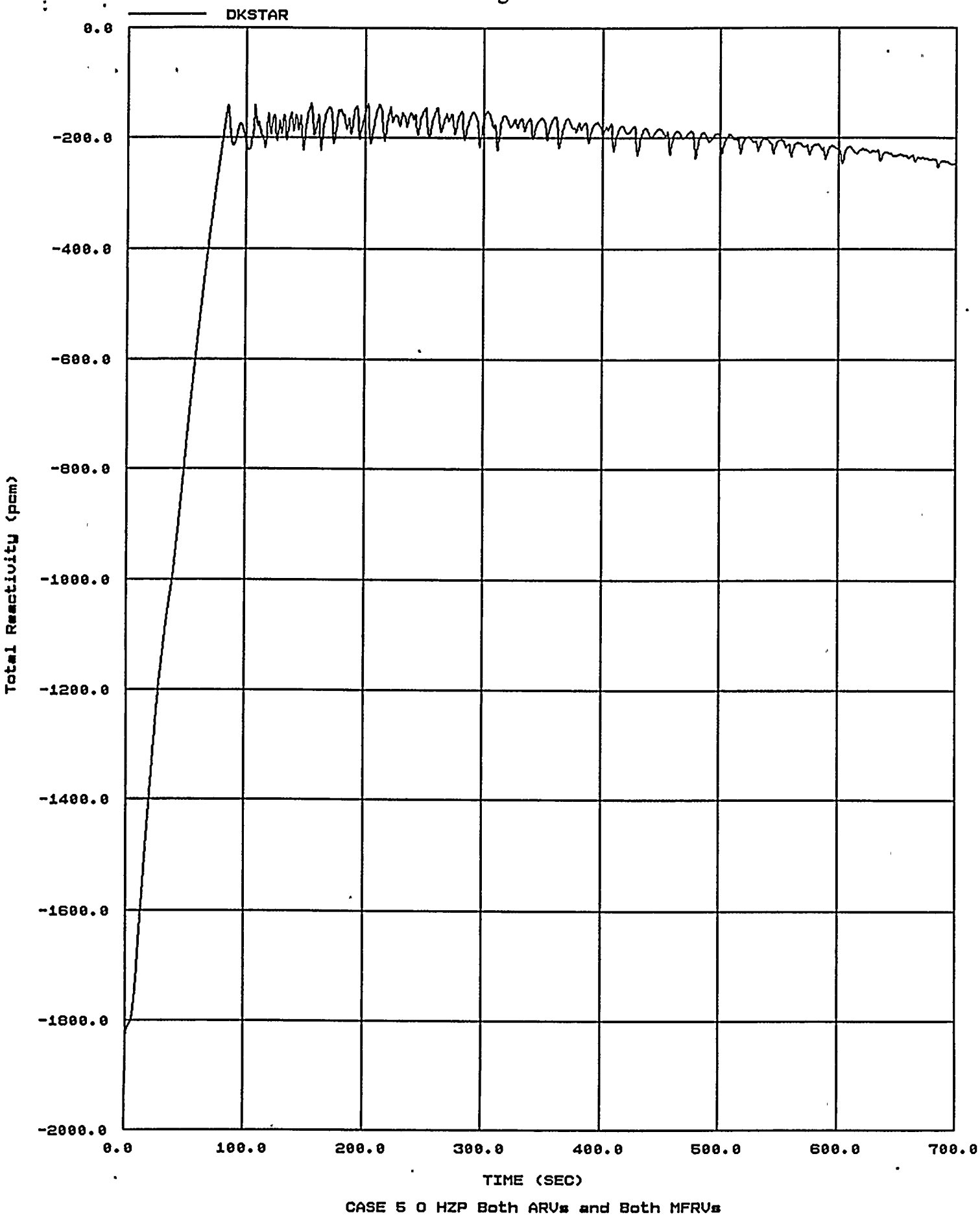

DKSTAR
0.0
-200.0
-400.0
-600.0
-800.0
-1000.0
-1200.0
-1400.0
-1600.0
-1800.0
-2000.0
Total Reactivity (pcm)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 7

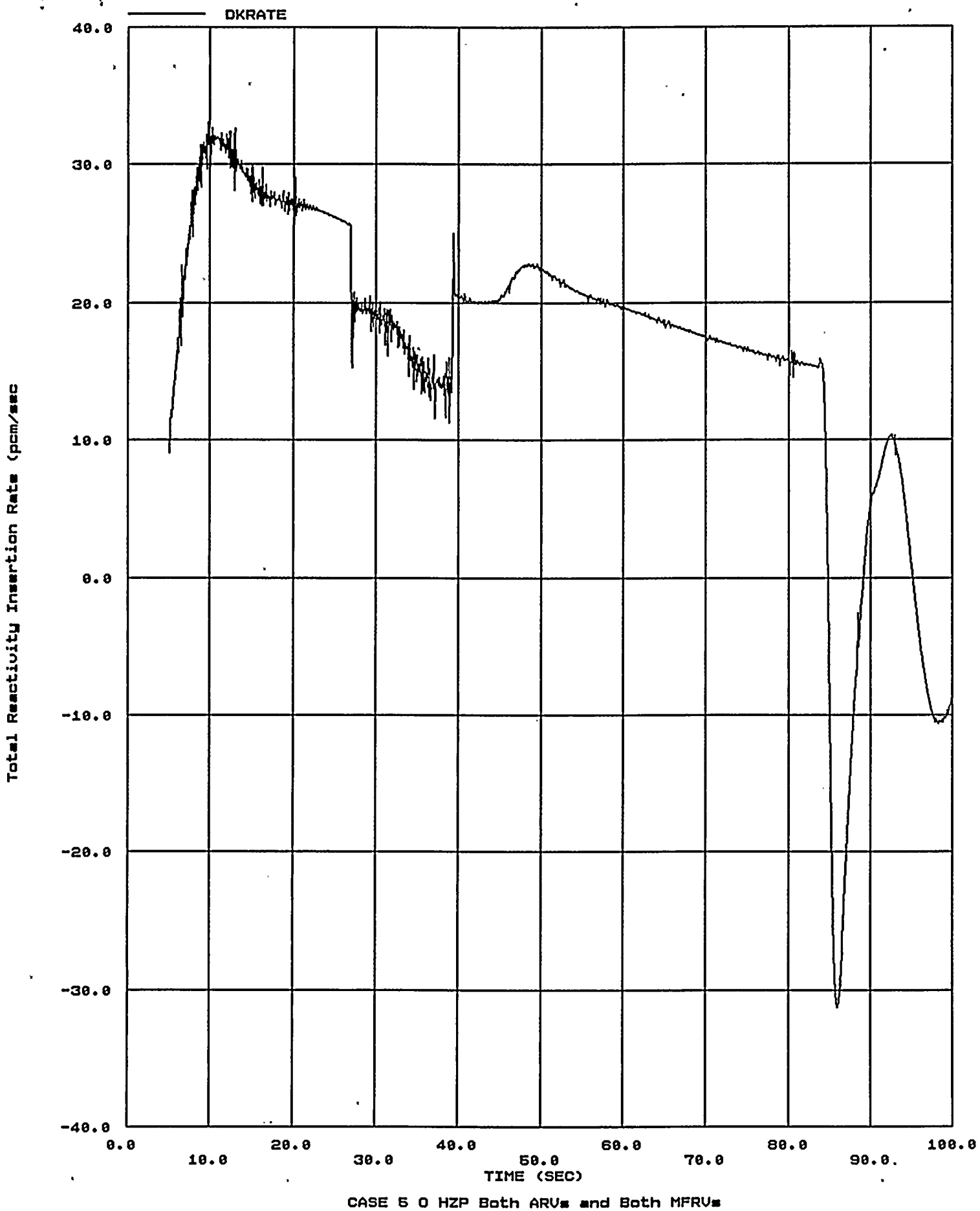

DKRATE
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
Total Reactivity Insertion Rate (pcm/sec
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0
90.0
100.0
TIME (SEC)
CASE 5 0 HZP Both ARVs and Both MFRVs

Figure 8

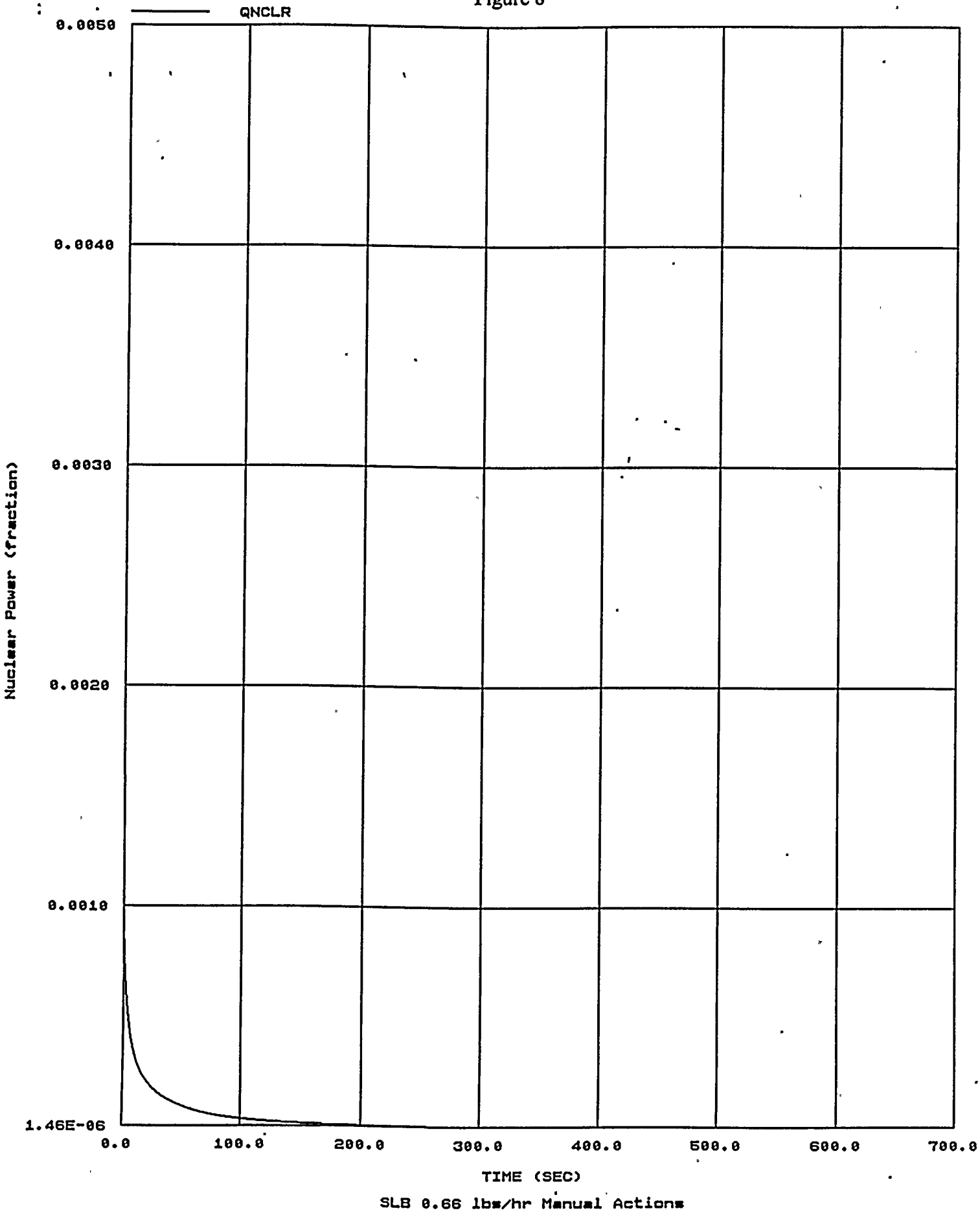

QNCLR
0.0050
0.0040
0.0030
0.0020
0.0010
1.46E-06
Nuclear Power (fraction)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 9

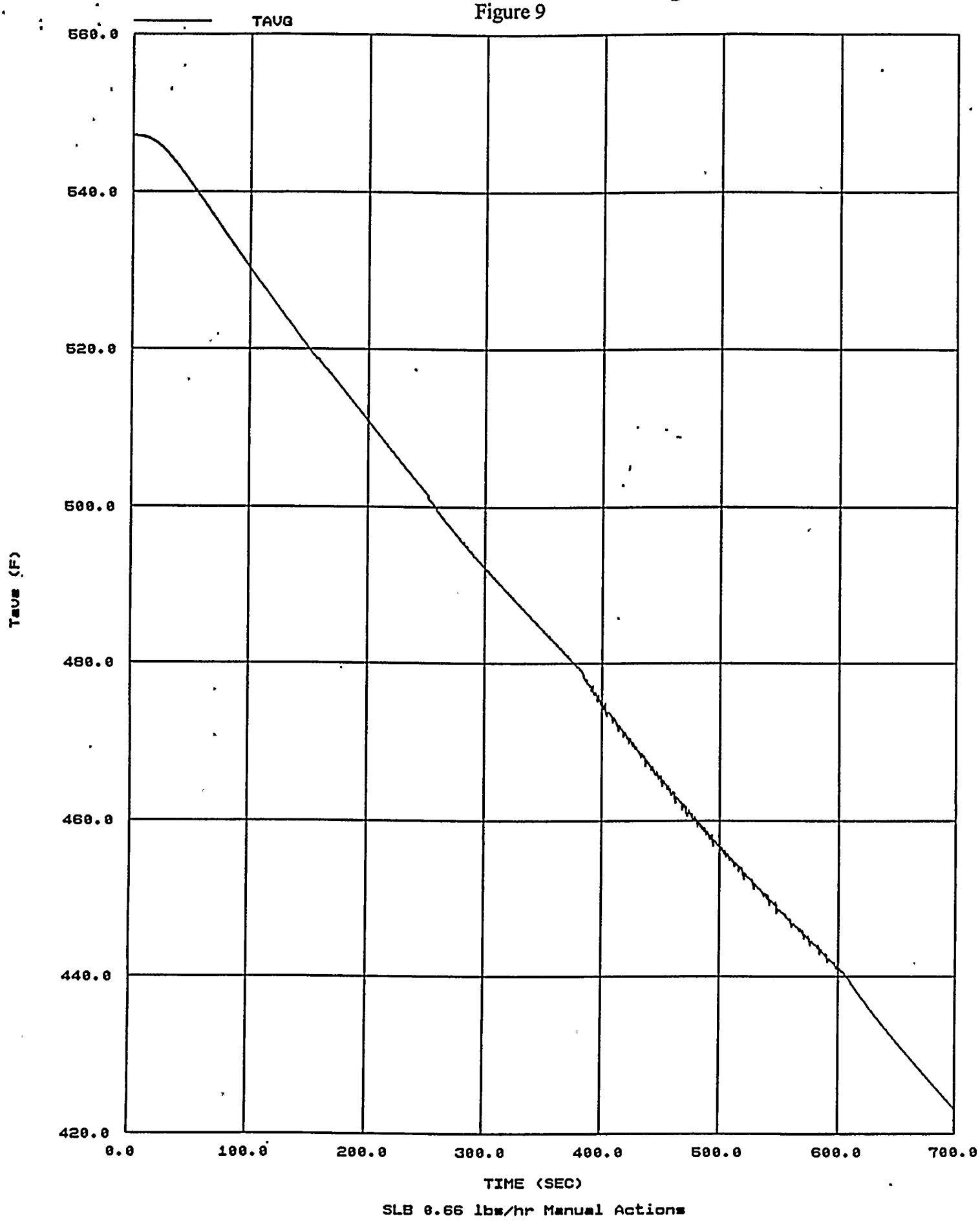

TAVG
560.0
540.0
520.0
500.0
480.0
460.0
440.0
420.0
Tave (F)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 10

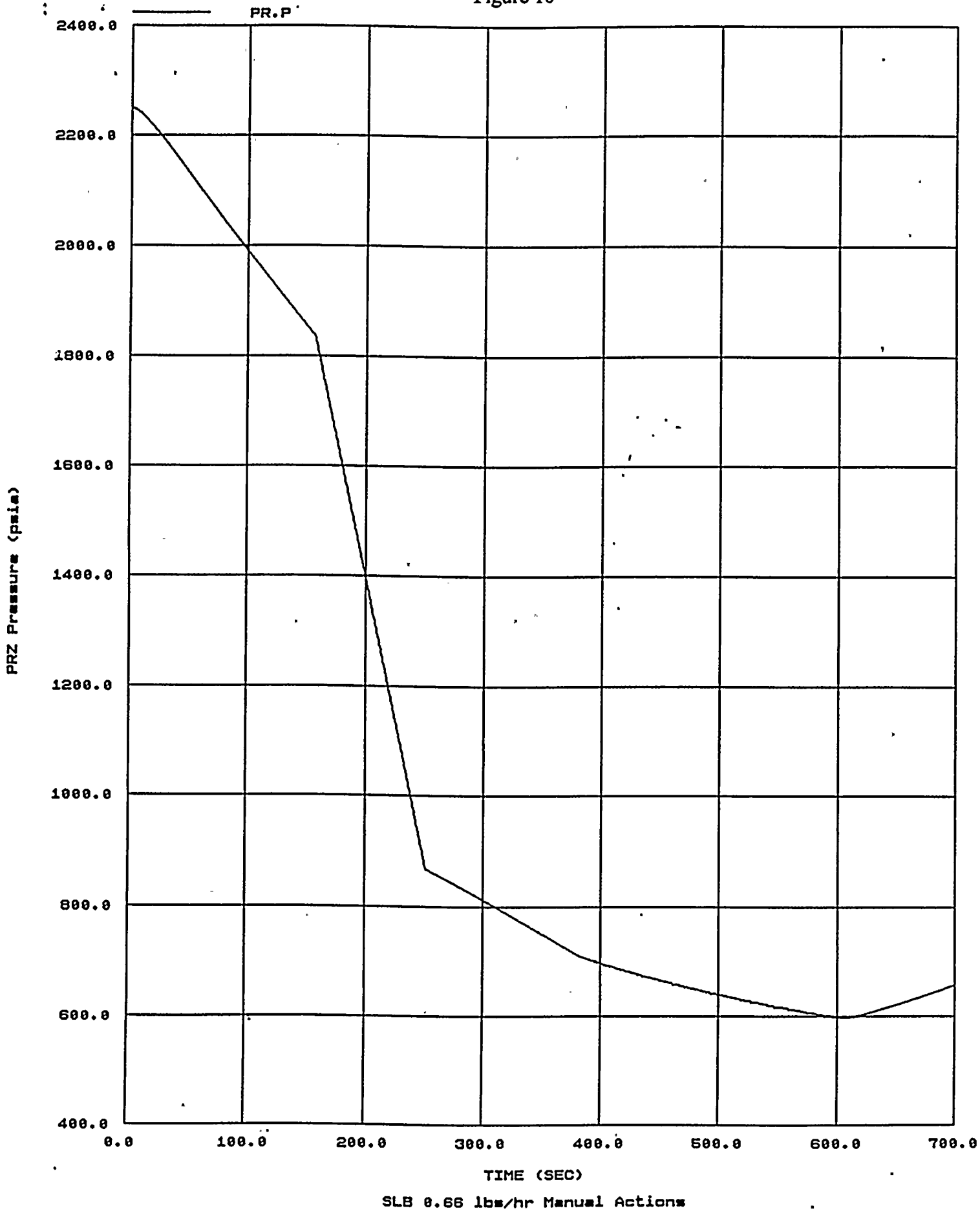

PR.P
2400.0
2200.0
2000.0
1800.0
1600.0
1400.0
1200.0
1000.0
800.0
600.0
400.0
PRZ Pressure (psia)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 11

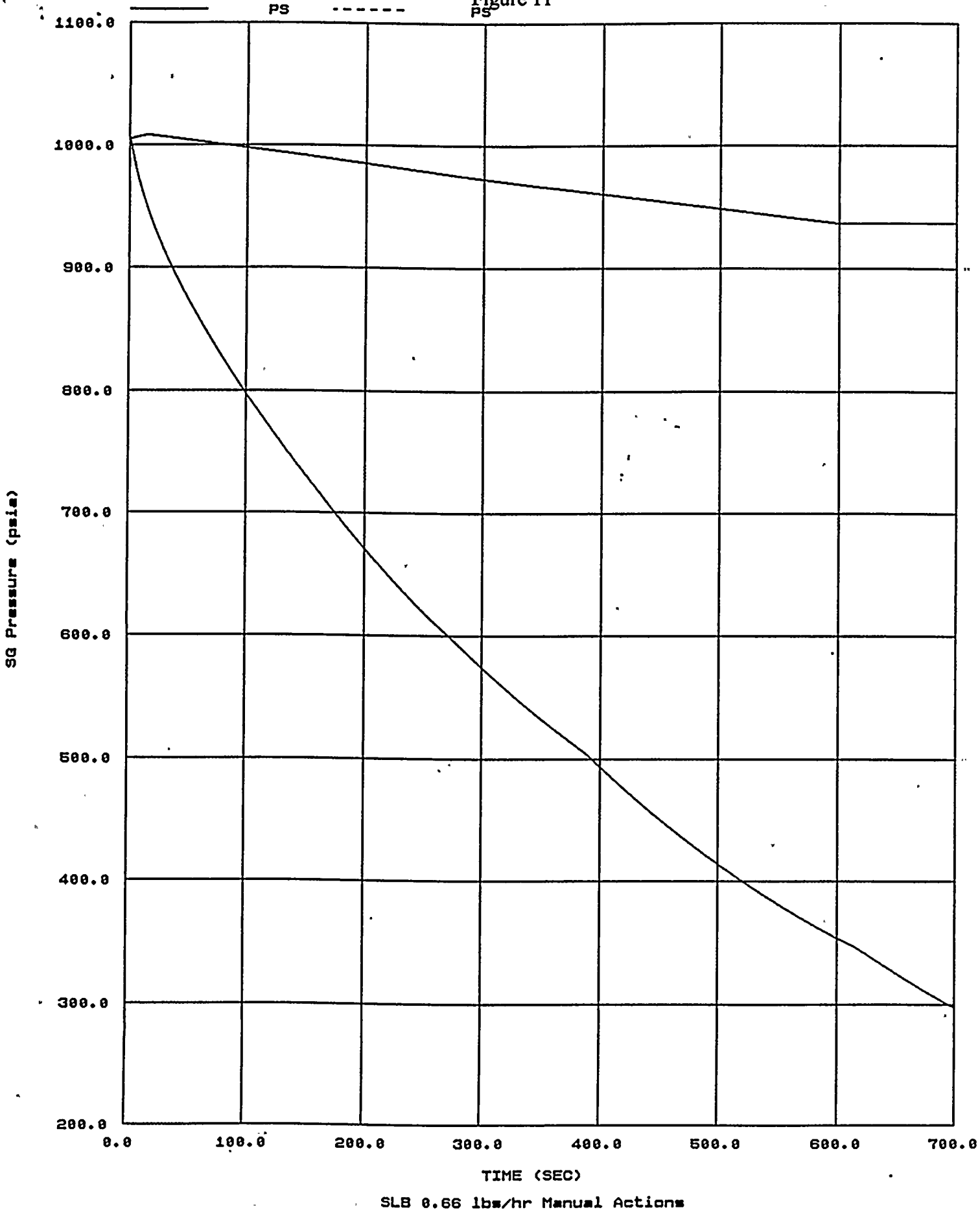

PS
PS
1100.0
1000.0
900.0
800.0
700.0
600.0
500.0
400.0
300.0
200.0
SG Pressure (psia)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 12

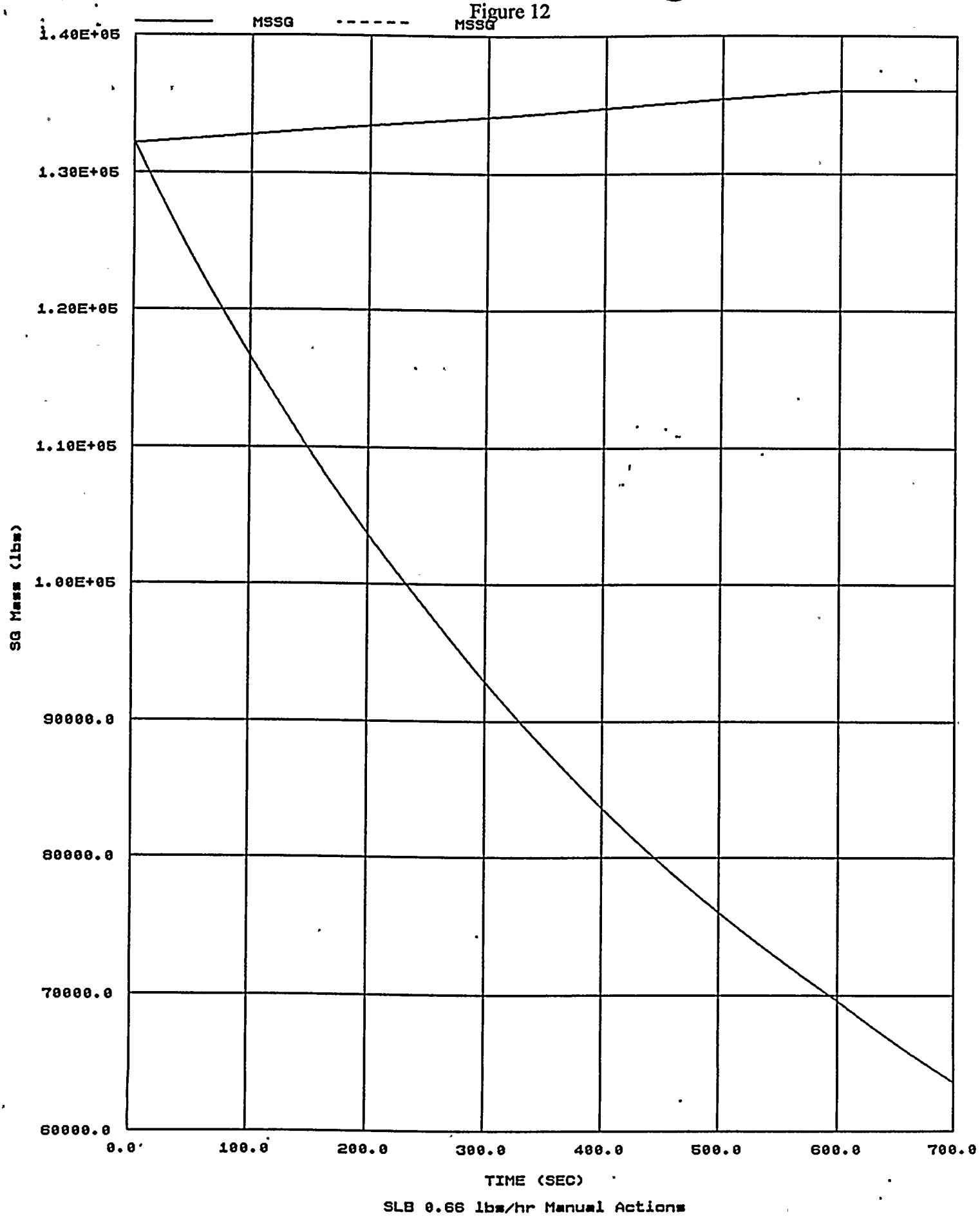

MSSG
MSSG
1.40E+05
1.30E+05
1.20E+05
1.10E+05
1.00E+05
90000.0
80000.0
70000.0
60000.0
SG Mass (lbs)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 13

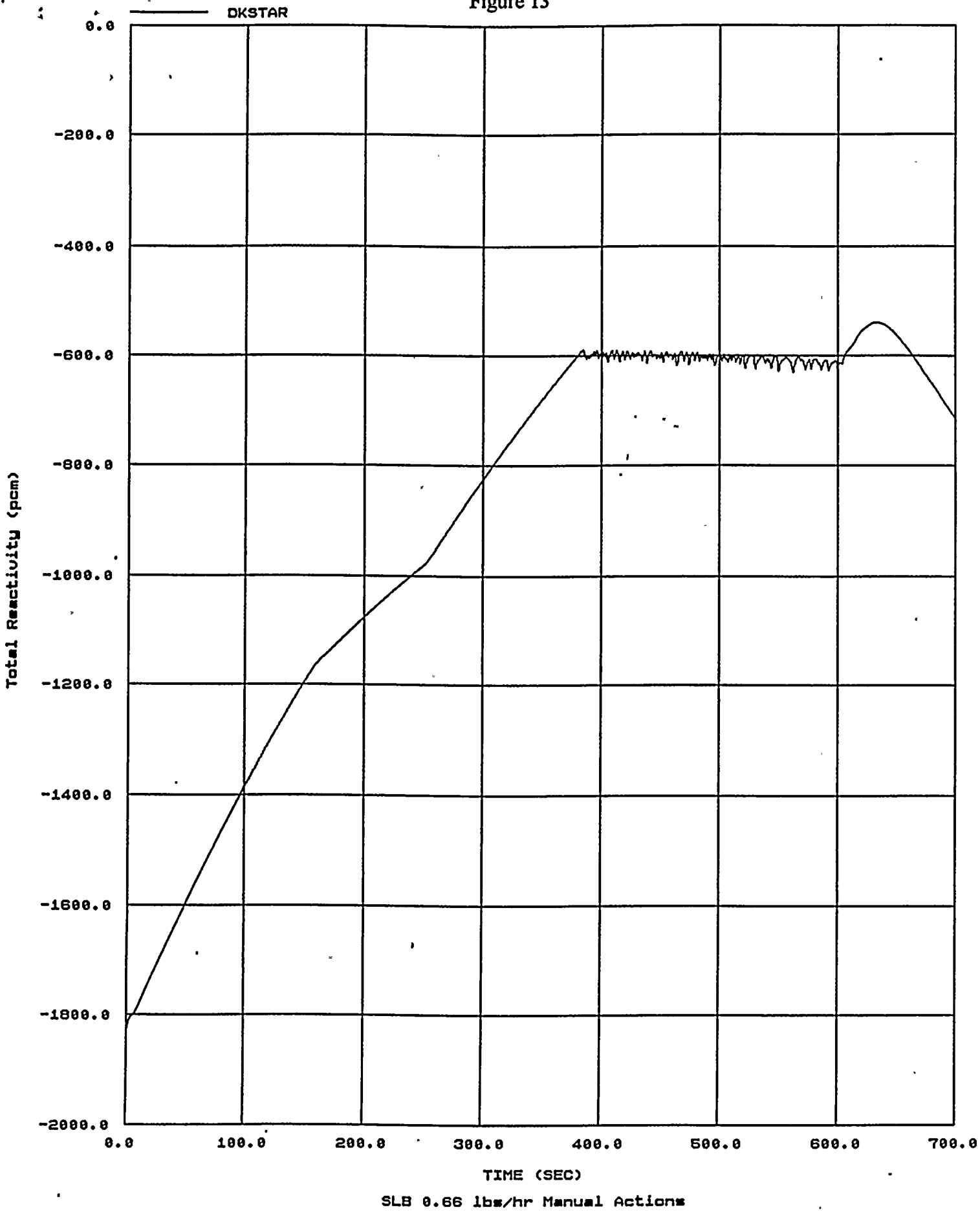
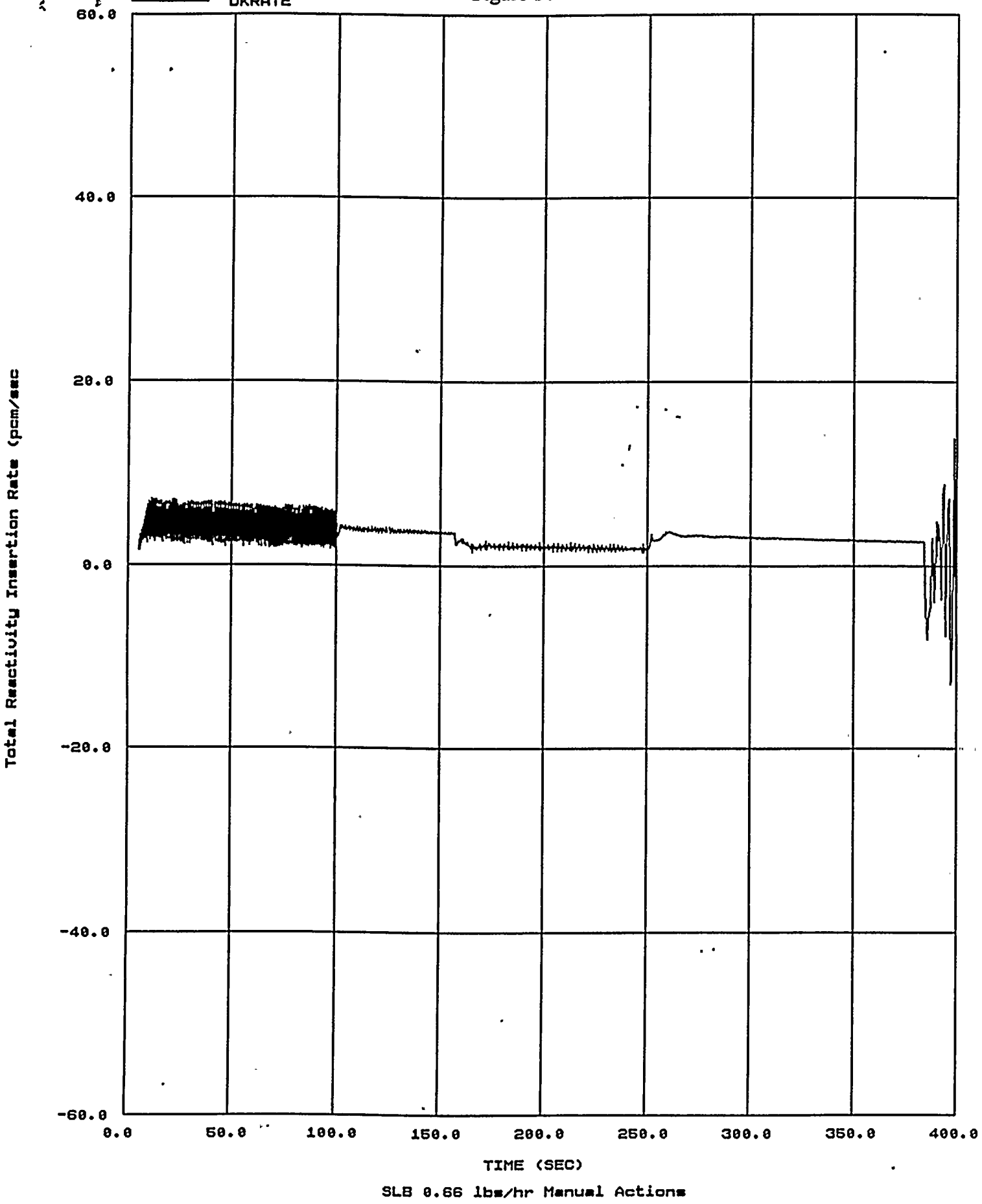

DKSTAR
0.0
-200.0
-400.0
-600.0
-800.0
-1000.0
-1200.0
-1400.0
-1600.0
-1800.0
-2000.0
Total Reactivity (pcm)
0.0
100.0
200.0
300.0
400.0
500.0
600.0
700.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions

Figure 14


DKRATE
60.0
40.0
20.0
0.0
-20.0
-40.0
-60.0
Total Reactivity Insertion Rate (pcm/sec
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
TIME (SEC)
SLB 0.66 lbs/hr Manual Actions