

Jersey Central Power & Light Company



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MEMBER OF THE

General



Public Utilities Corporation

October 3, 1978

Director
Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Supplemental Information on Technical Specification
Change Request No. 49 (Revision 1)

Enclosed are sixty copies of additional information supporting Technical Specification Change Request No. 49 (Revision 1) submitted to your office by cover letter dated June 6, 1978. This information was requested by your staff and concerned supporting data. The information requested was more detailed information on a core spray line and feedwater line breaks effects on the analysis, and on the Technical Specification limits which assure the plant does not operate in a less conservative manner than assumed for the LOCA analysis.

This enclosed information presents discussions and results on which the proposed Technical Specification Change Request is based.

Very truly yours,

Ivan R. Finfrock, Jr.
Ivan R. Finfrock, Jr.
Vice President

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Enclosures

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PDR ADOCK 050-219 P 781003

QUESTION: What Technical Specification Limits assure that plant operation cannot result in a less conservative state than the initial conditions assumed for the LOCA analysis?

ANSWER: The LOCA analysis conservatively assumed 102% core power and 70% system flow. Licensed core power level and Technical Specification limits on MAPLHGR and peaking factors (section 2.1) assure that the fuel assembly will not exceed the power utilized in the ECCS evaluation. At reduced flow, Technical Specification limits on critical power ratio provide still further assurance that the power-flow conditions will be less severe than that assumed in the analysis.

Furthermore, detailed analysis has shown that even under worst case power peaking and flow maldistribution, a system flow of 73% is sufficient to attain the hot channel flow used in the LOCA analysis. The current Technical Specification setpoint requirements on the flow-biased scram (Section 2.3) insure that system flow would be greater than 80%, thus providing substantial margin to the assumed minimum flow. This scram is adjusted downward by the ratio of measured power peaking assuring that with locally high power conditions the minimum flow will be exceeded by a similar margin.

In summary, the proposed Technical Specification changes on MAPLHGR and existing limits on core power, peaking factors, critical power and flow-biased scram limits assure operating conditions much less severe than assumed for the LOCA analysis.

SUPPLEMENTARY RESULTS FOR OYSTER CREEK

PHASE-III ECCS ANALYSIS

TABLE OF FIGURES

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<u>CORE SPRAY LINE</u>	<u>FEEDWATER LINE</u>	
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11	20	Hot Channel Mixture Level
12	21	Hot Assembly Inlet Flow
13	22	Hot Assembly Outlet Flow
14	23	Break Flow
15	24	Heat Transfer Coefficient
16		Spray Flow
17	25	Power
18		Peak Clad Temperature

RELAP4/003 10/27/77 RUN ON 04/11/77

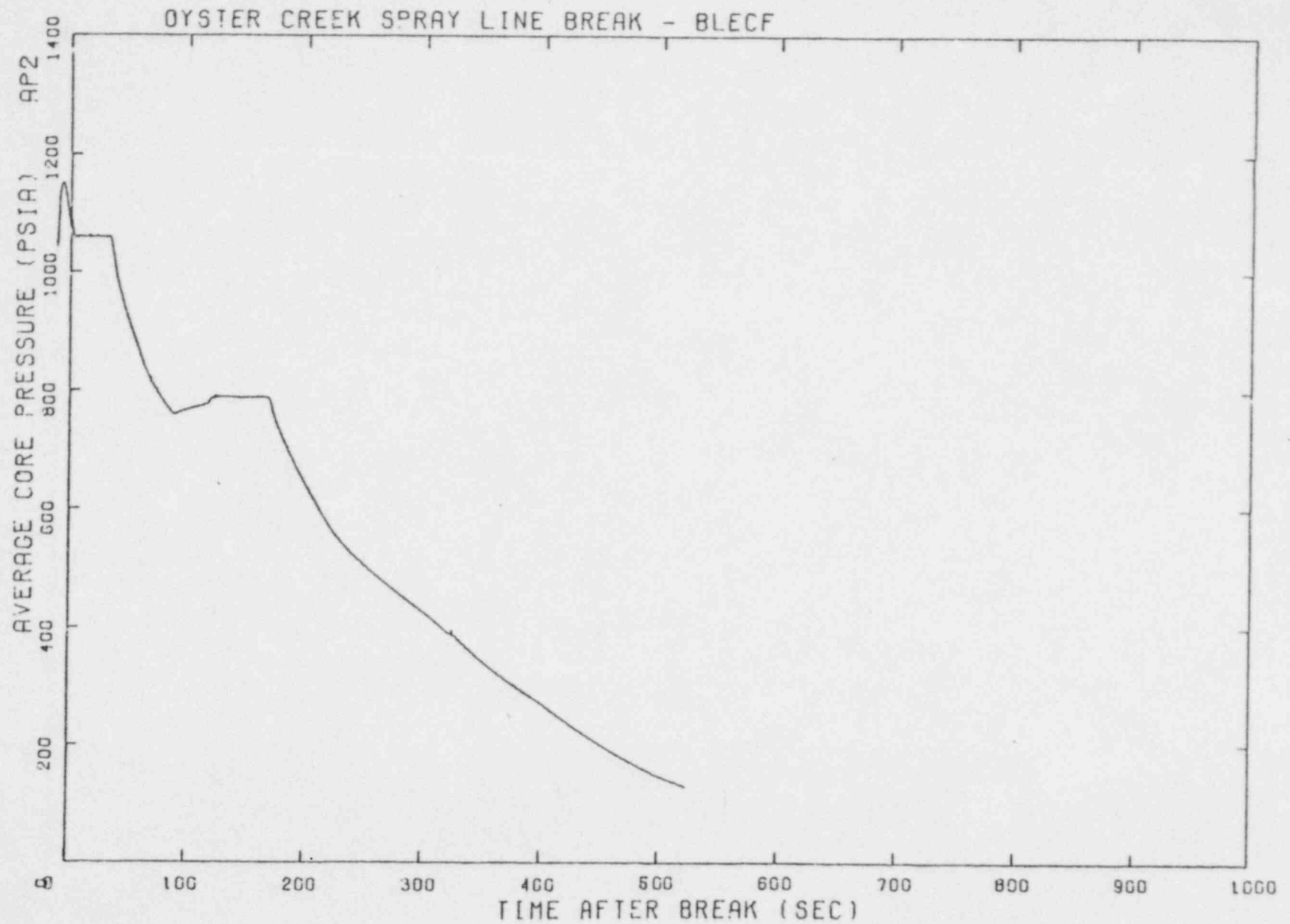


FIGURE 10

RELAP4/003 10/27/77 RUN ON 04/11/77

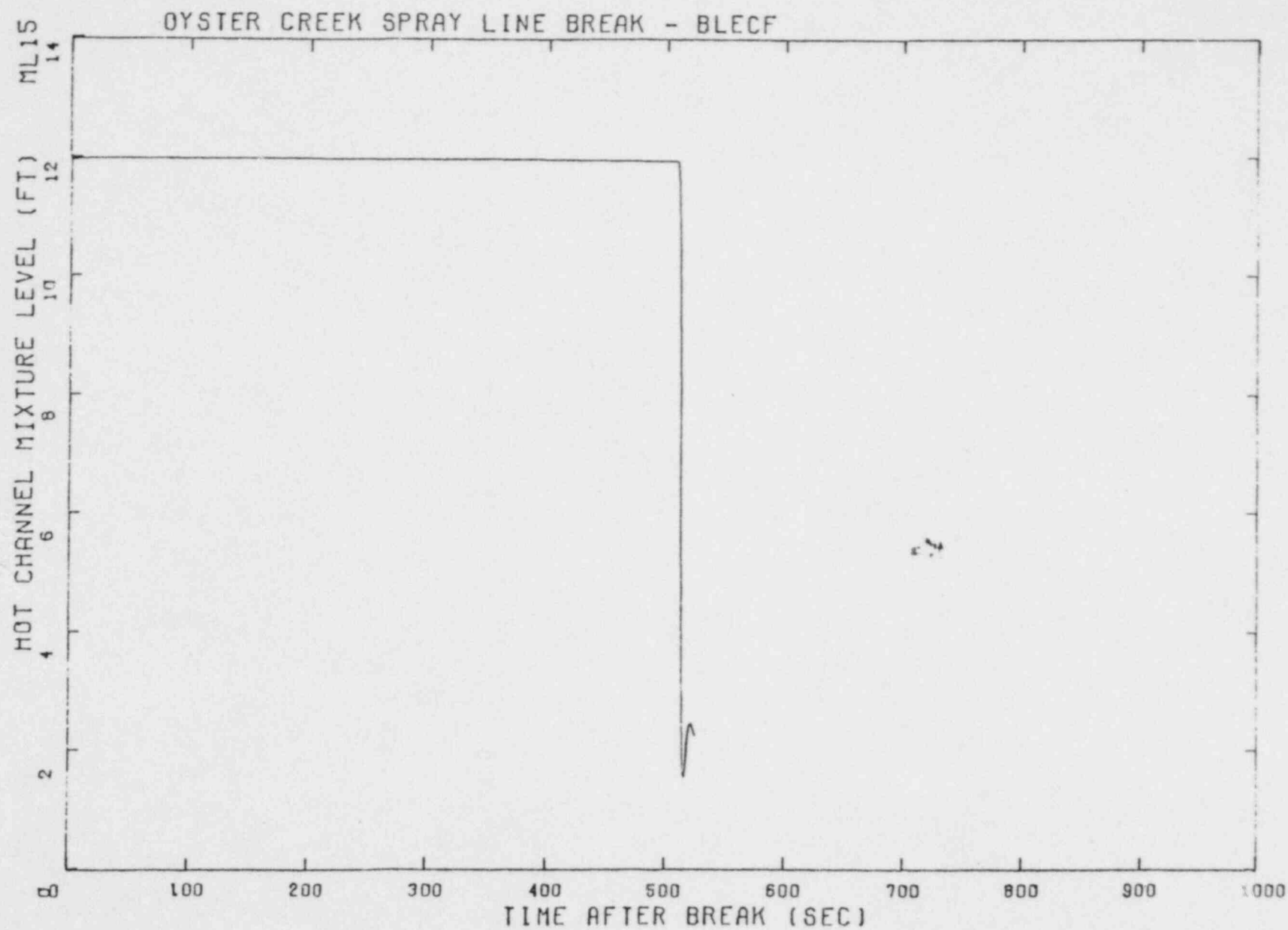


FIGURE 11

*Smoothed Data

RELAP4/003 10/27/77 RUN ON 04/11/77

OYSTER CREEK SPRAY LINE BREAK - BLECF

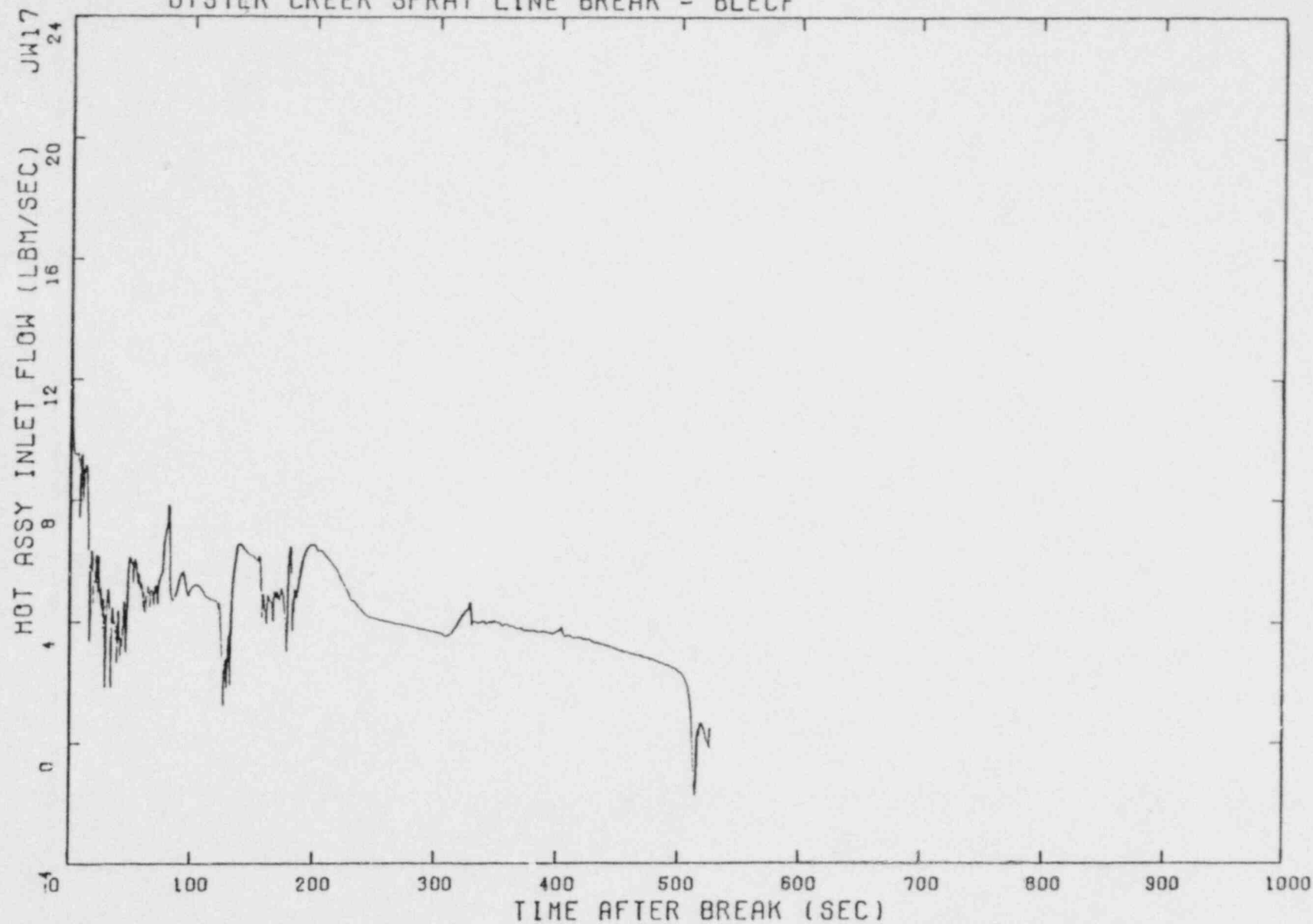


FIGURE 12

*Smoothed Data

RELAP4/003 10/27/77 RUN ON 04/11/77

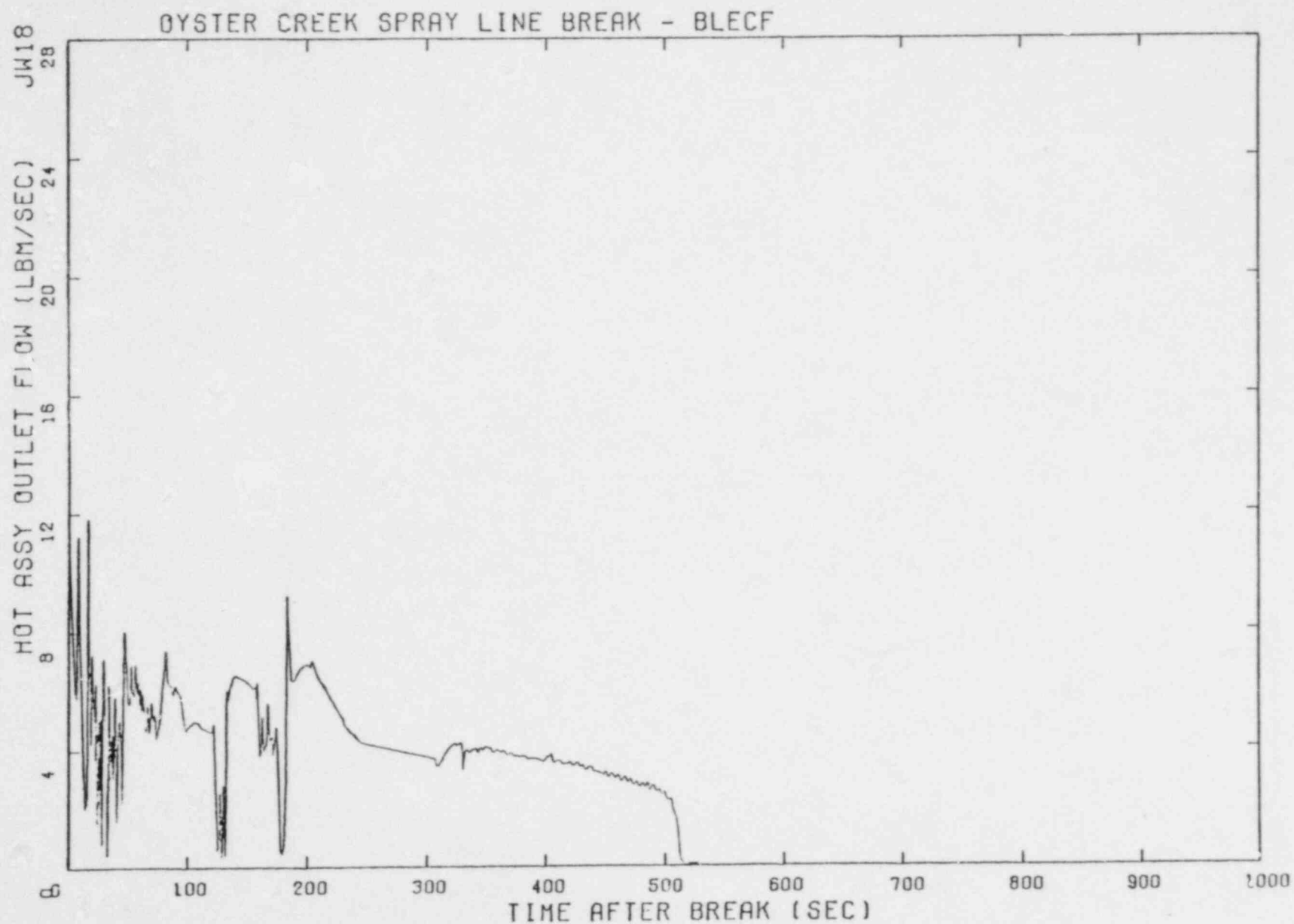


FIGURE 13

*Smoothed Data

RELAP4/003 10/27/77 RUN ON 04/11/77

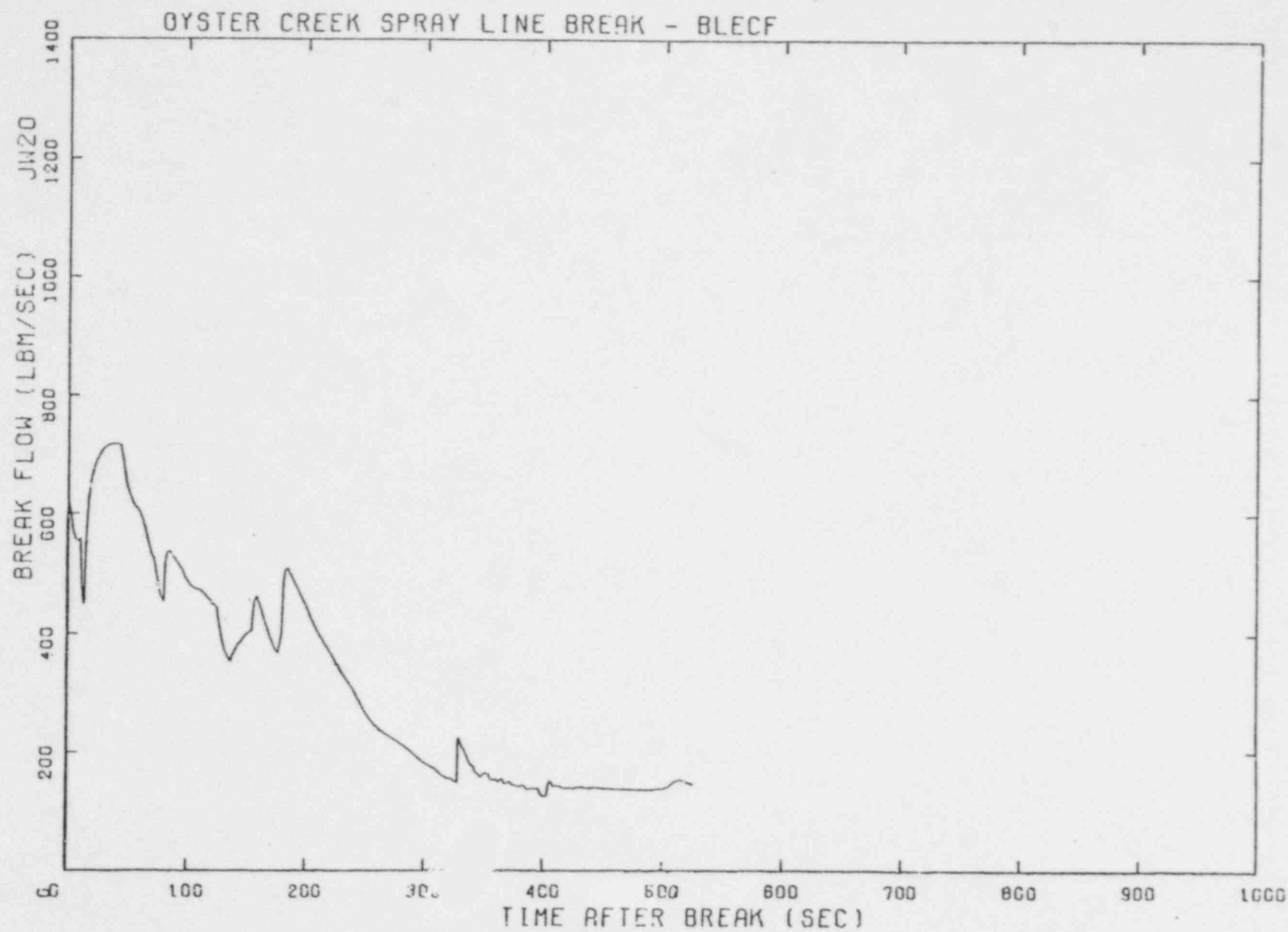


FIGURE 14

CR20

RELAP4/003 10/27/77 RUN ON 04/11/77

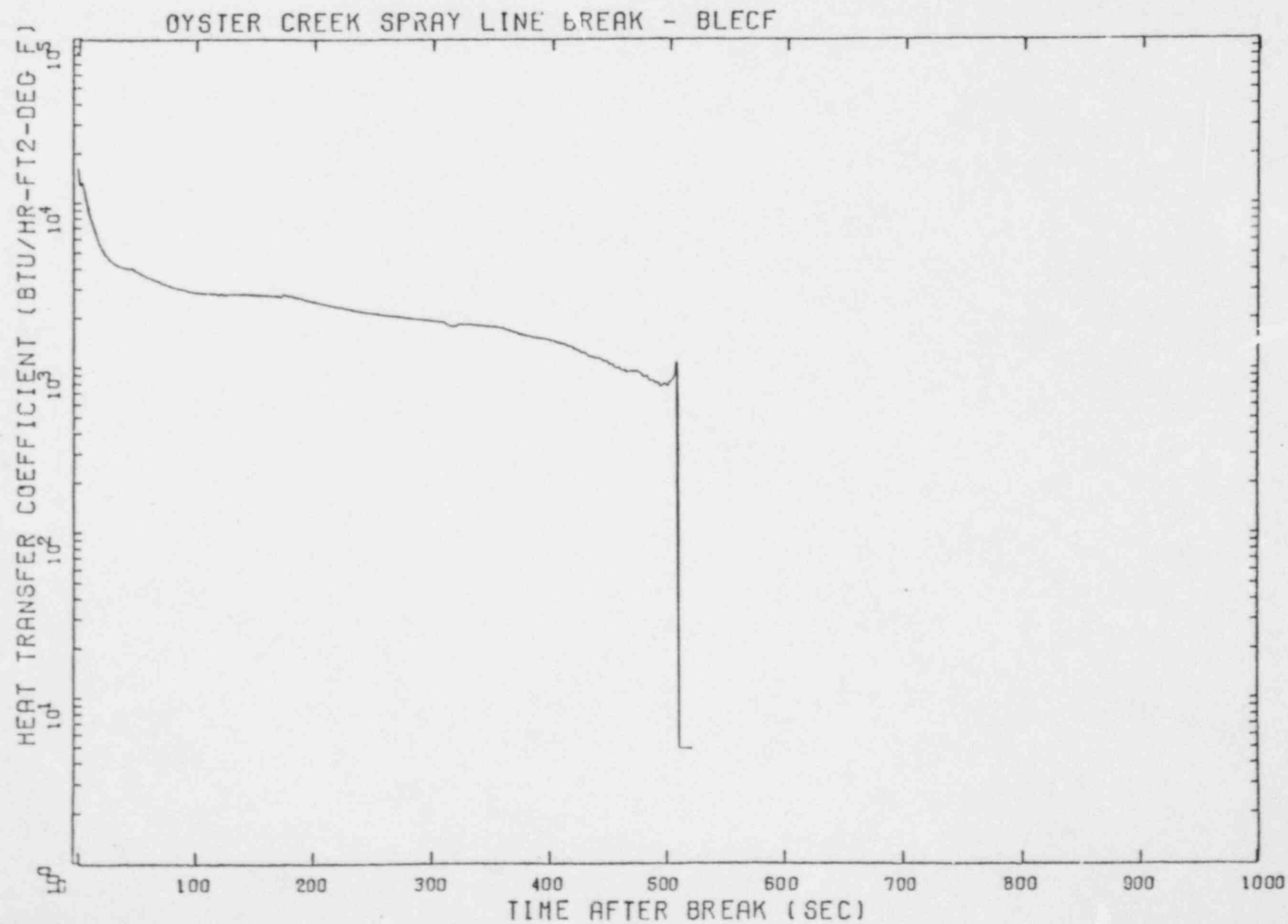


FIGURE 15

*Smoothed data

RELAP4/G03 10/27/77 RUN ON 04/11/77

OYSTER CREEK SPRAY LINE BREAK - BLECF

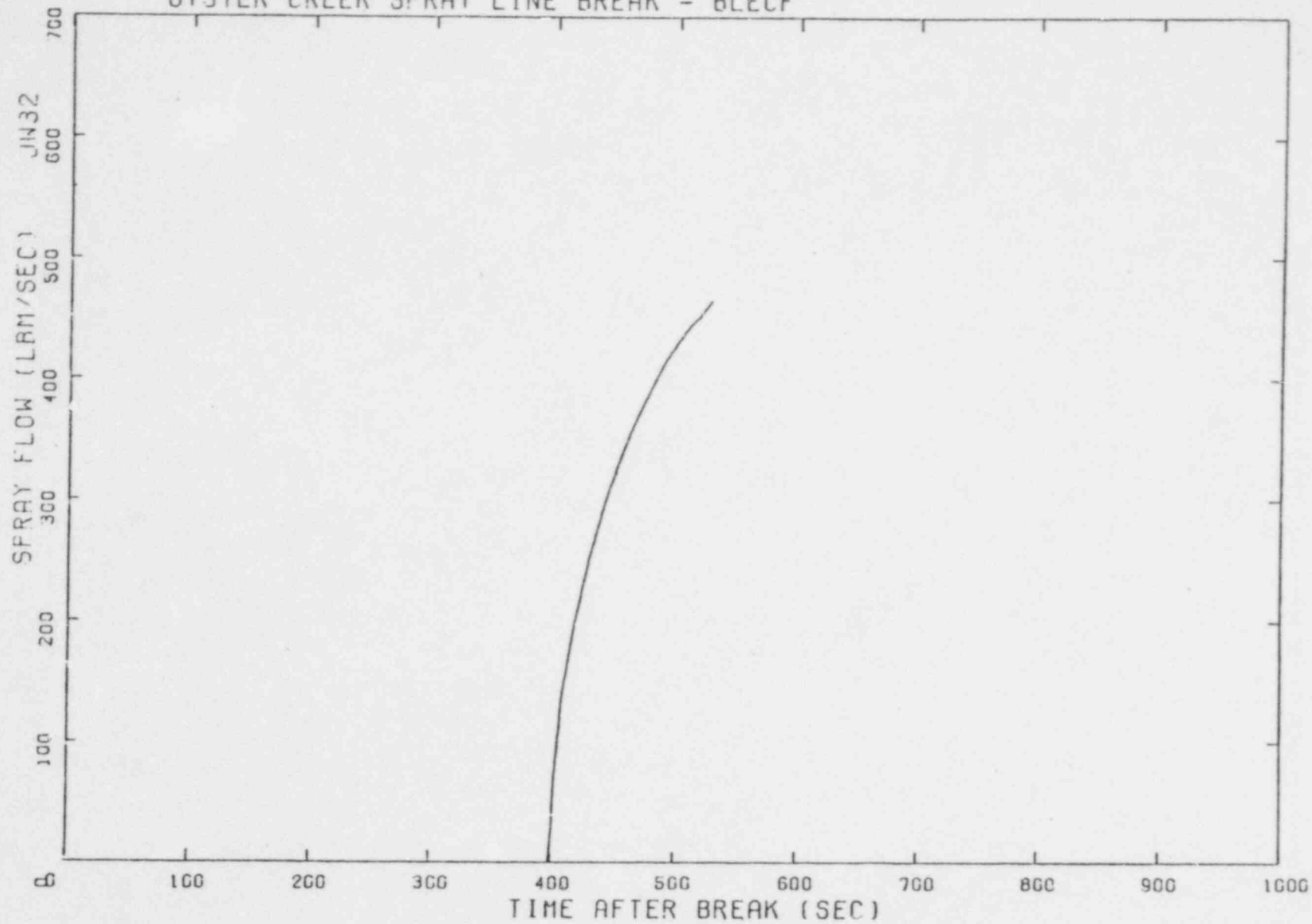


FIGURE 16

RELAP4/003 10/27/77 RUN ON 04/11/77

OYSTER CREEK SPRAY LINE BREAK - BLECF

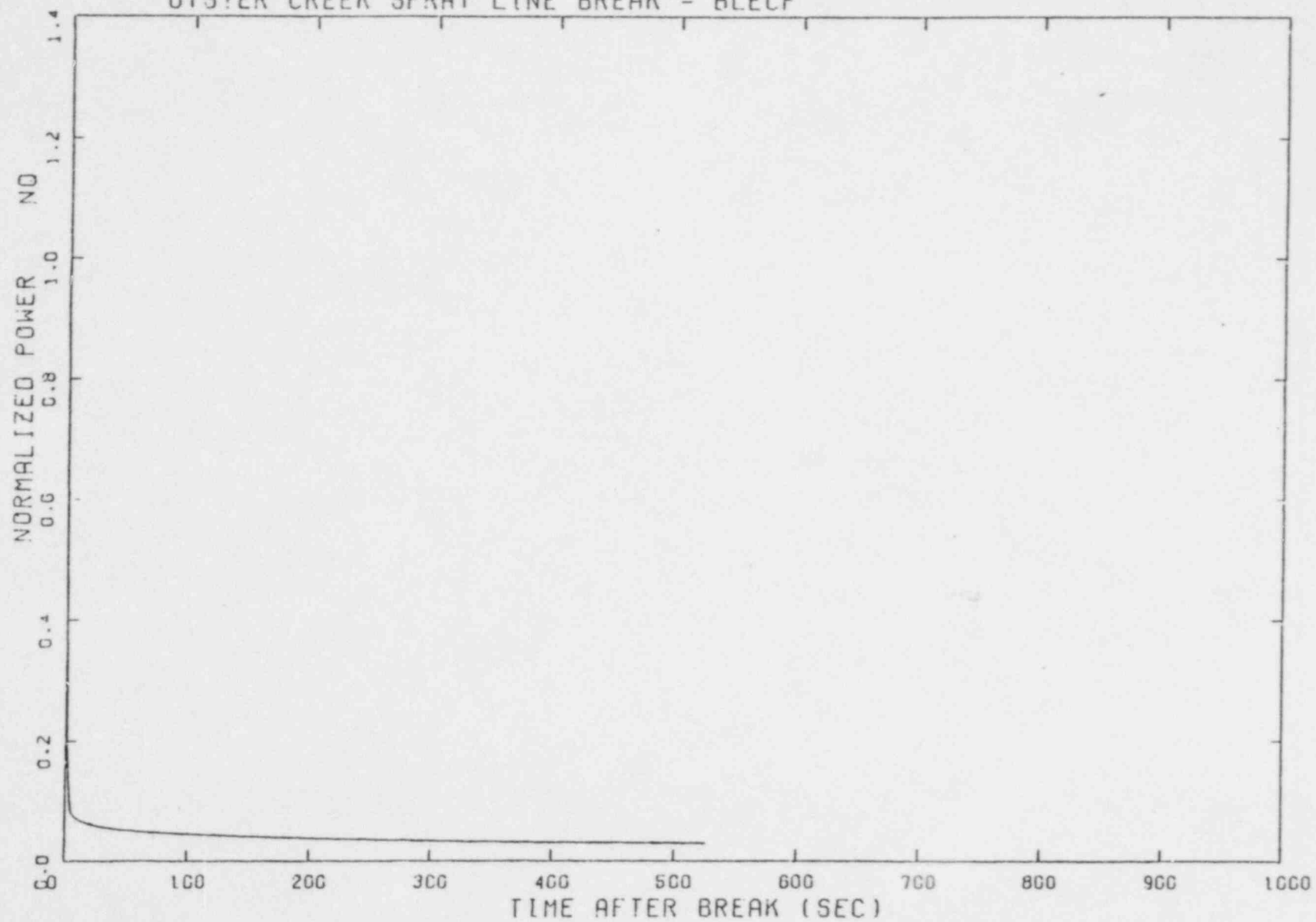
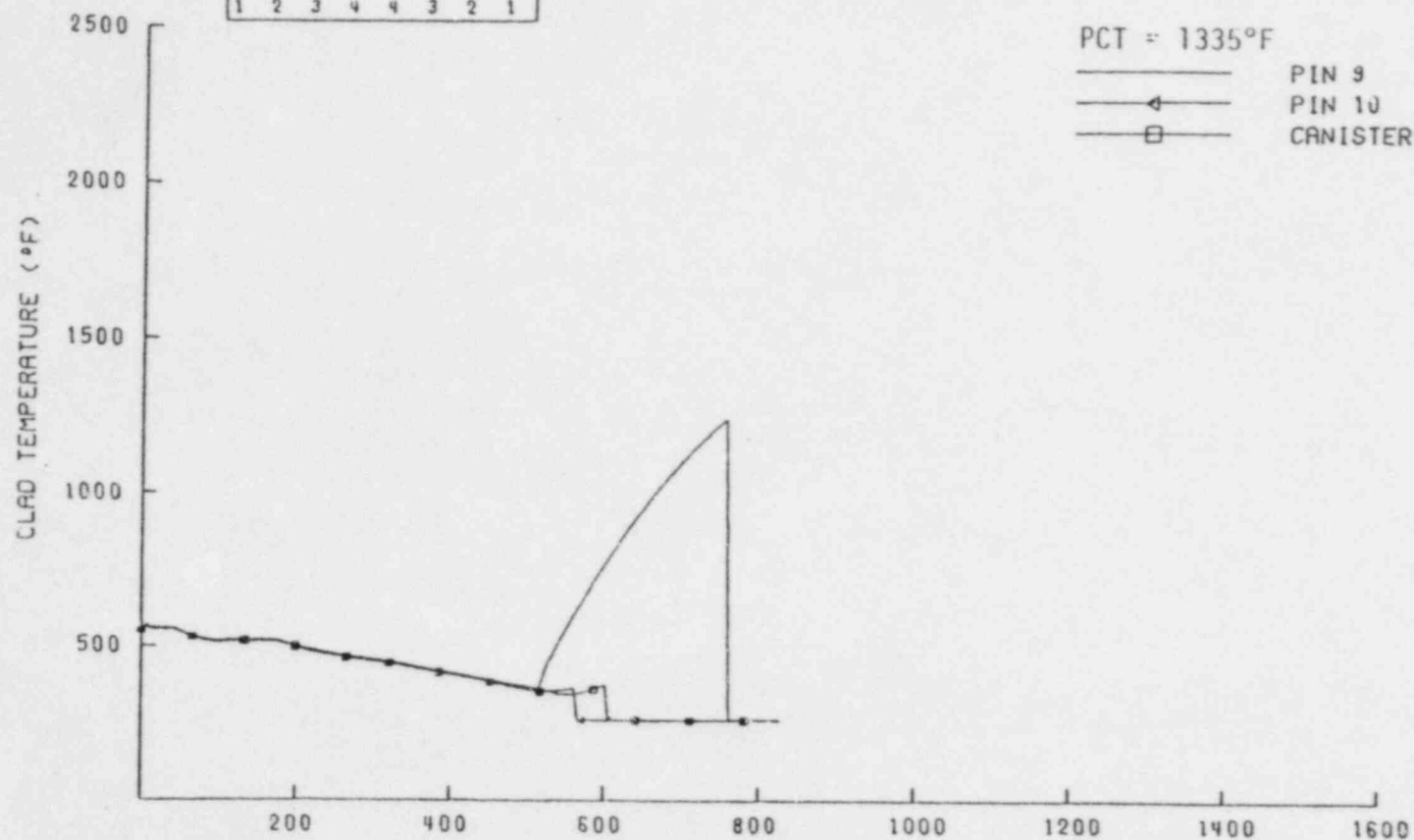


FIGURE 17

1	2	3	4	4	3	2	1
2	5	6	7	7	6	5	2
3	6	8	9	9	8	6	3
4	7	9	10	10	9	7	4
4	7	9	10	10	9	7	4
3	6	8	9	9	8	6	3
2	5	6	7	7	6	5	2
1	2	3	4	4	3	2	1

OYSTER CREEK, 11/04/77 BRSP C
ORE SPRAY LINE BREAK - BLECF
. AXR = 2.395



TIME (SEC)

FIGURE 18

RELAP4/003 10/27/77 RUN ON 05/11/77

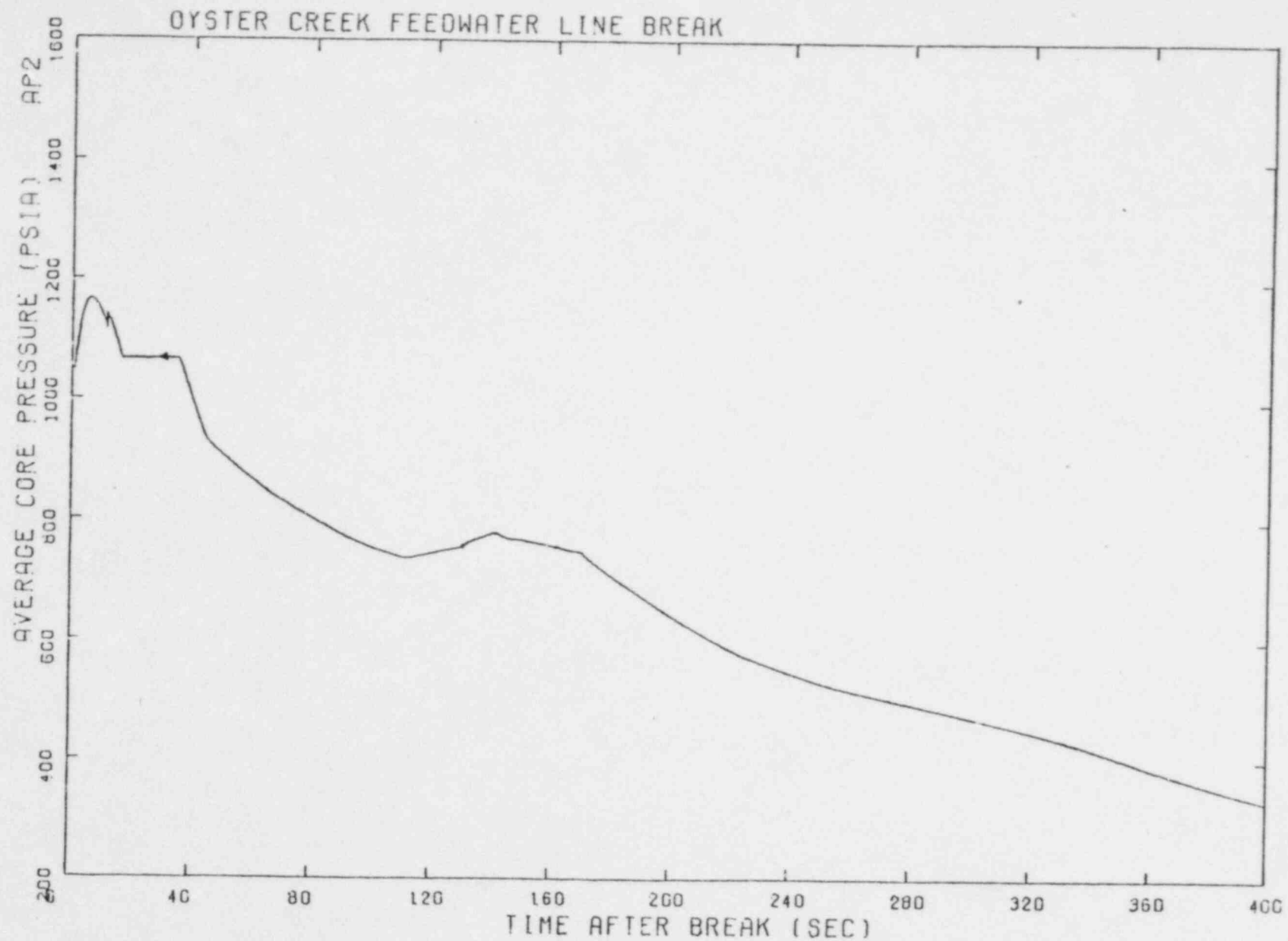


FIGURE 19

RELAP4/003 10/27/77 RUN ON 05/11/77

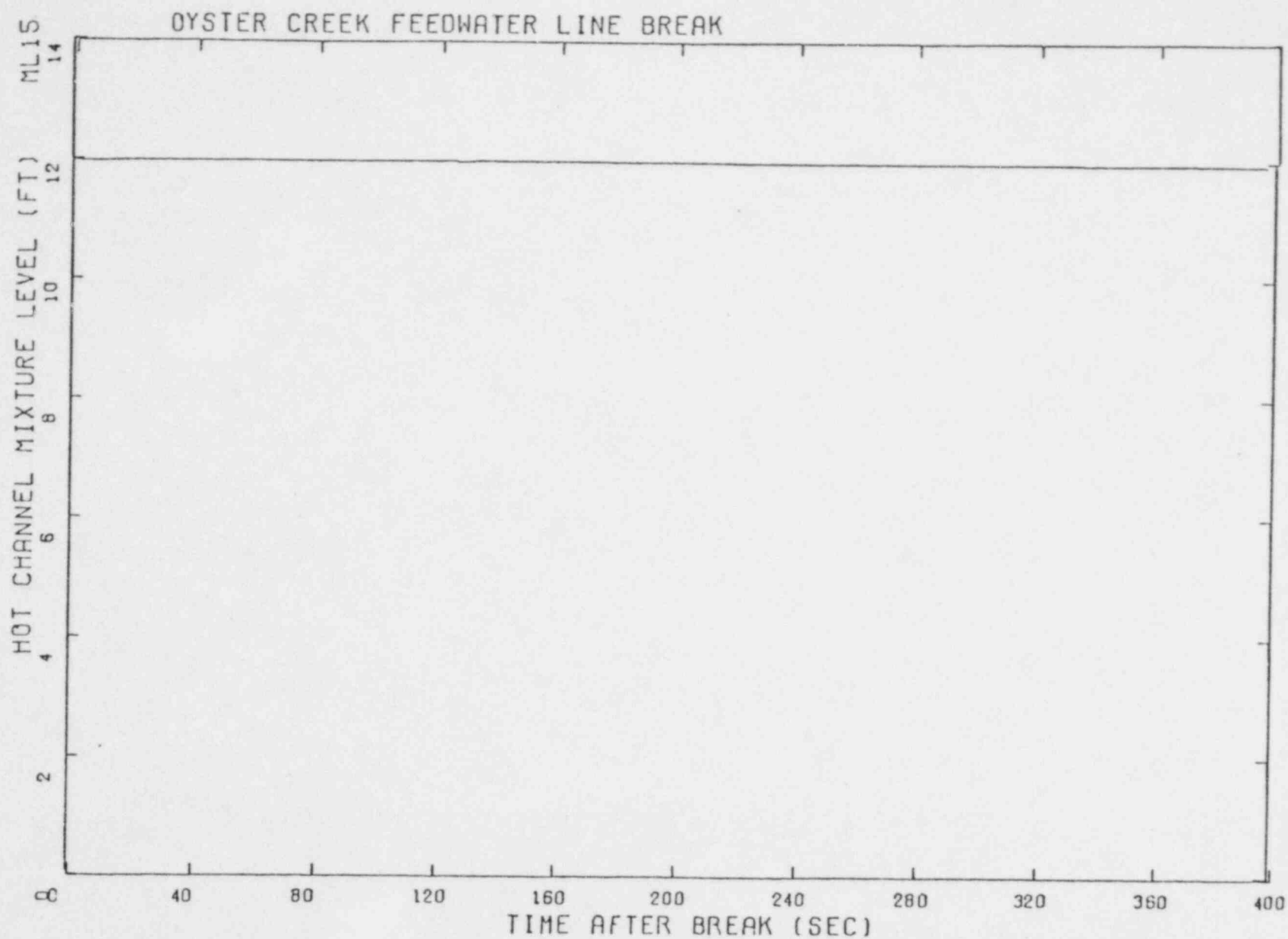


FIGURE 20

*Smoothed Data

PLotted ON 01/17/78

RELAP4/003 10/27/77 RUN ON 05/11/77

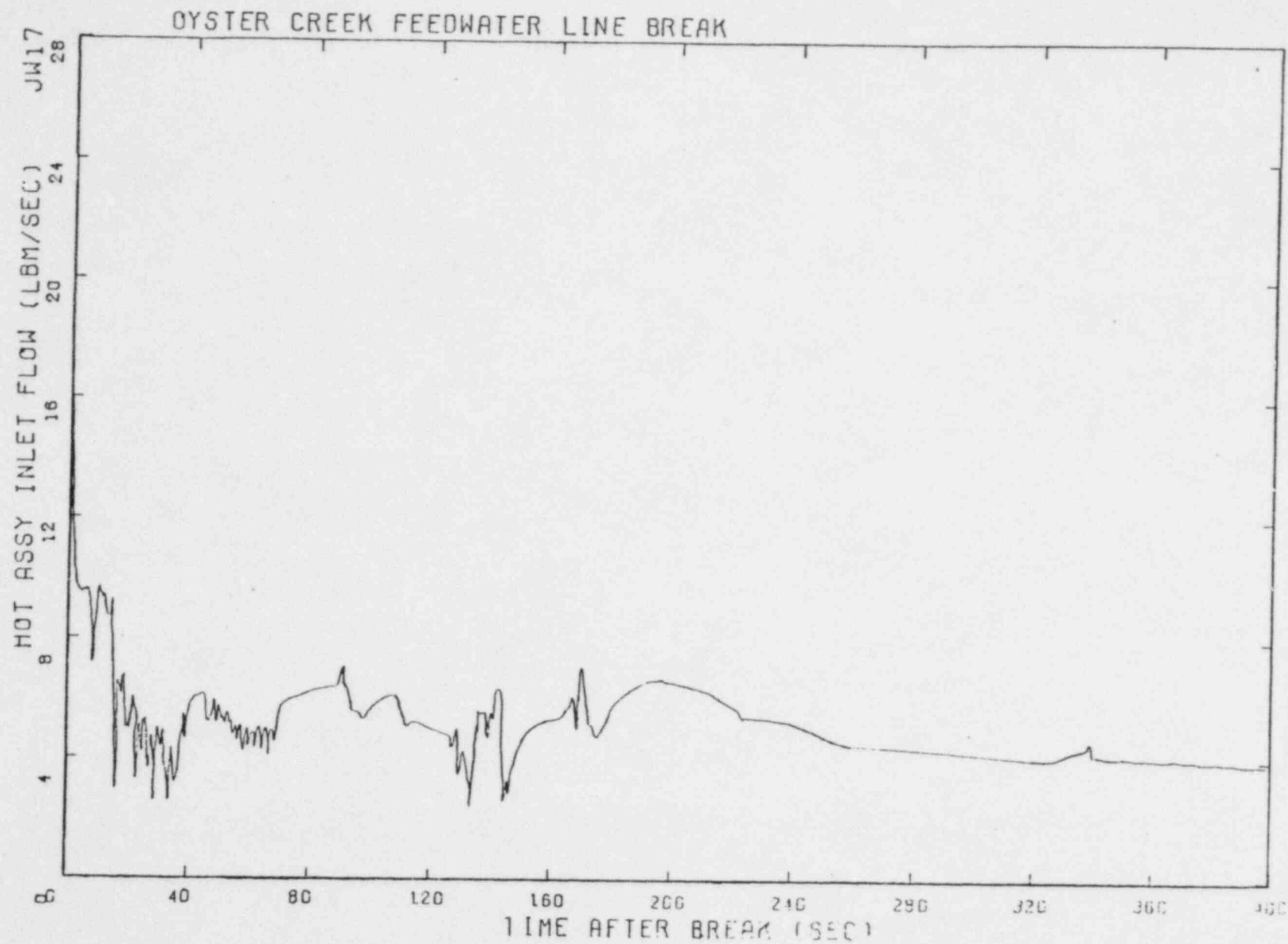


FIGURE 21

*Smoothed Data

PLUDED ON 05/11/77

RELAP4/003 10/27/77 RUN ON 05/11/77

OYSTER CREEK FEEDWATER LINE BREAK

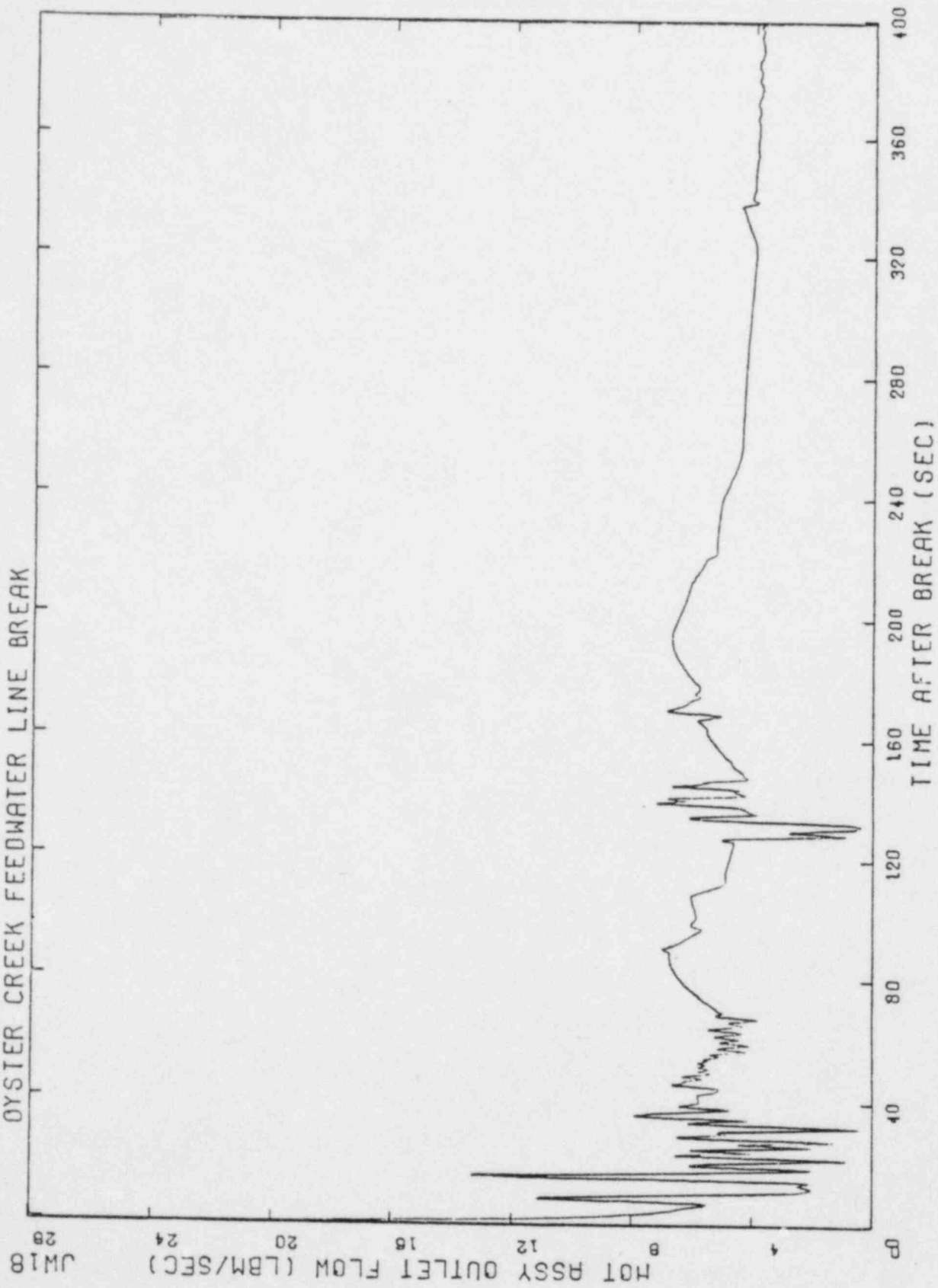


FIGURE 22

*Smoothed Data

RELAP4/003 10/27/77 RUN ON 05/11/77

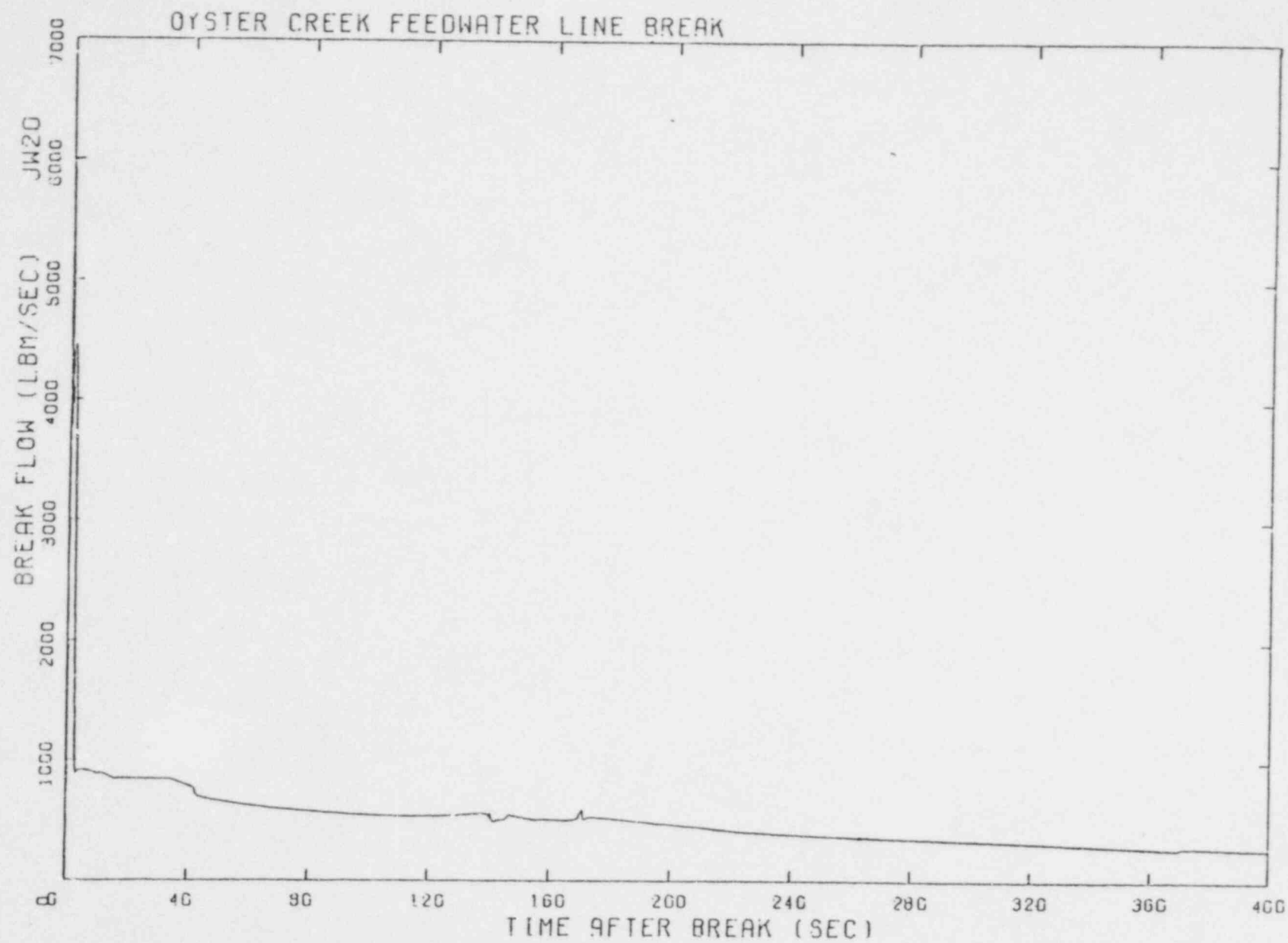


FIGURE 23

CR20

RELAP4/003 10/27/77 RUN ON 05/11/77

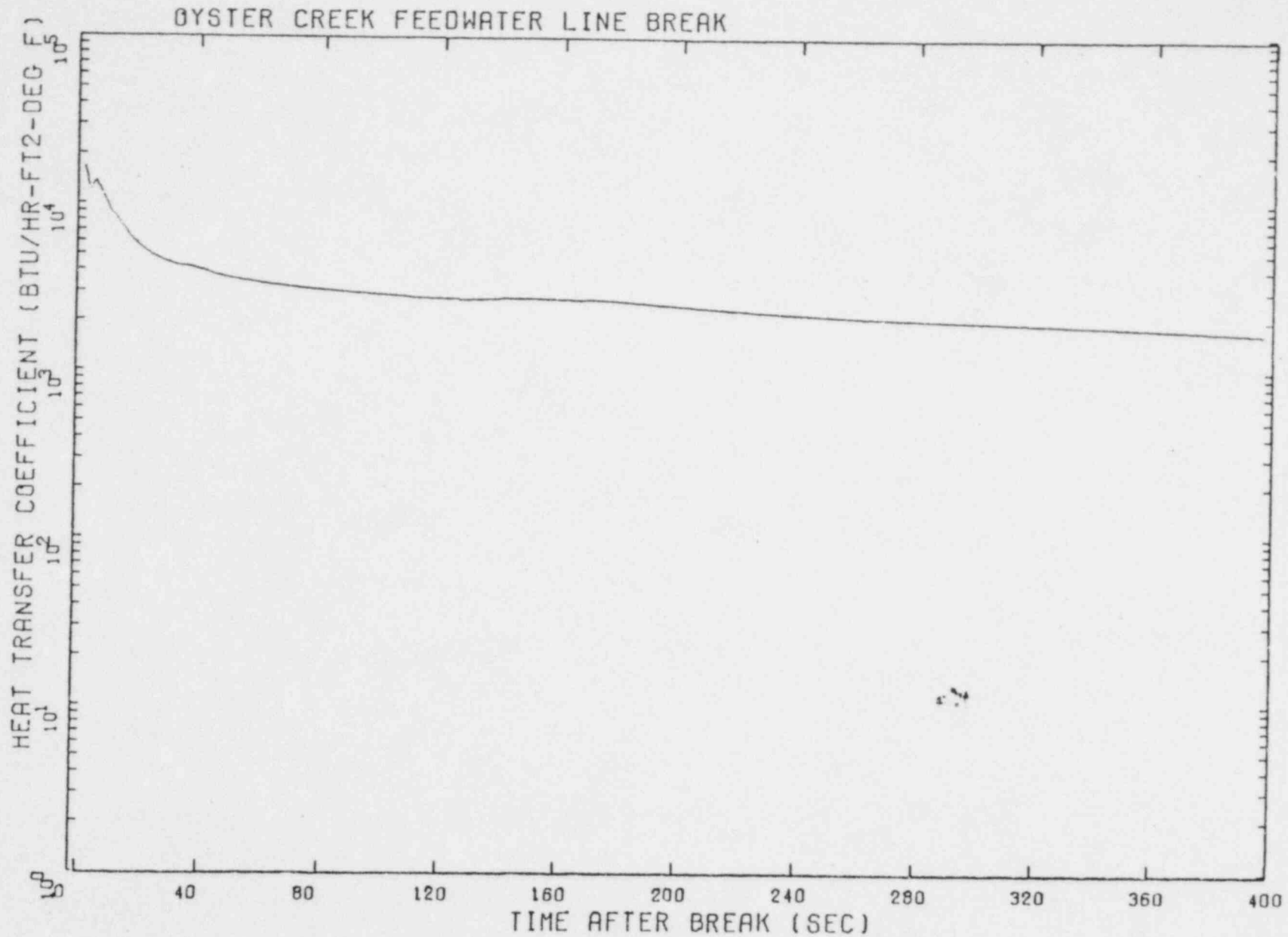


FIGURE 24

*Smoothed Data

RELAP4/003 10/27/77 RUN ON 05/11/77

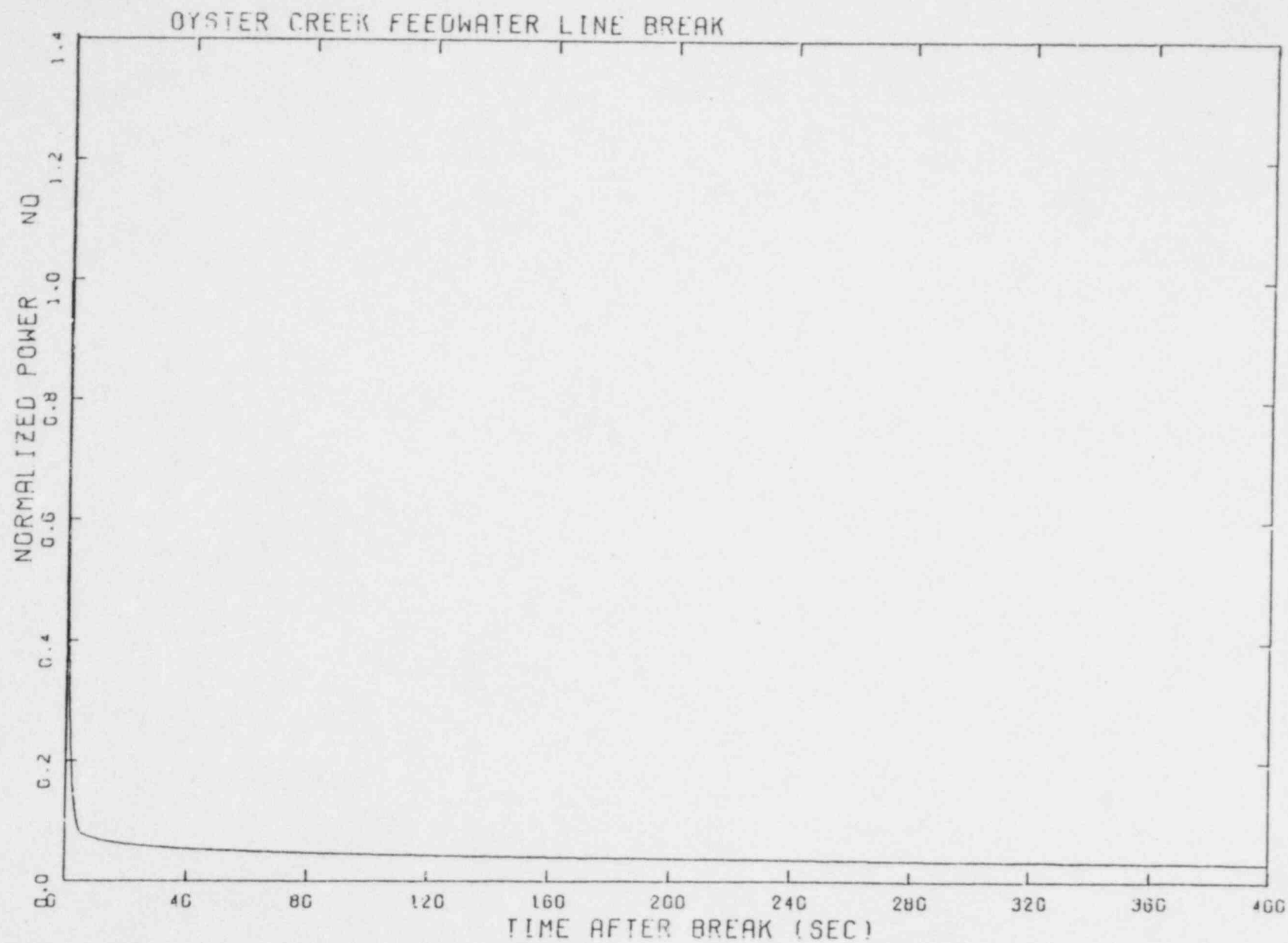


FIGURE 25