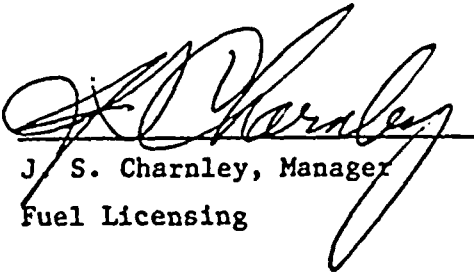


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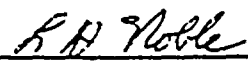
SUPPLEMENT 1 TO NINE MILE POINT
UNIT 1 SAFER/CORECOOL/GESTR-LOCA
LOSS-OF-COOLANT ACCIDENT ANALYSIS

P. Wei

W. A. Zarbis

Approved: 

J. S. Charnley, Manager
Fuel Licensing

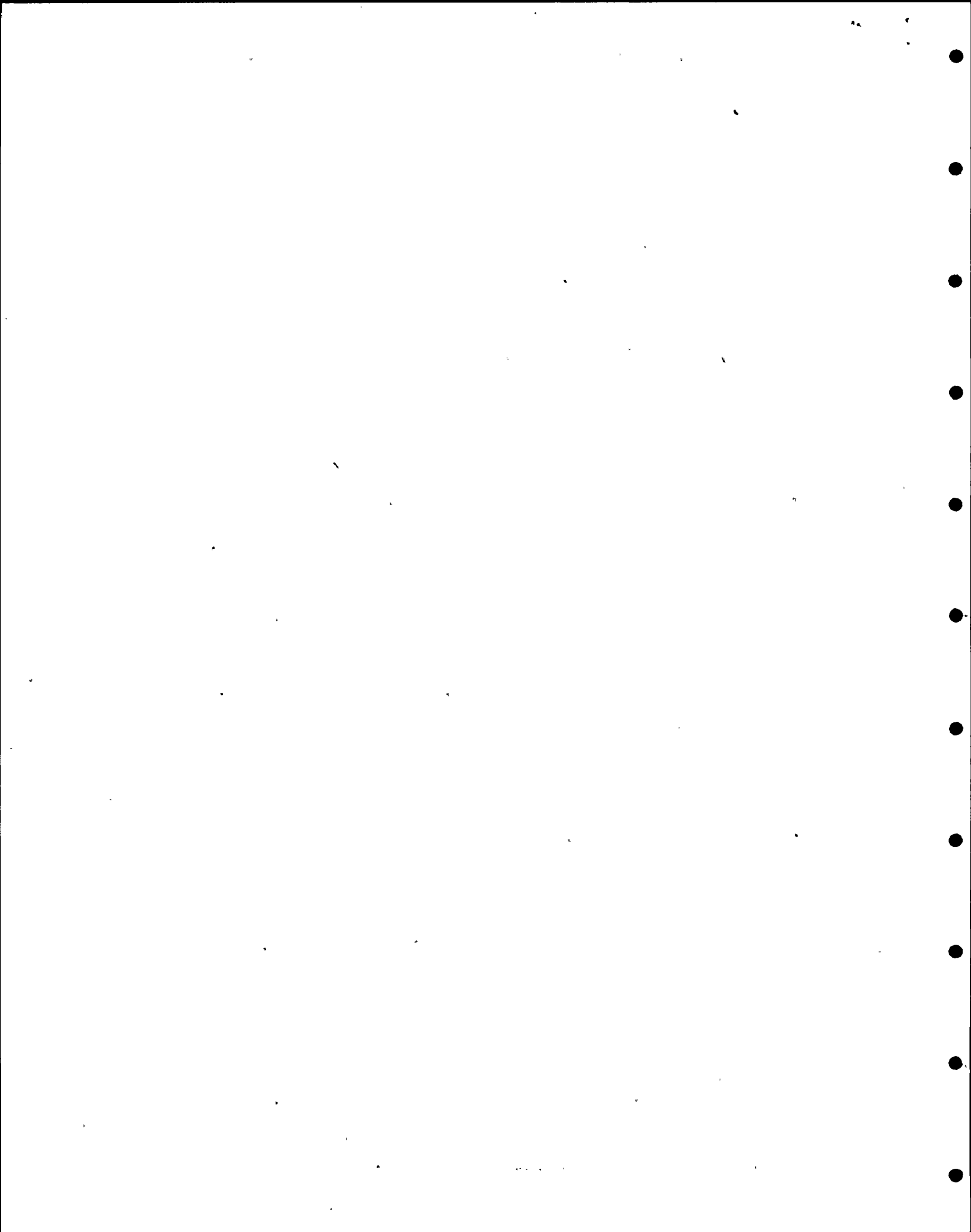
Approved: 

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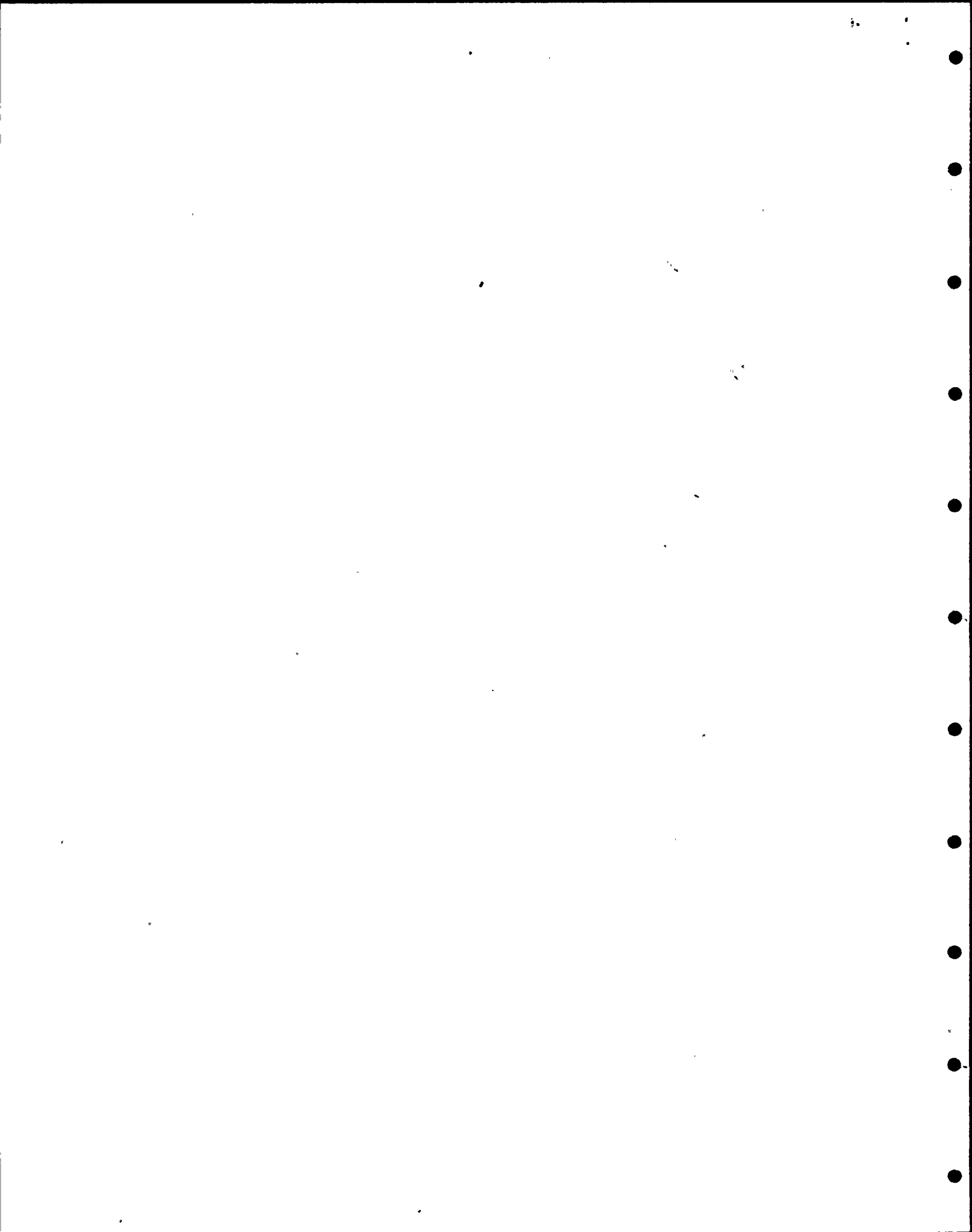
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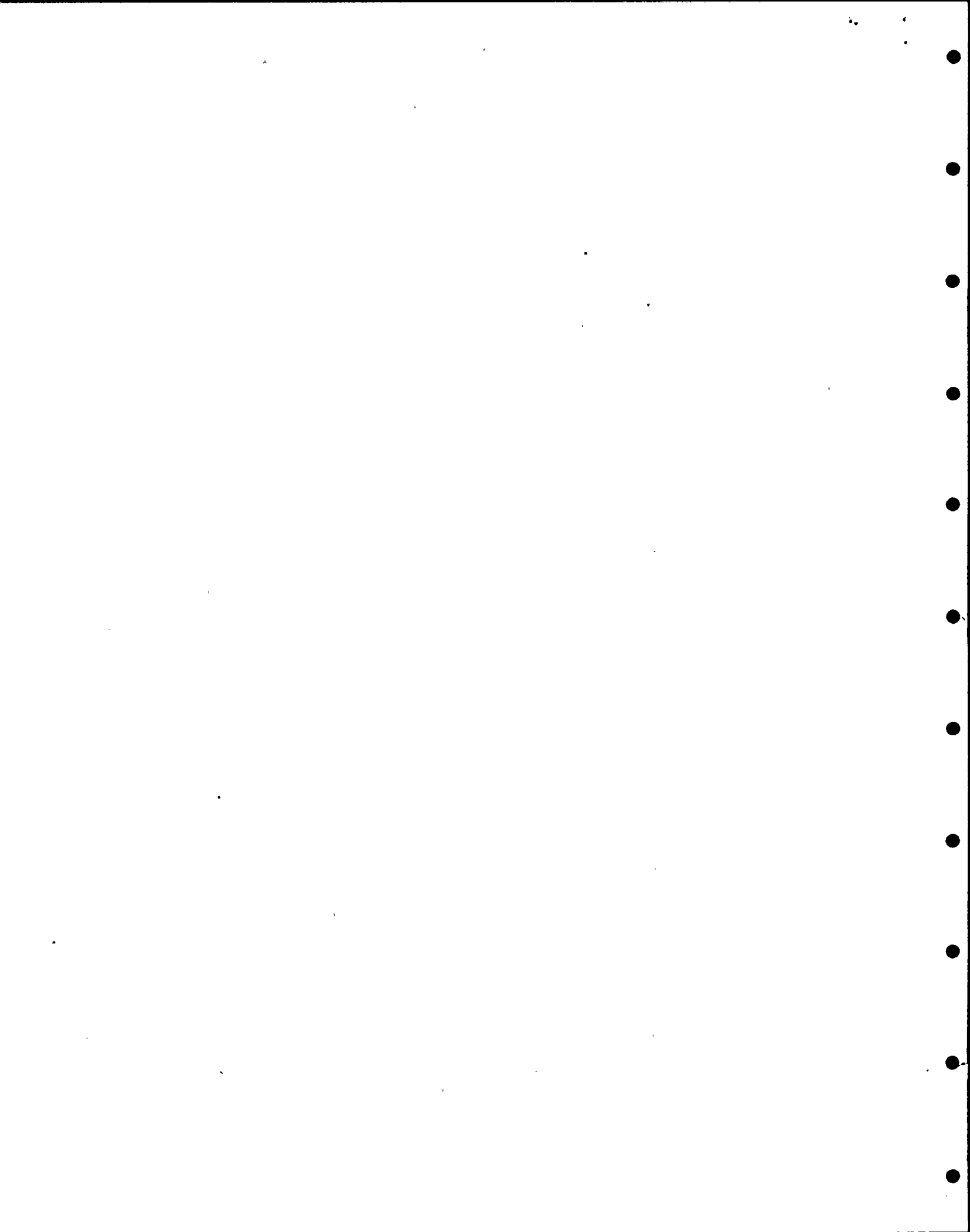


1. INTRODUCTION AND SUMMARY

This report contains the maximum average planar linear heat generation rate (MAPLHGR) values for the GE fuel design (GE8X8EB bundle type BD321B) to be loaded into Nine Mile Point Nuclear Generating Station Unit 1.

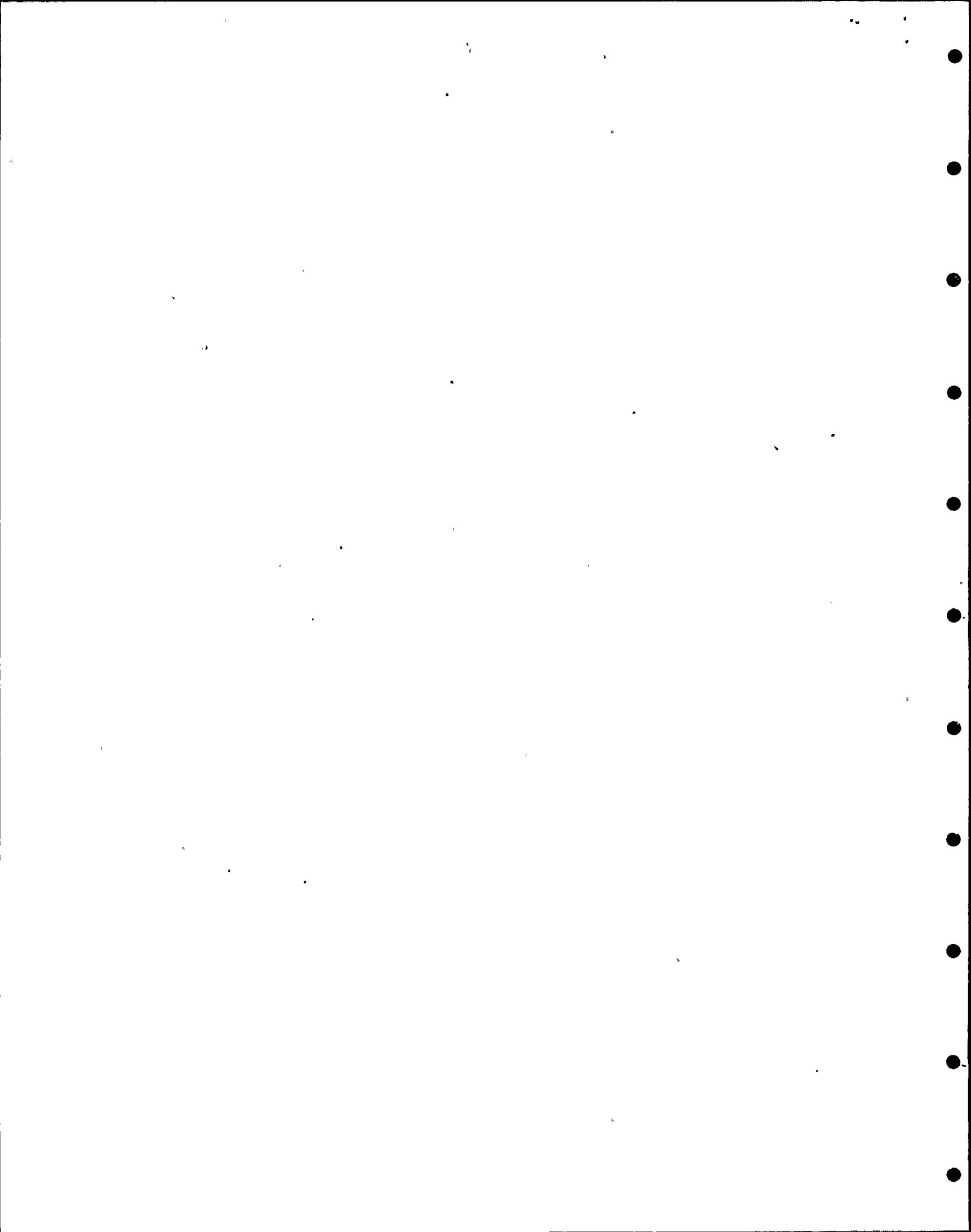
Appendix A contains summaries of MAPLHGR versus exposure for the BD321B fuel bundle. These MAPLHGRs are determined based on the analyses detailed in Reference 1:

Appendix B contains a description of the BD321B fuel type.



2. REFERENCE

1. NEDC-31446P, "Nine Mile Point Unit One SAFER/CORECOOL/GESTR-LOCA Loss-of-Coolant Accident Analysis," June 1987.



APPENDIX A
MAPLHGR* VERSUS AVERAGE PLANAR EXPOSURE

Table A-1
MAPLHGRs FOR BUNDLE TYPE BD321B**
FIVE-LOOP OPERATION

Plant: NMP-1

Fuel Type: BD321B

<u>Average Planar Exposure (Gwd/MTU)</u>	<u>MAPLHGR*** (kW/ft)</u>	<u>PCT (°F)</u>	<u>Local Oxidation Fraction</u>
0.22	10.40	2023	<0.150
1.1	10.51	2032	<0.150
5.5	11.05	2089	<0.150
11.0	11.59	2154	<0.150
14.0	11.84	2176	<0.150
15.0	11.83	2184	<0.150
16.5	11.40	2118	<0.150
22.0	10.90	2087	0.165
27.5	10.80	2114	0.169
30.0	10.76	2109	0.167
33.0	10.49	2082	0.154
38.5	9.97	2040	0.134
44.0	9.40	1941	0.095
50.0	8.74	1879	0.075

*One set of MAPLHGRs is conservatively applied to all lattices in the BD321B Bundle.

**Lattice definitions appear in Appendix B.

***Limited by ECCS considerations for $15 < E < 30$ Gwd/MTU exposure range.

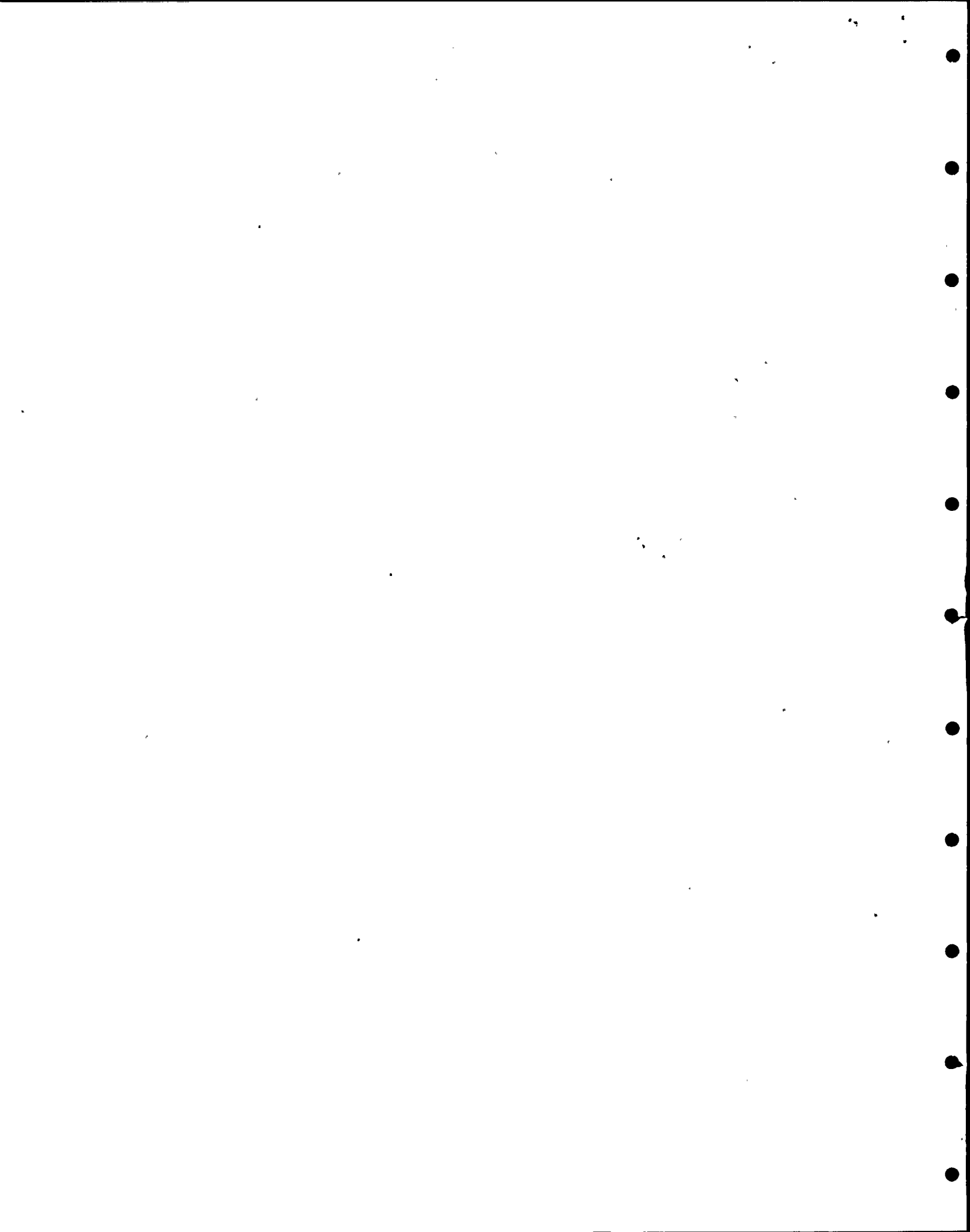
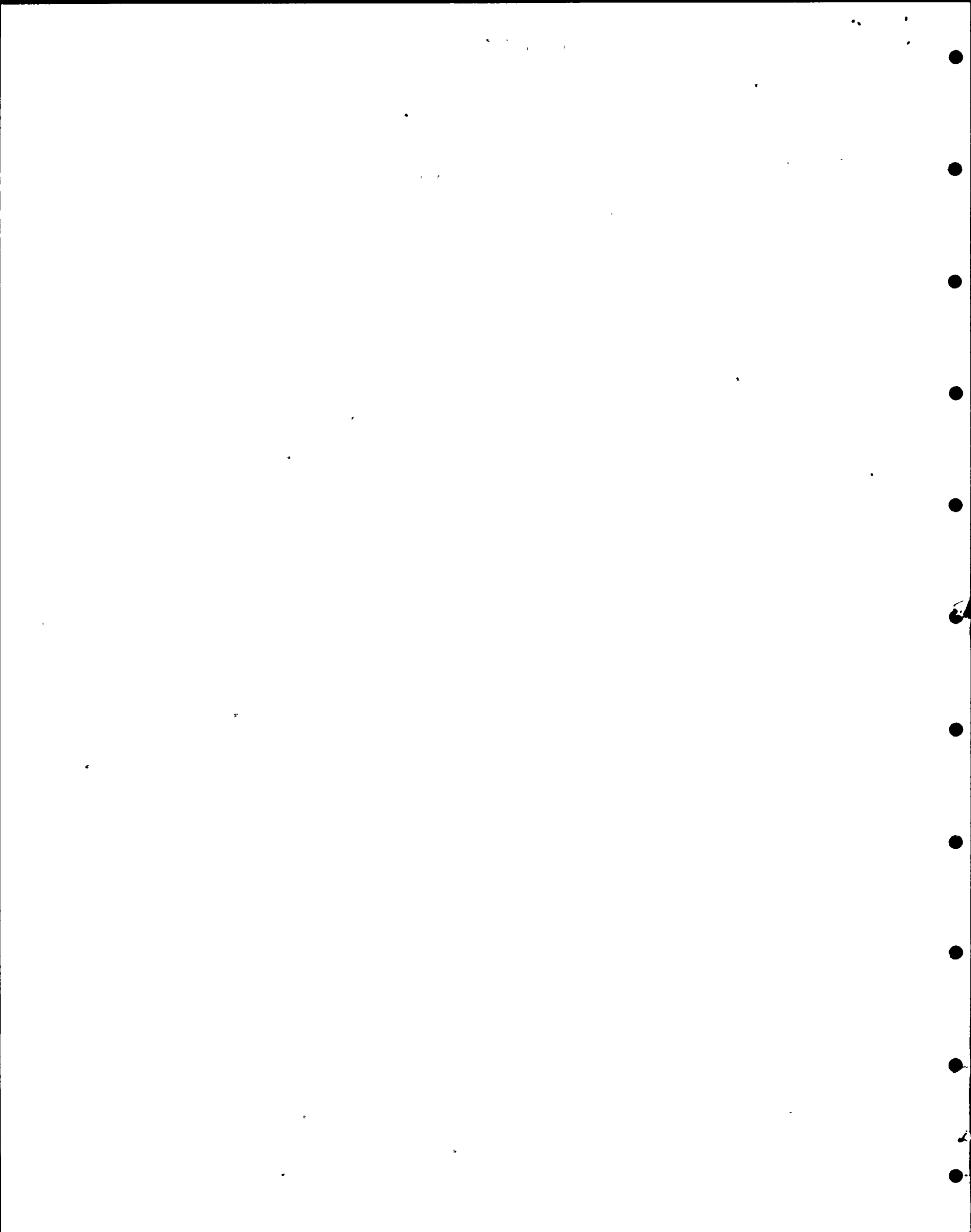


Table A-2
MAPLHGR MULTIPLIERS FOR BUNDLE TYPE BD321B*

<u>Four-Loop Operation</u>		
<u>Idle Loop Condition</u>	<u>Exposure Range</u>	<u>MAPLHGR Multiplier</u>
Unisolated	All Exposures	
Isolated	$E \leq 15$ or $E \geq 30$ GWd/MTU	
Isolated	$15 < E < 30$ GWd/MTU	

<u>Three-Loop Operation</u>		
<u>Idle Loop Condition</u>	<u>Exposure Range</u>	<u>MAPLHGR Multiplier</u>
Unisolated	All Exposures	
Isolated	$E \leq 15$ or $E \geq 30$ GWd/MTU	
Isolated	$15 < E < 30$ GWd/MTU	

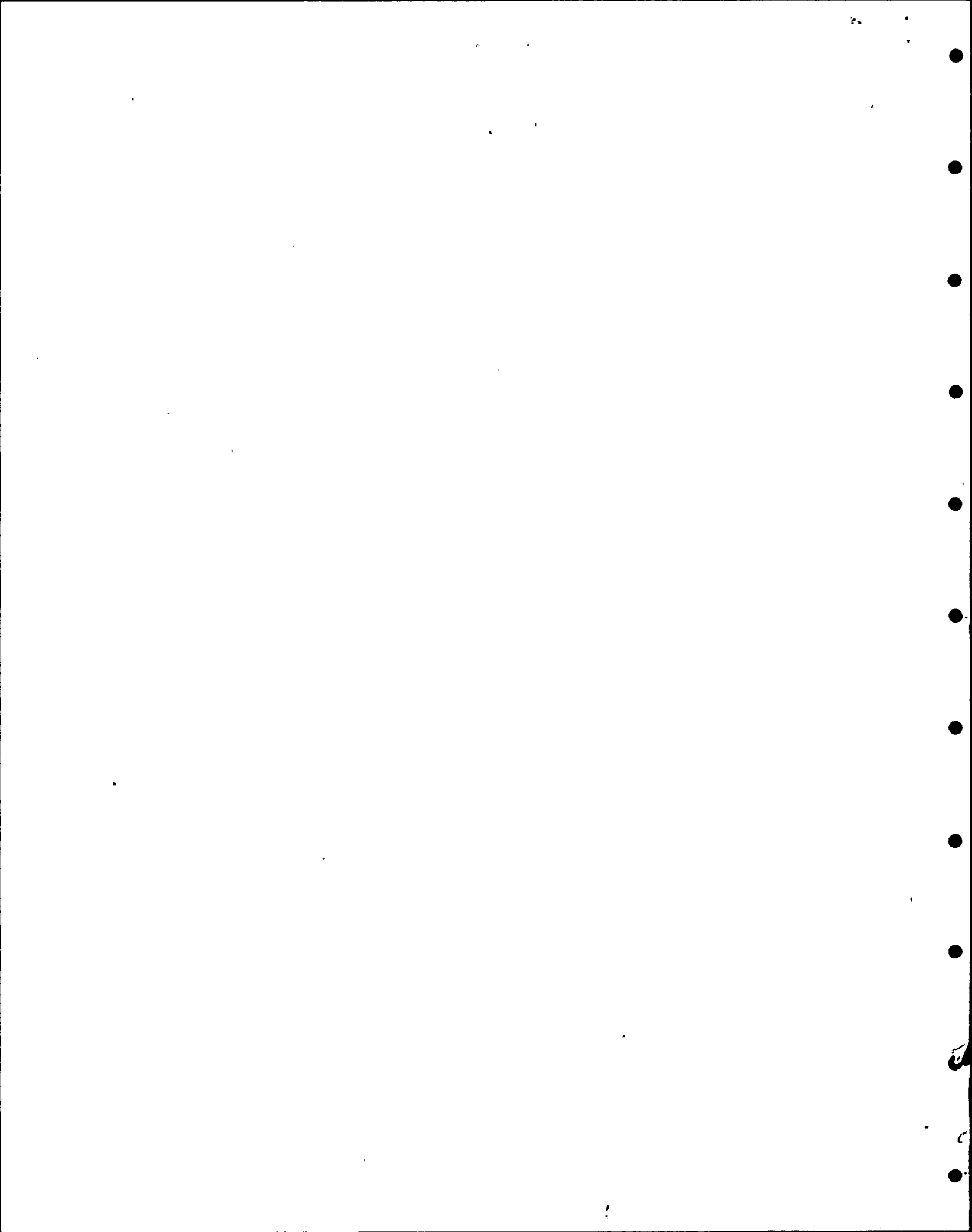
*Based on the discussion in Reference 1, no MAPLHGR multiplier is required for operation in the Extended Load Line Limit Analysis (ELLLA) region.



APPENDIX B
BUNDLE DESCRIPTION

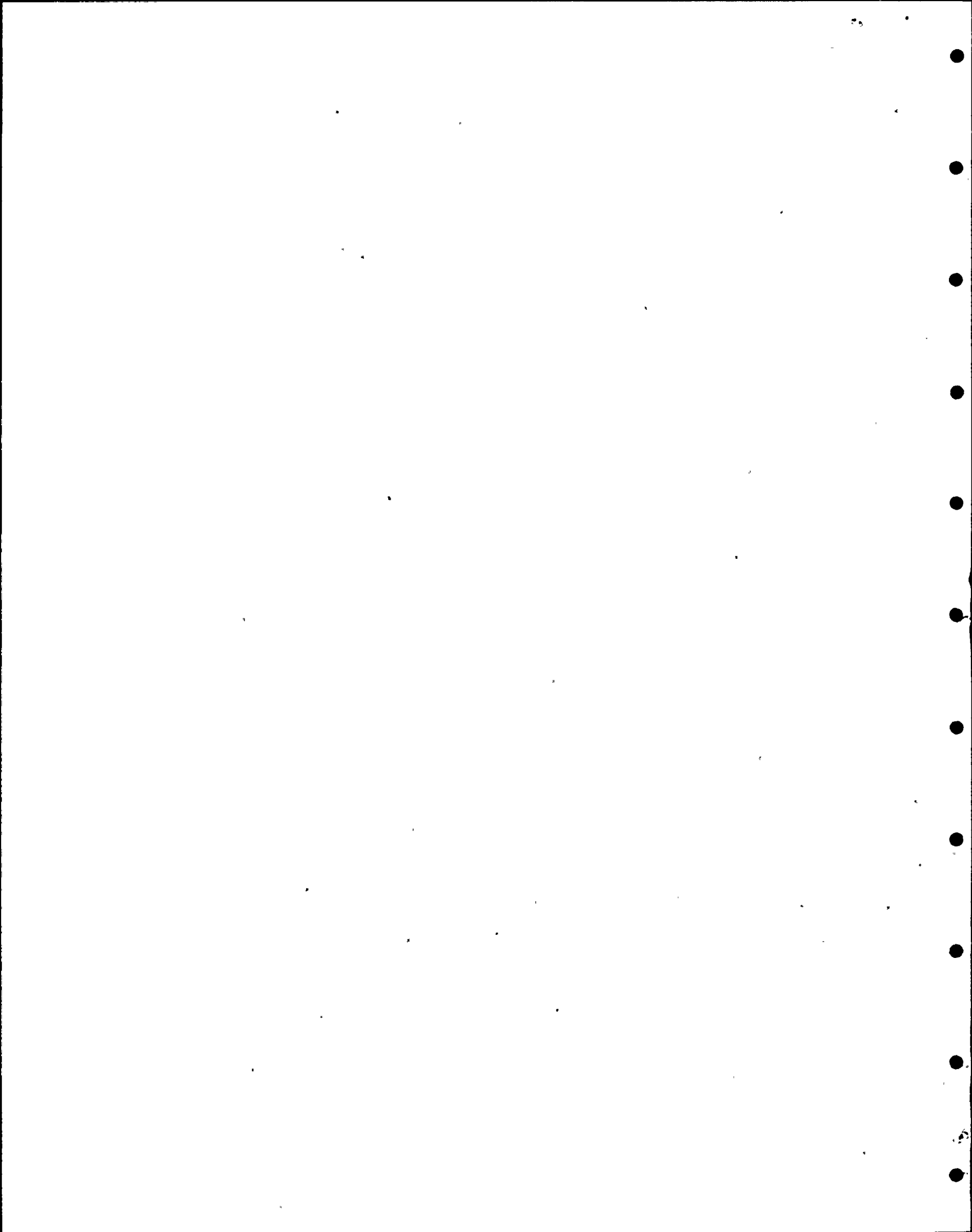
Table B-1.
FUEL BUNDLE INFORMATION FOR BD321B

<u>Enrichment</u> <u>(Wt. % U-235)</u>	<u>Weight</u> <u>of U</u> <u>(kg)</u>	<u>Maximum</u> <u>k-inf.</u>	<u>Exposure at</u> <u>Max. k-inf.</u> <u>(Gwd/MTU)</u>
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Figure B-1. Enrichment Distribution for the BD321B Fuel Bundle



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Figure B-2. Gadolinium Distribution for the BD321B Fuel Bundle

