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 AUTH. NAME AUTHOR AFFILIATION
 MANGAN, C. V. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 ZWOLINSKI, J. A. BWR Project Directorate 1

SUBJECT: Forwards table entitled "NMP-1 Guidelines for Repair of Leaking CRD Penetrations," per 851118 request. Basis for leakage limits in guideline include available test info on rolled tube-to tube sheet joints in steam generators.

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March 14, 1986
NMP1L 0037

Director of Nuclear Reactor Regulation
Attention: Mr. John A. Zwolinski, Project Director
BWR Project Directorate Number 1
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220
.....DPR-63.....

Dear Mr. Zwolinski:

During the Nine Mile Point Unit 1 spring 1984 Refueling and Maintenance Outage, leaking control rod drive penetrations were detected. These penetrations were repaired by rolling of the control rod drive housing into the reactor vessel. A post repair hydrostatic test was performed which confirmed their leak tightness. In addition, our letter of October 1, 1984 provided our plans for future nondestructive examination of control rod drive housing assemblies.

We met with members of your staff on November 18, 1985 to present a summary status of our repair program. This summary included discussion of the repair efforts completed during the spring 1984 outage, inspection plans for the spring 1986 outage, preparations for the spring 1986 outage repairs, if required, and development work for long term alternate repair methods. A letter dated December 2, 1985 from Mr. Robert A. Hermann of your staff, provided a summary of the November 18, 1985 meeting and requested Niagara Mohawk to formally submit its guidelines for the repair of leaking control rod drive penetrations for staff review and approval. In response to your request, a handout (copy attached) provided by Niagara Mohawk at the November 18, 1985 meeting contained a Table titled "NMP-1 Guidelines For Repair of Leaking Control Rod Drive (CRD) Penetrations." The basis for the leakage limits presented in this guideline were derived from the following information:

1. Available test information on rolled tube-to-tube sheet joints in steam generators.

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Appl
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THE UNITED STATES OF AMERICA
DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D. C. 20535

MEMORANDUM FOR THE DIRECTOR

DATE: 10/15/68

TO: SAC, NEW YORK

RE: [Illegible]

[Illegible]

[Illegible]

2. The results of mockup tests performed in support of the rolled repair of a control rod drive penetration at Big Rock Point.
3. Experience with leaking control rod drive penetration at a foreign plant.

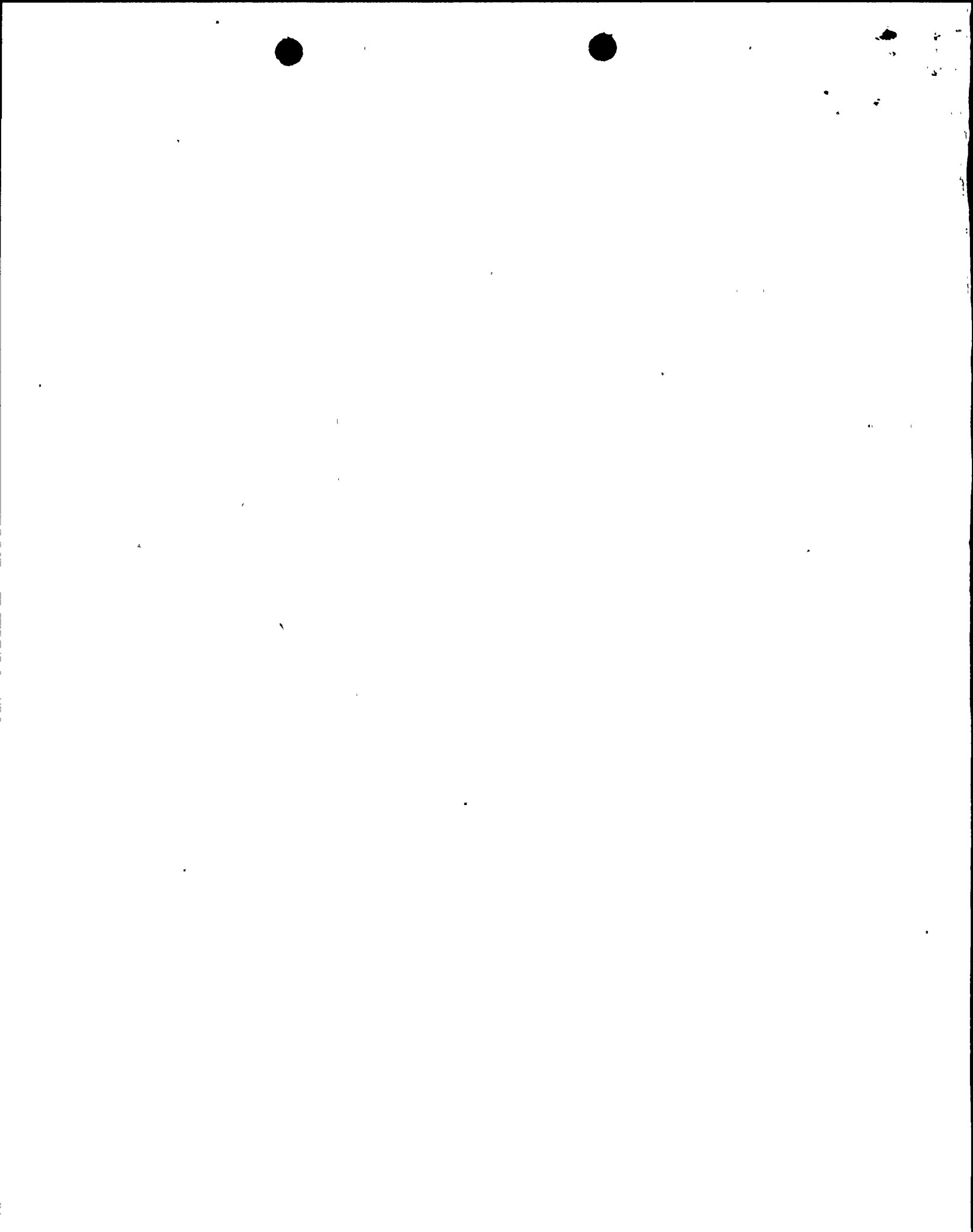
These repair guidelines will be used as a basis for implementing the repair method of any control rod drive penetration found to be leaking during the spring 1986 outage.

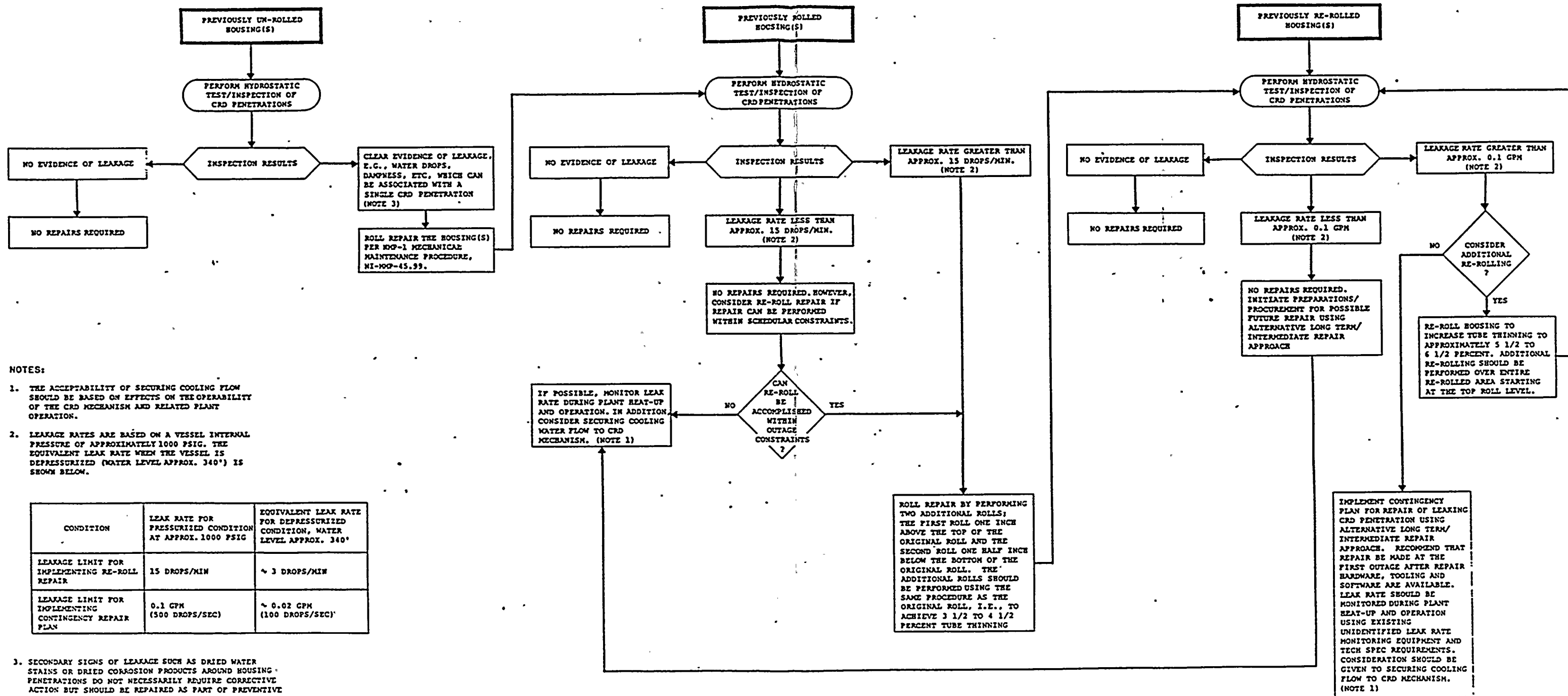
Sincerely,

NIAGARA MOHAWK POWER CORPORATION

C. V. Mangan
C. V. Mangan
Senior Vice President

RJP:bd





NOTES:

1. THE ACCEPTABILITY OF SECURING COOLING FLOW SHOULD BE BASED ON EFFECTS ON THE OPERABILITY OF THE CRD MECHANISM AND RELATED PLANT OPERATION.
2. LEAKAGE RATES ARE BASED ON A VESSEL INTERNAL PRESSURE OF APPROXIMATELY 1000 PSIG. THE EQUIVALENT LEAK RATE WHEN THE VESSEL IS DEPRESSURIZED (WATER LEVEL APPROX. 340") IS SHOWN BELOW.

CONDITION	LEAK RATE FOR PRESSURIZED CONDITION AT APPROX. 1000 PSIG	EQUIVALENT LEAK RATE FOR DEPRESSURIZED CONDITION, WATER LEVEL APPROX. 340"
LEAKAGE LIMIT FOR IMPLEMENTING RE-ROLL REPAIR	15 DROPS/MIN	~ 3 DROPS/MIN
LEAKAGE LIMIT FOR IMPLEMENTING CONTINGENCY REPAIR PLAN	0.1 GPM (500 DROPS/SEC)	~ 0.02 GPM (100 DROPS/SEC)

3. SECONDARY SIGNS OF LEAKAGE SUCH AS DRIED WATER STAINS OR DRIED CORROSION PRODUCTS AROUND HOUSING PENETRATIONS DO NOT NECESSARILY REQUIRE CORRECTIVE ACTION BUT SHOULD BE REPAIRED AS PART OF PREVENTIVE MAINTENANCE AS LONG AS THE REPAIR DOES NOT CONFLICT WITH OUTAGE CONSTRAINTS.

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TABLE I
NMP-1
GUIDELINES FOR REPAIR OF LEAKING
CONTROL ROD DRIVE (CRD)
PENETRATIONS