CRAY-2

UNDERFLOOR DAM RECOMMENDATIONS

REV.	A	B	C	D	E		
DATE	09-11-85	07-22-87	11-13-87	12-09-88	6-14-89		
APPROVED	RED	MFL	GLS	GLS	J.T.		

1.0 SCOPE

This document discusses the CRI recommended, customer supplied and installed underfloor dam. The dam is for containment of dielectric coolant in the remote case of a gross system leak. This document discusses options on methods and materials of construction. This information is offered as an aid to the customer and does not limit the customer in the use of other methods or materials of construction. If other materials are used, CRI is willing to review materials against its compatibility data for any gross incompatibilities.

2.0 LOCATION OF THE UNDERFLOOR DAM

The site planning documentation package furnished to the customer includes a document, "Diagram-Dielectric Coolant Lines." This diagram shows the recommended location for the customer installed underfloor dam. The dam location was selected to encompass the entire Cray-2 system, mainframe, support pod(s), reservoir, and dielectric coolant lines. In addition, the surface area was kept to a minimum in order to reduce evaporative losses in the event of a spill. The reduced area also makes reclamation of the coolant easier. See sheet 6 of this document for an illustration of the recommended underfloor dam.

3.0 METHOD OF CONSTRUCTION

The general method of construction consists of attaching a structural dam to the computer room subfloor along the lines indicated in the supplied site planning documentation. Materials used in construction of the dam are to be nonporous and liquid tight. These materials are to be attached and sealed to the subfloor after the concrete subfloor itself has been sealed. Any joints between sections of the dam must be sealed as well. The subfloor must be periodically inspected and resealed as required. Materials should be selected such that no incompatibility exists between sealer and dam at the time of resealing.

4.0 CRI RECOMMENDED MATERIALS AND METHOD OF CONSTRUCTION

The CRI recommended materials and method of construction are as follows:

4.1 SEALING OF THE CONCRETE SUBFLOOR

The concrete subfloor is to be sealed with a good, commercially available, epoxy based floor sealer. The subfloor should be properly cleaned prior to sealing and allowed to cure fully before attachment of the dam.

4.2 DAM MATERIAL, ATTACHMENT, AND SEALING

Dam materials of construction are to be structural angles or channels. These members are to be firmly bolted to the concrete subfloor along the lines indicated by CRI site documentation. Sealing of the dam members is accomplished by compressing nitrile or neoprene closed cell foam gasket material between the dam members and the subfloor. To aid in sealing, the gasket surface compressed against the subfloor can be wiped with a layer of silicone RTV sealant. Corner joints between members are to be butted together and sealed with silicone RTV. Dam members should be oriented to minimize joint area in contact with the liquid.

4.3 MATERIALS AND MATERIAL SOURCE OPTIONS

CRI does not solicit manufacturers or distributors of materials. The companies listed below are for reference only.

4.3.1 FLOOR SEALANTS

Epoxy - Modified Acrylic Latex Based Sealer:
-- Tuf-Floor W810
Dunn & Edwards
4885 E. 52nd Place
Los Angeles, CA 90040
(213) 771-3330

Epoxy Based Sealer: -- Devcon Epoxy Sealer-100
Resin and Hardener
Devcon
30 Endicott Street
Danvers, MA 01923
(617) 777-1100

4.3.1 FLOOR SEALANTS (continued)

Acrylic Based Sealer -- Dress & Seal 18
L&M Construction
Chemicals, Inc.
8316 Blondo Street
Omaha, NE 68134
(402) 393-3371

Any equivalent epoxy or acrylic based sealers.

4.3.2 DAM MATERIALS

Structural Aluminum
Angles or Channels: -- Ryerson Stocks &
Services
Box 619
Minneapolis, MN 55440
(612) 544-4401
Other centers nationwide

-- Edgcomb Metals
401 Harding Street NE
Minneapolis, MN 55413
(612) 331-4000
Other centers nationwide

PVC (Non-Plasticized)
Angles, Square, and
Rectangular Tubing: -- Ryerson Stocks &
Services
Box 619
Minneapolis, MN 55440
(612) 544-4401
Other centers nationwide

-- Seelye Plastics, Inc.
9700 Newton Avenue South
Minneapolis, MN 55431
1-800-328-2728

Fiberglass Structural
Angles, Channels, and
Square Tubing: -- Same sources as for PVC
above

Concrete Dam: -- Poured concrete dam
must be sealed as is
concrete subfloor.

4.3.3 JOINT SEALANTS

Silicone RTV: -- GE Silicone Rubber Adhesive & Sealant, RTV 108 Translucent
General Electric Company
Silicone Products Department
Waterford, NY 12188

Any equivalent silicone RTV adhesive and sealant.

4.3.4 FOAM GASKET MATERIAL

Neoprene Closed Cell Foam: -- Gas Expanded Acrylic Based Adhesive One Side, #G207N (SIS). Width and thickness to be based on customer requirements.

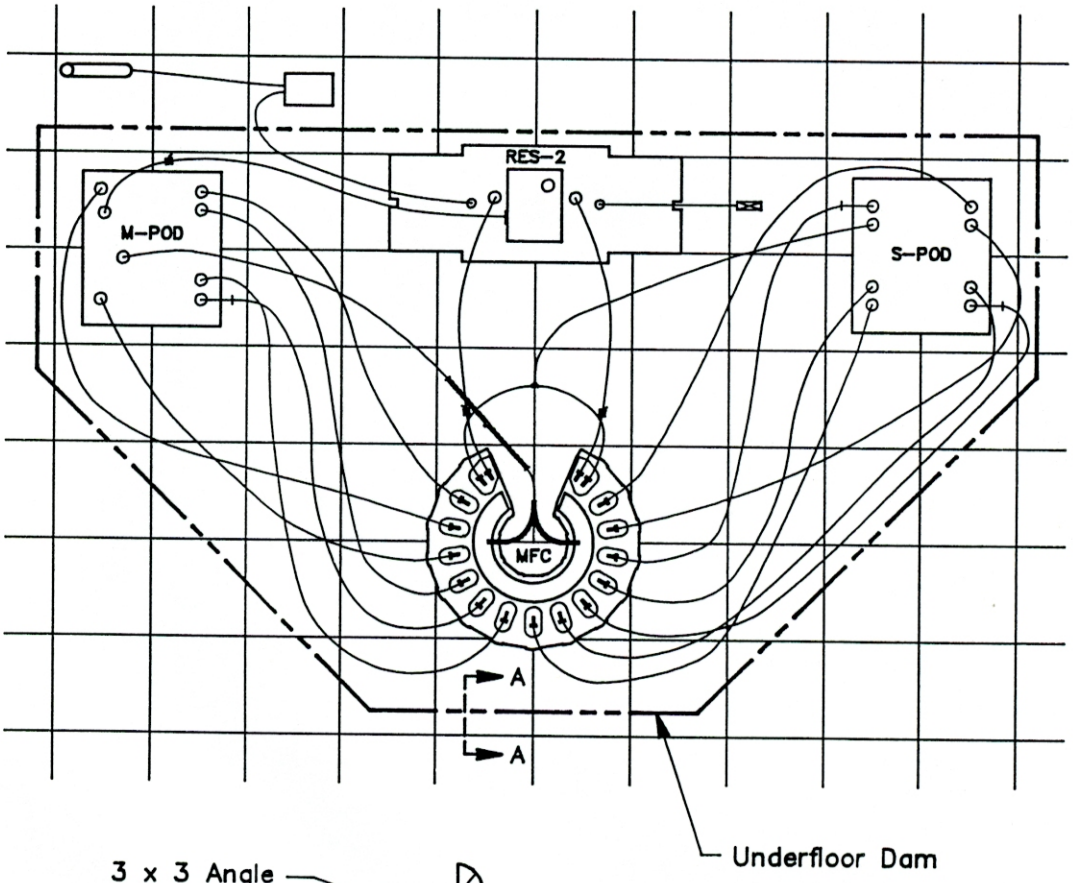
W. S. Nott Company
1720 New Brighten Blvd.
Minneapolis, MN 55413
(612) 781-9561

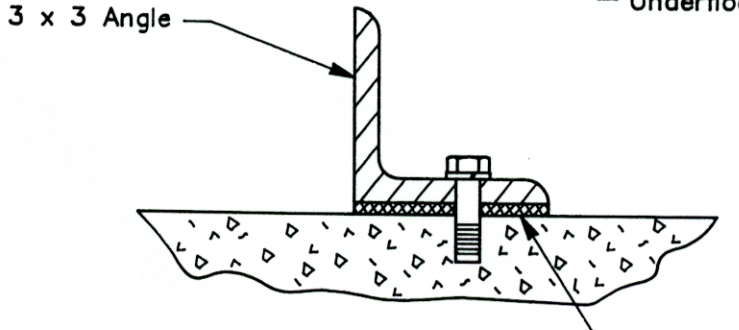
Nitrile Closed Cell Foam: -- Same supplier as Neoprene foam above

Any equivalent closed cell nitrile or neoprene foam gasket material.

5.0 CRI RECOMMENDED UNDERFLOOR DAM

The following diagram illustrates the recommended size, location, and construction of the underfloor dam. The dam is for containment of the dielectric coolant in the remote case of a gross system leak. In the event of a major leak, the coolant would pool to a depth of approximately two (2) inches in this underfloor area. The dam height is to provide a minimum of one (1) inch of freeboard above this depth. Refer to CRI Site Engineering document #10658113 for dielectric coolant handling procedures.





SECTION A–A