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Dear

I would like to record a few points following my visit to the site in the week of 22nd July 1985.

Please find enclosed:-

a) Notes on Power and Control Wiring for Cray System, inspected 22nd and 25th July 1985.

b) Notes on Cray Refrigeration Pipework, inspected 25th July 1985.

You will recall that I raised the question of whether we should have interconnection between the two MG sets. The only possible use for this would be if we could run a degraded system with, for example, the CPU mainframe plus the IO subsystem, but not the SSD, both of these running from one MG. The usefulness of this would depend on how the operating system could be organised to allow for this down grading of it to a disc based system. The theoretical motor generator output required to do it would be about 170KVA - that would be pushing the MG set to the limit of its capacity; in practice the load may be slightly less and this configuration more feasible.

I would be glad if you could consider the software implications here and let me know whether the extra cabling would be worth doing from that point of view. Even without the interconnecting cabling between MG sets, there is the possibility of connecting one MG to both loads by means of the link box. The changeover in this way would take longer and would require some more control cabling to be fitted.

Regarding the fitting of the refrigeration condensing units on the steel frames which have been installed, there are basically two ways in which this could be done.

1. To clamp the RCU directly to the steel frame without any vibration isolation, this assumes there is some vibration isolation material under the base frame. I did not notice whether any such material had been fitted, if not it may be difficult to do it at this point.

2. Place the anti-vibration material supplied with the RCU on top of the base frame between it and the base of the RCU. Clamp the two together using sleeves and washers to prevent direct contact steel to steel between the two frames.

Regarding responsibilities - in case of the pre shipments of MG sets and condensing units, I agree that Cray will accept responsibility for the delivery, unloading and placement of this equipment in its final locations. I am making arrangements for a transport company to provide the necessary heavy gang and equipment for unloading and moving of the equipment. In the case of the RCU's, I do not intend to send anybody from Cray Research to be present for the unloading.

For the MG sets, my colleague will be present on site for the receipt, movement, placement, installation and commissioning of the MG sets.

On the subject of responsibilites in general, which we discussed at our last meeting, I am putting together a summary of the matter with regard to site preparation and installation and I will send it to you shortly.

Thank you for all your help and hospitality on my last visit - I look forward to the next one. If you have any questions or need any more information, do not hesitate to contact me.

Yours sincerely

Engineering Services Manager

NOTES ON POWER AND CONTROL WIRING FOR CRAY SYSTEM - INSPECTED 22ND AND 25TH JULY 1985

1. 400HZ POWER DISTRIBUTION CABLING

Complete from Link Box to 400Hz Distribution Panels in Computer Room, including RFI filters. All connections correct and well fitted.

2. 400HZ POWER CONTROL CABLING

Connections at 400Hz Distribution Panels were incorrect.

Refer to WIRE DIAGRAM XMP/2 (12 column) - (sent with letter of 12 February 1985) and your Drawing No. V84/347-401/3.

Wiring is as follows:

MG Set No.1	to	400Hz Distribution Panel No.1 - 1.5mm² 3C MIMS/PVC
MG Set No.2	to	400Hz Distribution Panel No.2 - 1.5mm² 3C MIMS/PVC
MG Set No.1	to	MFC PDU (Cray supplied) - 1.5mm² 3C MIMS/PVC - 1.5mm² 2C MIMS/PVC
MG Set No.2	to	IOC PDU (Cray supplied) - 1.5mm² 3C MIMS/PVC - 1.5mm² 2C MIMS/PVC

As discussed, the above 2 core cables should be separated from the 400Hz cable runs wherever possible, by as much as is reasonably possible.

Fitting MIMS cables into the Cray PDU's directly could be difficult. What connections are proposed at this end?

3. 60Hz POWER DISTRIBUTION PANEL

The panel fitted is more than adequate for the job. Power cabling to this panel is fitted from the source and via RFI filters satisfactorily.

Correct output circuit breakers fitted.

4. REF DRAWING V84/347-406/2

The RCU-1 and the RCU-3 each require 2 60 amp circuits. (There is an error on the M.U.S. Chart UP4015 which indicates only one circuit for the RCU-1).

Note

There are no isolators fitted on the RCU's as delivered. Therefore you will need to fit isolators close to these units.

There should be a total of 3 Power Distribution Units, one for the mainframe (MFC), one for the IOS and one for the SSD.

NOTES ON CRAY REFRIGERATION PIPEWORK
INSPECTED 25th JULY 1985

(Reference made to Drawing UP 4014A).

1. The layout of the pipework was essentially correct.

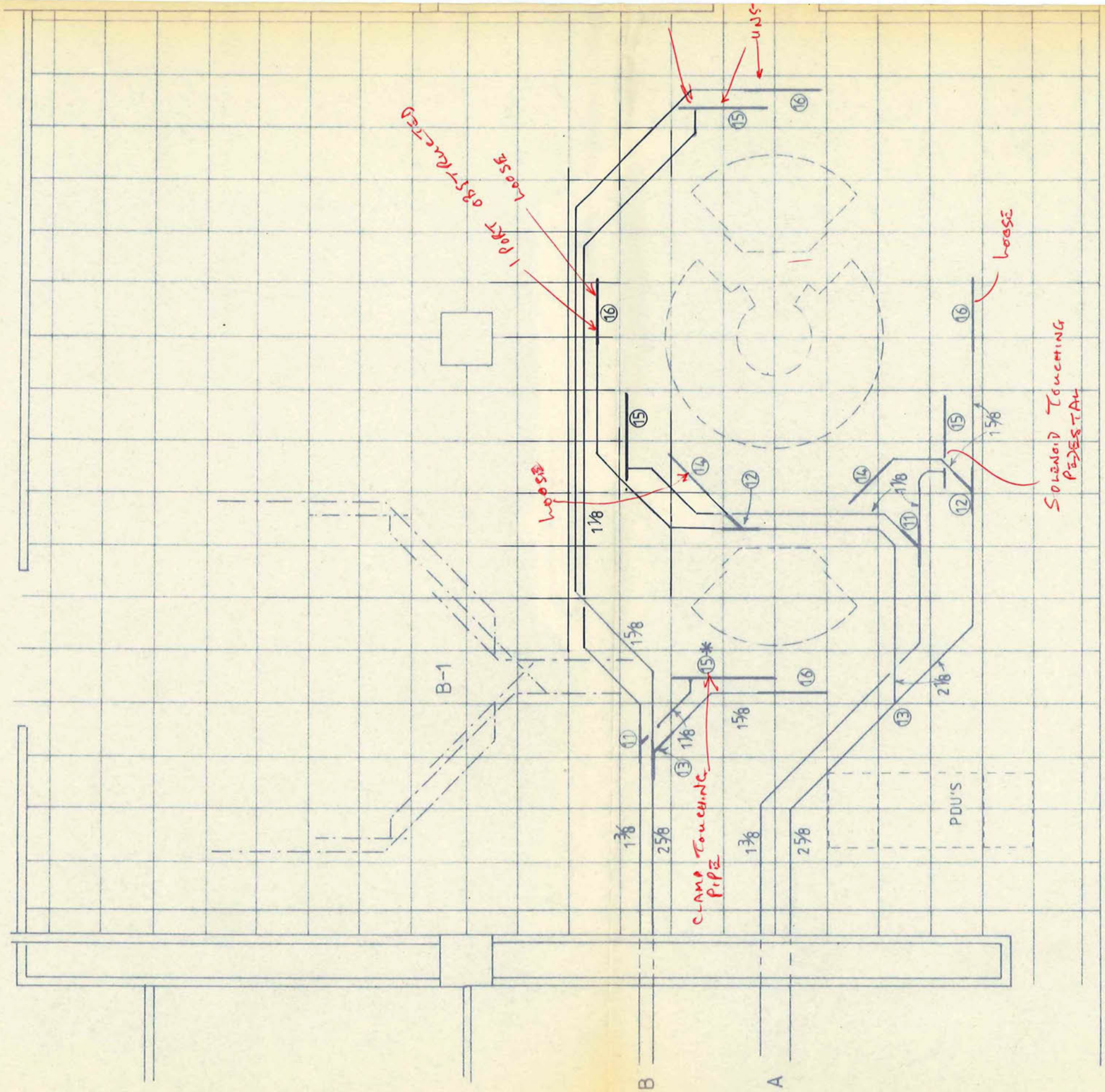
2. The supporting of the pipework particularly at the manifolds should be more firm since the flexible hoses, when attached, will exert some forces on the pipes.

3. All supporting clamps should be fitted with insulating sleeves so that the copper piping is electrically isolated. Parts of the fitting in the clamps holding the filter containers on item '15', were missing.

4. At least one solenoid valve on item '15' (towards bottom of Drawing 4014A) was touching a support.

5. On item 15* a clamp was touching the pipe.

6. Manifold ports should not be obstructed preventing connection of flexible hose. Item '16' near the pillar in the centre of the computer room has one port obstructed.



PIPE FITTINGS SUPPLIED BY CRAY

(See circled numbers on drawing)

Item	Cray P/N	Description
11	02197500	Y FITTINGS - 1 3/8 x 1 1/8 x 1 1/8 ODF Copper
12	02197600	Y FITTING - 2 1/8 x 1 5/8 x 1 5/8 ODF Copper
13	10569700	Y FITTING - 2 5/8 x 2 1/8 x 2 1/8 ODF Copper
14	02206700	MANIFOLD - Suction, 5 port.
15	10540900	MANIFOLD - Liquid with filter & valve
16	10509800	MANIFOLD - Suction, 7 port.

NOTES: All dimensions are in inches.

For other pipe fittings refer to Site Planning Manual HR-0084 Figure 2 - 5 (Items 11-16 above are the same)

All piping must be in Refrigerant Grade Copper Tubings, Type L.

⑮* THIS IS ITEM 15 MODIFIED

NO INSULATION UNDER FILTER CLAMPS

TABLE

REV A	18-2-85	PIPES REROUTED TO CLEAR WATER PIPES & NOTE ON ⑮*			
SCALE 1 : 50		CRAY RESEARCH (UK) LTD	TECHWAY REFRIGERATION PIPE LAYOUT		
DIMENSIONS INCHES			DRAWING No. UP 4014	REV A	7-2-85 GB