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**Hydrostatic Extrusion & Material Synthesis Pilot Plant**  
**NATIONAL PHYSICAL LABORATORY**

Hillside Road, NEW DELHI-110012.

Dr. B. K. Agarwala  
Project Coordinator

Ref. No., AM/MW/1/76

Date, January 7, 1976

Dear Prof. Hall,

Thank you very much for your letter dated December 18, 1975.

The spare heating controller sent by your daughter through UNDP New York was received in the local UNDP office. Unfortunately the packet kept lying at the office and was not delivered while you were here. We received it only after your departure. You will recall that the original SRC unit installed with the current transformer had a small 220 V - 110 V transformer attached to it; whereas the new SRC unit supplied with the control box does not carry any such transformer. We are not sure whether this attachment is necessary with the new SRC unit or it is already adapted to 220 V, 50 c/s, A.C. current, the normal power supply in India. If you please let us have your comments regarding this we may proceed on with its installation on the control console and would inform you of the results. Till date we have been operating the press with the variac fitted while you were here. This may kindly be done at an early date so that we may restore the press to its normal operation.

We have received also the 0-5 volts A.C. voltmeter and fitted it on the control console. It is working well. Regarding the spare ammeter, may I suggest that you please give a call to Mr. Bouchard at UNDP to place a formal order for it with you. I had already talked to him in this regard during my visit to New York in November/December, 1975.

I hope you have already received my last letter dated December 9, 1975 in which I wrote about some difficulties in the press during retraction. We are anxiously waiting for your comments, so that remedial measures may be taken.

I had requested you during your stay here and also written to you later to give us the quotations for a production type belt apparatus. You had agreed to give detailed quotations by about the middle of February, 1976. I hope this has not escaped your attention. In the meantime will it be possible for you to give a sketch of the pyrophyllite cell so that we may calculate the materials requirements and also think about the tooling required to machine the pyrophyllite.

With kind regards,

Yours sincerely,

*Bhagawats*

( B.K. Agarwala )

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January 15 1976

Dr. B.K. Agarwala, Project Coordinator  
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Dear Dr. Agarwala:

I received your letter of January 7th today.

As regards the new solid-state temperature controller, sent via UNDP pouch, it differs slightly from the unit that was shipped with the press originally. The new unit does not need a 220/110 volt step down transformer.

There are three small transformers inside the control that use 110 volt input. In the new unit, two of these are paralleled and in turn connected in series to the third. The 220 volts is then connected across the series connection. Therefore, the voltage drop across these small transformers is the required 110 volts and the step-down transformer is not needed. I think that you can follow this from the circuit diagram that was sent with the new control unit. With the new unit, the black and white wires of the long cable are connected to the 220 volt power line. The black and white wires of the short cable are connected to the heating transformer.

I do not have the final design dimensions for the proposed uniaxial tapered anvil device so can not yet send this information. I hope that you have received my letter of January 5th regarding the guide-pin seals, etc.

*Best Regards  
Tracy Hall*