



NATIONAL PHYSICAL LABORATORY

राष्ट्रीय भौतिक अनुसंधान शाला
Hillside Road, NEW DELHI-110012.
हिलसाइड रोड, नई दिल्ली-११००१२

तार : "नेटफिलेन"
TELEGRAMS : NATPHYLAB
फोन : ५८७१६१ (रेल.), ५८७६७३
PHONES : 587161, (3L.), 587673

संदर्भ
Ref. No. AM/MW/404/75

तिथि
Date...29/9/1975.....

Dr. B.K. Agarwala,
Head, Division of Mechanics

Dear Prof. Tracy Hall,

I am glad to know from the UNDP that you have agreed to visit India in mid-October. They have informed us that you will be leaving New York on October 15 and should, therefore, be arriving here on October 17. Please let us know the date and time of your arrival as well as the flight no. and the name of the airline so that we may arrange for transport. There are two five star hotels in the town, Ashoka and the Oberoi Intercontinental. Both charge around \$ 30 for a single room and \$ 40 for a double room, excluding breakfast and the two meals. I can book you in any one of them according to your choice.

In an earlier letter dated September 20, 1975 I had requested you to provide us with the temperature and pressure calibration curves for the 200-ton press supplied by you and also to agree to assist us carry out the calibration again during your stay here. I do not know what materials and equipment would be needed to do this job. Since many of these things may not be available here it will help us immensely if you could bring the materials. Any excess baggage on this account will be paid for by the UNDP. In the previous letter referred to above I had also requested you to let us have the material specifications and the dimensional drawings of the tungsten carbide blocks used in the press. I hope you are bringing this information with you.

There is another favour that we would like to seek from you. In spite of best efforts we have not been able to obtain the following materials :

- | | | |
|----|---------------------------------------|---------|
| 1. | Hexagonal boron nitride (fins powder) | 500 gm. |
| 2. | Lithium nitride (Li_3N_4) | 500 gm. |
| 3. | Invar sheet - 0.010 inch thick | 500 gm |
| | 0.014 inch thick | 200 gm. |
| 4. | Invar rod 0.242 inch dia | 500 gm. |
| 5. | Invar powder 325 U.S. mesh or below | 500 gm. |

The materials would be necessary for the synthesis of cubic boron nitride^{and diamond}.
I shall be grateful if you could bring the materials with you.

Contd....2/



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- 2 -

तिथि
Date.....

If you could give us the receipts for these materials we would pay you here itself in Indian currency which you could utilise in paying your hotel bills.

Hope to see you on the 17th October,

With kind regards,

Yours sincerely,

Bhajanwala
(B.K. Agarwala)

Prof. H. Tracy Hall,
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University Station,
Provo, Utah 84601
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October 8, 1975

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Dr. B. K. Agarwala
 Head, Division of Mechanics
 National Physical Laboratory
 Hillside Road, New Delhi-110012
 INDIA

Ref: AM/MW/404/75

Dear Dr. Agarwala:

I received your letter of September 29th today. If you have received my letter of October 4th, you will know that my wife and I are scheduled to arrive in Delhi via Pan Am 00Y on October 20th at 3:50 a.m. If you could book us into the Ashoka Hotel, we would appreciate it.

As you know from your phone call to me on the morning of October 5th, we do not have a supply of pyrophyllite cubes, graphite discs, etc. on hand. These are custom items made to special order. In anticipation of your stated need for 10,000 each cubic cell units, however, I have started my mechanic to making the 5/8 inch on edge pyrophyllite cubes. It will take at least four months to complete such a large manufacturing operation. They will cost \$2.00 each for a total of \$20,000.00US. May we please have your official order at your earliest convenience. We will also need the details of your requirements for the materials to go in the central hole.

I will bring with me some bismuth wire and silver chloride to demonstrate pressure calibration and, also, some Pt-Pt10%Rh thermocouple junctions to demonstrate temperature measurements.

With regard to your most recent request that I bring 500gm each of hexagonal FN powder, Li_3N_4 , and various sizes of Invar rod and sheet, we do not have any of these materials in our stock. I have checked the "Alfa" catalog (Ventron Corporation, Alfa Products, Danvers, Massachusetts 01923). They offer FN at \$76.00 per 500gm. I could not find Li_3N_4 in any catalog. However, Alfa lists Li_3N at \$175.00 for 500gm. This company averages about six weeks delivery on ordered materials. Li_3N is considered a dangerous substance and can not be shipped by parcel post. Also, the international pilots association will not fly it.

I have never purchased any Invaro materials so I checked the "Thomas Register" for possible sources of supply. I found only one listed supplier of Invar rod and sheet: Nickel alloys Corporation, Frankton Street & Hook Creek, Valley Stream, New York 11582.

I hope that the above information that I have searched out for you will be helpful.

Sincerely,

H. Tracy Hall
 H. Tracy Hall

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