

दूरभाष: २३०६/ Tele: 2306

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सम्मिश्र जांच दल/ Composite Trials Team  
द्वारा नौसेना कार्यालय/ c/o Navy Office  
मुख्यालय/ Headquarter  
अन्डमान एवं निकोबार कमान/  
Andaman & Nicobar Command  
पोर्ट ब्लेयर ७४४ १०२/ Port Blair 744 102

CTT/300/08/09/TECH

13 सितम्बर २३/ Sep 23

प्रधान सेनापति/ The Commander-in-Chief  
{(कृते कमान तकनीकी अधिकारी (समुद्री)/ for CTO(Marine))}  
मुख्यालय/ Headquarters  
अन्डमान एवं निकोबार कमान/ Andaman and Nicobar Command  
द्वारा नौसेना कार्यालय/ c/o Navy Office  
पोर्ट ब्लेयर ७४४ १०२/ Port Blair 744 102

**RUNNING HOUR EXTENSION TRIALS OF HPAC NO. 1 & 2 – INS SARYU**

1. Refer to HQANC fax ANC/42003/EG/7/3 dated 04 Sep 23.
2. **Background** Performance, capacity, vibration and attenuation checks of HPAC No. 1 & 2 was carried out 05 Sep 23. Details placed at **Enclosure**.
3. **Performance trials.** HPAC No. 1 & 2 were exploited upto one hour each. Operating parameters of HPAC No. 1 & 2 were found within normal operating limits.

4. **Capacity trials.**

| Ser | Equipments | Capacity     | CST Report    | Remarks |
|-----|------------|--------------|---------------|---------|
| (a) | HPAC No 1  | 22.8 cu m/hr | 36.27 cu m/hr | 63 %    |
| (b) | HPAC No 2  | 26.6 cu m/hr | 33.19 cu m/hr | 80 %    |

5. **Vibration trials.** Overall vibration of HPAC No. 1 & 2 were found within limits.
6. **Observation.**

- (a) Minor lub oil leakage from breather line of HPAC No 1 & 2.
- (b) Low lub oil level switch not fitted in HPAC No 2.

P. 1/2

7. Recommendations.

- (a) Liquidation of defects/ observations mentioned at Para 5 ibid.
- (b) Extension of running hours upto 10% be accorded for normal post liquidation of above observations.



(एस सी विलियम/ SC William)  
कमांडर/ Commander  
प्रभारी अधिकारी/ Officer-in-Charge

Encl:- As above

Copy to:-

नौसेना खण्ड सेनापति/ The Naval Component Commander  
{कृते वरिष्ठ कर्मचारी अधिकारी (यांत्रिकी)/ for SSO (Tech)}  
मुख्यालय नौसेना खण्ड/ Headquarters Naval Component  
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कमान अधिकारी/ The Commanding Officer  
आई एन एस सरयु/ INS Saryu  
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### PERFORMANCE TRIAL OF HPAC NO.1 & 2

1. Trial Inspector : P S Rawat , ERA 3
2. Date and Time : 05 Sep 23 (1030 -1400Hrs)
3. Equipment used for Trial : (i) SPM T-30  
(ii) Temperature Gun.

4. Safety device checks.

| Ser   | Description                                 | Unit       | Design Value | HPAC No.1 | HPAC No.2 |
|-------|---|------------|--------------|-----------|-----------|
| (i)   | 1 <sup>st</sup> stage Pressure relief valve | Bar        | 07           | 07        | 07        |
| (ii)  | 2 <sup>nd</sup> stage Pressure relief valve | Bar        | 16           | 16        | 17        |
| (iii) | 3 <sup>rd</sup> stage Pressure relief valve | Bar        | 45           | 44        | 44        |
| (iv)  | Auto cut off                                | Bar        | 40           | 40        | 40        |
| (v)   | Auto cut in                                 | Bar        | 35           | 35        | 35        |
| (vi)  | Manual drain                                | Sat/ Unsat |              | Sat       | Sat       |
| (vii) | Auto drain                                  | Sat/ Unsat |              | Sat       | Sat       |

5. Performance trials:-

HPAC No. 1

| Time | Air Reciver pressure<br>Kg/cm <sup>2</sup> | Inter stage Pressure<br>Kg/cm <sup>2</sup> |          |           | Time Taken<br>Min. | Motor RPM<br>Compr RPM | Room Temp.<br>°C |
|------|--|--|----------|-----------|--------------------|------------------------|------------------|
|      |  | I Stage                                    | II Stage | III Stage |                    |                        |                  |
| 1245 | 0  | 1.5  | 4.5      | 0         | 0                  | 1475/1165              | 38               |
| 1252 | 10   | 1.8  | 5.1      | 10        | 07                 | 1475/1165              | 38               |
| 1302 | 20   | 1.9  | 5.8      | 20        | 10                 | 1475/1165              | 38               |
| 1316 | 30   | 2.0  | 6.0      | 30        | 14                 | 1475/1165              | 38               |
| 1355 | 40   | 2.1  | 6.8      | 40        | 39                 | 1475/1165              | 38               |



## HPAC No. 2

| Time | Air Reciver pressure<br>Kg/cm <sup>2</sup> | Inter stage Pressure<br>Kg/cm <sup>2</sup> |          |           | Time Taken<br>Min. | Motor RPM<br>Compr RPM | Room Temp.<br>°C |
|------|--|--|----------|-----------|--------------------|------------------------|------------------|
|      |  | I Stage                                    | II Stage | III Stage |                    |                        |                  |
| 1156 | 0  | 1.5  | 3.0      | 0         | 0                  | 1474/1166              | 37               |
| 1204 | 10   | 2.0  | 4.8      | 10        | 08                 | 1474/1166              | 37               |
| 1216 | 20   | 2.0  | 5.0      | 20        | 12                 | 1474/1166              | 37               |
| 1230 | 30   | 2.0  | 5.0      | 30        | 14                 | 1474/1166              | 37               |
| 1256 | 40   | 2.0  | 5.3      | 40        | 26                 | 1474/1166              | 37               |

### 6. Vibration trials.

| Ser   | Description | HPAC No.1 |     |      | Remarks<br>(Limit 18 mm/sec) |
|-------|-------------|-----------|-----|------|------------------------------|
|       |             | V         | A   | H    |                              |
| (i)   | MFE         | 4.3       | 5.4 | 6.9  | Sat                          |
| (ii)  | MDE         | 9.2       | 4.8 | 4.7  | Sat                          |
| (iii) | CDE         | 11.8      | 8.8 | 12.5 | Sat                          |
| (iv)  | CFE         | 14.7      | 5.6 | 10.7 | Sat                          |

| Ser   | Description | HPAC NO.2 |     |      | Remarks<br>(Limit 18 mm/sec) |
|-------|-------------|-----------|-----|------|------------------------------|
|       |             | V         | A   | H    |                              |
| (i)   | MFE         | 7.2       | 7.8 | 5.6  | Sat                          |
| (ii)  | MDE         | 10.6      | 7.4 | 6.9  | Sat                          |
| (iii) | CDE         | 11.3      | 7.3 | 12.8 | Sat                          |
| (iv)  | CFE         | 16.2      | 3.8 | 10.8 | Sat                          |

### 7. Attenuation checks.

|   |            |       |   |
|---|------------|-------|---|
| 4 | Compressor | Motor | 3 |
| 1 |            |       | 2 |

| Ser   | Position                      | HPAC NO.1 |      |      |      |
|-------|-------------------------------|-----------|------|------|------|
|       |                               | 1         | 2    | 3    | 4    |
| (i)   | Top                           | 26.0      | 14.5 | 17.0 | 17.5 |
| (ii)  | Bottom                        | 2.2       | 2.0  | 1.5  | 2.8  |
| (iii) | Attenuation (Limit above 70%) | 91        | 79   | 91   | 84   |
| (iv)  | Remarks                       | Sat       |      |      |      |

| Ser   | Position                      | HPAC NO.2 |      |      |      |
|-------|-------------------------------|-----------|------|------|------|
|       |                               | 1         | 2    | 3    | 4    |
| (i)   | Top                           | 28.1      | 17.8 | 13.8 | 11.3 |
| (ii)  | Bottom                        | 0.2       | 0.4  | 0.3  | 0.1  |
| (iii) | Attenuation (Limit above 70%) | 99        | 97   | 97   | 99   |
| (iv)  | Remarks                       | Sat       |      |      |      |