The Secretary
Joint Committee of Public Accounts and Audit
Parliament House
Canberra
ACT 2600

Attention:

Dr John Carter
Sectional Committee Secretary

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29 November, 2000

Dear Dr Carter,

**SUBJECT: INQUIRY INTO COASTWATCH**

I refer to your letter dated 25 October 2000, and to the proof copy of the transcript of evidence taken by the Joint Committee of Public Accounts and Audit (JCPAA) on Tuesday 17 October 2000.

The only change that I can suggest to the proof of the transcript is in a statement attributed to the Chairman, near the bottom of page PA 205 (copy attached). I believe he said "..the Dash 8 did not have automatic cueing from the microwave radar to the FLIR" (not "floor"). He was referring to our statement that "… the radar may not automatically cue the IR camera".

Thank you, but there is no need to send me a copy of the final transcript.

Answers to the four questions that we took on notice are given in the attached Table.

Yours sincerely,

(Jeremy H Ranicar)
Director

**QUESTIONS TAKEN ON NOTICE BY OCEANIC SOLUTIONS PTY LTD AT THE JCPAA PUBLIC HEARING IN MELBOURNE ON 17 OCTOBER 2000**

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| Which countries use Elta's integrated Advanced Coastal Surveillance Radar (ACSR)? | The Israeli Navy is currently using Elta's ACSR that is installed and operational along Israel's coastline. The same ACSR system is also installed and operational in two European NATO countries. These two countries have asked not to be identified for security reasons. |
| What capabilities do Elta radars have for detecting wooden vessels? | An Elta radar will detect a $1m^2$ target from 1000 ft altitude to ranges of about 20 NM. If it is assumed that a wooden vessel exhibits a radar cross-section of about $5m^2$ due to (a) people on deck, (b) some metal superstructure e.g. funnel or engine below wooden deck, then detection ranges of order 20 NM or more may be expected. |
| Using airborne synthetic aperture radar, what is the average cost per square kilometre covered? | The indicative cost per square kilometre of doing surveillance with Elta's airborne EL/M-2022A radar is highly dependent on the type of aircraft, its most economical cruising speed and its fuel consumption at patrol altitude. However, Elta's radar has an instrumented detection range of 200 NM with ISAR utilisation at 75% of target detection range. Assuming a 25,000 - 30,000 feet patrol altitude (giving a 200 NM radar horizon), the area of coverage for ISAR surveillance classification could be as high as 70,000 Square NM. The coverage per hour is proportional to patrol speed, V. So an indication is given by 70000*V $NM^2$ per hour. Multiplying this by aircraft fuel consumption per hour at cruise would give an indication of operating cost per hour. |
| How wide is the path that Elta can survey from, say, 30,000 feet? | At 30,000 ft, the radar horizon is about 150 NM - 200 NM. The antenna rotates 360 deg in azimuth, and so targets are detectable in a circle of radius 150 - 200 NM around the aircraft. Thus, Elta would say that the detection "survey" swath of the company's radar is probably 150 NM to 200 NM all around the aircraft as it tracks on its flight path. Of course, this depends on the vessel size as well - small vessels are not detectable to the horizon at those altitudes while larger vessels (RCS $10,000m^2$ and above) will be detectable. (Note that it is assumed that the JCPAA does not mean "strip SAR" survey as this is only useful for coastal regions). |