COVER SHEET

SUBMISSION ON COASTWATCH

TO

JOINT COMMITTEE OF PUBLIC ACCOUNTS (JCPAA)

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COASTWATCH SUBMISSION

ABSTRACT

CEA Technologies is an Australian advanced technology company with a range of technology, products and capability that would contribute significantly to COASTWATCH's role in the surveillance and interdiction of intruders into Australia's sovereign interests.

The community's expectation of COASTWATCH is that it would maintain a fine-grained surveillance, monitoring and response to intrusions that threaten Australian people, sovereignty and laws. Areas of particular concern such as the drugs trafficking, illegal fishing, marine pollution, unauthorised boat arrivals/illegal immigrants, marine terrorism and threats to National Security are all likely to increase in the future. The COASTWATCH capability would need to be cost-effective in that the technologies, products and services to achieve these functions would also contribute to national wealth. That is, they would be sourced, at least in the first instance, from indigenous suppliers – subject to them being at least of equal capability and cost-effectiveness to overseas suppliers. This growth in indigenous capability will ensure that Australia is ready to face the increased threats are likely to occur in the future.

CEA has a number of existing new technologies and products arising from its continuing commitment to Research & Development that, either alone or in conjunction with other technologies, products, systems and service providers can significantly add capability and value to the prime COASTWATCH functions.

CEA's contention is that Australia should embark on a bold, highly demonstrable, new development that aims to provide the required surveillance and interdiction system for protecting its national interests. In conjunction with other indigenously developed sensor and intelligence capabilities, CEA proposes a wide area network, ***MOSAIC (Multi-Operational Surveillance And Interdiction Capability),*** that would provide a national barrier to illegal intrusion into Australian interests. Undertaking such a national venture, along with providing the required level of protection, would send a clear domestic and international message that Australia was extremely serious in protecting its citizenry and its national interests

CEA Technologies particular contribution would be in the provision of a range of affordable radar surveillance systems incorporating new target classification algorithms, along with data fusion technology to produce a coherent, real-time picture from multiple sensor devices. This is backed by a proven ongoing Research & Development capability to ensure that the system continuously evolves to remains ahead of the potential threat.

The range of capability provided by CEA would include:

- Radar (conventional and advanced active phased array).
- Sensor data fusion (coalescing detections from a wide range of active and passive sensors – radar, sonar, electro-optics, ESM, intelligence).

- Classification systems, techniques and algorithms to differentiate suspected targets from lawful traffic.
- Electronic support measures – long-range electronic detection.
- Communications systems – secure and non-secure radio networks and electronic data links.
- Electronic system Research & Development – development and manufacture of specialist capabilities to meet emerging threats.
- Provision of specialist consulting services.

The application of these CEA developed technologies and products, while adding to the overall prime surveillance capability, will also contribute significantly to ongoing savings in the cost-effective application of the scarce surveillance platforms. The savings will not only be directly in terms of fuel and other associated maintenance costs, but also in terms of operator vigilance (particularly on extended patrol) and through-life platform viability – Economy of Effort and Readiness will be significantly increased.

The specific attributes of the CEA technology and equipment relevant to overt and covert operations in the Australian environment are:

- Equipment can be sited to be extremely unobtrusive.
- It can be fitted to a wide range of land, sea and air platforms.
- Systems can be mobile or in fixed locations.
- Can be solar-powered for use in remote sites.
- Can be unmanned in operation.
- Operate in real-time to give rapid alert.
- Electronically linked to provide wide-area surveillance.
- Allows remote activation, operation and maintenance.
- Relatively low cost electronic data links provide real-time information back to Surveillance and Operations Centres.
- Highly redundant COTS electronics provide high reliability.
- Although sophisticated in capability, require minimal operator and maintainer training.
- Provision of automatic recording, analysis and playback for evidentiary purposes and in-built training.
- Proven in the field and currently in use in a number of countries including Australia, the United States of America and Germany.

CEA Technologies is currently supplying multi-sensor, multi-site surveillance systems to the United States Navy for mobile littoral surveillance operations. The latest phased array radar is also being supplied to the US Government for the protection of vital national assets. These systems, while appropriate for use in the rugged military environment, are based on the use of Commercial-off-the-Shelf (COTS) devices and are thus relatively inexpensive

when compared with purely military equipment. This allows the incremental build-up of an affordable wide geographic area surveillance and interdiction network over a 3-5 year period.

CEA Technologies has also supplied a number of littoral surveillance systems that are being used for traffic management and resource zone protection both in Australia and to overseas authorities. The company is also currently working with multi-national companies to provide wide-area, multi-site, and multi-sensor coastal surveillance networks.

Another example of CEA's R&D activities is the development of a unique low-cost Small Ship Integrated Surveillance System that fuses multiple radars, ESM, Direction-Finding and Classification capabilities. This system has direct application to the Australian environment but is also being marketed internationally to meet the surveillance and law enforcement requirements of regional countries. This system is designed to blend all sensors in a platform that requires little operator management and intervention, but ensures maximum situational awareness. This allows the platform commander to make decisions much earlier and with greater surety when prosecuting suspected intrusions.

The proposed Australian MOSAIC system would consist of a range of linked, conventional, over-the-horizon, surface wave and phased array radars, coupled with Electronic Support Measures equipment, underwater acoustic sensors and intelligence systems, covertly and overtly positioned, in fixed and mobile configurations, providing a flexible and proactive screen to detect surface and air intrusions.

The technology and capability to produce such a system has been growing in a number of separate Australian companies over that last fifteen years and now is at a point where the sum of that corporate capability can be applied to the national need.

An example of where CEA's capability could be blended with others is the underwater technology developed by Sonartech, Sonacom, Telstra's Surface Wave Radar and the ADOD's Intelligence System. The MIUW system deployed around the world by the US Navy has been designed for just such interfaces. It would be a relatively simple exercise to develop an Australian system integrating the products of these companies to form the kernel of the MOSAIC system in a relatively short period of time. The use of systems and technologies already in existence and proven in the field would provide a significant and cost-effective capability, drawing out the required multiplier effect, or synergy – the whole would be far greater than the sum of the individual parts.

CEA Technologies commends to the JCPAA inquiry a recommendation that Government initiates a thorough, funded ***System Definition Study*** undertaken by a joint ***Integrated Project Team*** of relevant industry and Government organisations.