

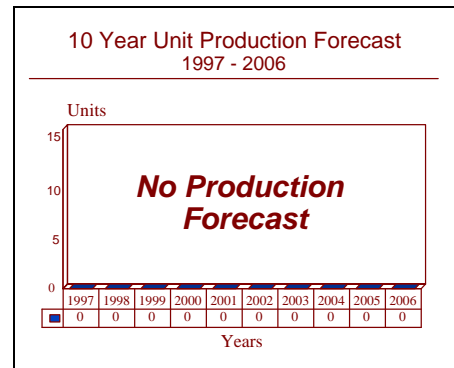
# ARCHIVED REPORT

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## BQR-15 - Archived 7/97

### Outlook

- Production complete
- Spares support to continue through the late 1990s



### Orientation

**Description.** Submarine passive towed array sonar.

#### Sponsor

US Navy  
Naval Sea Systems Command  
Arlington, Virginia (VA)  
USA  
(Program Manager)

#### Contractors

AT&T Advanced Technology Systems  
PO Box 20046  
Greensboro, North Carolina (NC) 27420  
USA  
Tel: +1 910 279 7000  
Fax: +1 910 279 7688  
(Prime Contractor Development and Production)

Lockheed Martin Corp  
Lockheed-Sanders Inc  
PO Box 868  
Nashua, New Hampshire (NH) 03061  
USA  
Tel: +1 603 885 4321  
Fax: +1 603 885 3655  
(Dummy Arrays)

Tracor Aerospace Inc  
6500 Tracor Lane  
Austin, Texas (TX) 78725  
USA  
Tel: +1 512 926 2800  
Fax: +1 512 929 2257  
(Engineering Support)

**Status.** In service.

**Total Produced.** Approximately 51 units have been produced.

**Platform.** SSBN-726 Ohio class ballistic missile submarine.

**Application.** The BQR-15 Towed Array Sonar helps ballistic missile submarines detect other submarines and surface ships before being detected itself.

**Price Range.** Between \$3 million and \$3.5 million (in FY91 US dollars).

## Technical Data

The BQR-15 submarine towed array is part of the sonar suite carried by the US Navy's former SSBN-616 Lafayette class and current SSBN-726 Ohio class ballistic missile submarines. The system detects other submarines and surface ships. Detection of these contacts is vital, since it enables the submarine to continue its deterrent mission undetected. The system utilizes the BQR-23 signal processor to analyze the data it receives.

The BQR-15 is a submarine-borne towed array of passive hydrophone sensors operating in a low-noise

environment, isolated from machinery and other self-generated submarine noise. The system was installed aboard SSBN-616 Lafayette class submarines beginning in 1974.

Procurement funding for the BQR-15 was derived from a portion of Anti-Submarine Warfare Electronics funding lines as the BQR-15 equipment was considered an integral part of the Submarine Acoustic Warfare Systems (SAWS) line item. The SAWS also enables ballistic missile submarines to reduce the effectiveness of enemy sensors.

## Variants/Upgrades

There have been no reported variants or upgrades to this system.

## Program Review

**Background.** The Navy began research and development of the BQR-15 during the early 1970s. As the United States moved a considerable portion of its strategic deterrent underwater, the Navy became concerned with preserving the stealth of the submarines. Towed arrays, which are separated from the noise generated by the towing platform, provided an excellent means of detecting hostile threats. Through FY78, Western Electric received announced awards of over \$106.3 million for the BQR-15. Tracor received approximately \$15.3 million while Sanders Associates was awarded \$194,592 and Chesapeake Instruments received \$252,920. According to a Western Electric spokesman, production for the BQR-15 sonar ended with a total of approximately 51 units produced.

A request for proposal (RFP) was issued to AT&T through its Western Electric subsidiary during FY80, for sonar cable/array assemblies for FY82/83 deliveries. In March 1982, Western Electric was awarded an \$8.9 million contract for services and materials necessary for program management of the BQR-15 system. In August 1982, Western Electric was awarded a \$4.1 million contract for BQR-15 alterations. During FY83, funds were received under the FBM System Sonar line to provide for cables and arrays required to maintain adequate inventories based on repair time and to replace those cables damaged beyond repair.

Funding for BQR-15 engineering change kits is provided under the sonar support equipment line. In FY83, Western Electric began production of a modified array developed under PE#11221N. That same year, it also received a total of \$12.7 million for engineering services, the repair of US and UK BQR-15 components and the refurbishment of three BQR-15 shipsets. AT&T Technologies received a \$5.6 million contract on March 29, 1984, for BQR-15 sonar receiving set parts for US submarine hulls, including three array modular sets, one connector set and one installation material set.

On September 14, 1984, the company received a \$5.0 million contract increment for BQR-15 receiver group items. Through FY88, AT&T received over \$300 million in contract awards for BQR-15 production. The SAWS procurement line is funding procurement of BLR-14/BQR-15 Interface Engineering Change and General Noise and Towed Systems. The Navy ended sonar developments in PE#11221N in FY86. On March 9, 1987, AT&T received a \$9.57 million contract for BQR-15 program management services. On August 31, 1989, AT&T received a contract for \$5.03 million for BQR-15 repairs and engineering services.

AT&T continues to provide the Navy with BQR-15 services arranged through the FY89 contract. These activities relate to SSBN vulnerability and BQR-15 effectiveness.

## Funding

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Funding for procurement and spares is not broken out in current funding documents.

## Recent Contracts

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No recent contracts have been identified.

## Timetable

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|-----|-------|---|
|     | 1970s | Research and development began                |
| May | 1972  | Research and design contract awarded for SPAD |
| Mar | 1974  | SPAD contract canceled                        |
| May | 1974  | First production units delivered              |
|     | FY91  | Last SSBN ordered                             |
|     | FY93  | Production transitioned to spares support     |

## Worldwide Distribution

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The BQR-15 is used only by the **US Navy**; however, the UK Royal Navy uses the Type 2023 which is adaptation of the BQR-15.

## Forecast Rationale

While still a highly functional system, the glory days for the BQR-15 are unfortunately coming to an end. Many improvements and modifications have taken place in the field of signal processing since the BQR-15 first entered service in 1974. Additionally, strong advances in sonar capabilities and submarine quieting are making the BQR-15 rather limited in its operational use. The US Navy ended its SSBN Unique Sonar Upgrade program in FY86, although work continues to be carried out under contracts issued in FY89.

Thanks in part to budget cuts and force restructuring, the Navy announced plans to accelerate the decommissioning of older ships and submarines in order to reduce the active fleet. This smaller fleet will likely include 18 Ohio class SSBN-726 strategic missile submarines. At the same time, the Navy is replacing the BQR-15s aboard the SSBN-726 with the TB-12X Thin Line Towed Array. The retirement of the SSBN-616 class limited demand for spares to the Ohio class submarines until they themselves are converted to the new TB-12X. The Lockheed Martin Corp (formerly Martin Marietta Aero & Naval Systems), the manufacturer of the TB-12X, was under contract to develop and provide 46 towed arrays and signal receivers by the end of 1995.

## Ten-Year Outlook

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Production has been completed and transitioned to spares support through the late 1990s.

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