

## First JSOW power converter delivered



Joy Dwyer

Joe Perillo, executive vice president and general manager of Century Electronics (middle right), delivers the first JSOW power converter to JSOW Power Team lead Kathy Taylor (middle left) while other team members look on. Members pictured are: Alan Perkowski (left), Jan Hicks, Jim Polozek, Darrell Stokes (fifth from left), Emmett Rothe, Fritz Besch, Rudy Trevino and Keith Olson.

A major milestone has been reached in the Joint Standoff Weapon (JSOW) program.

The first JSOW power converter was delivered to the JSOW Power Team May 21. It is the first functional subcontracted

assembly to be delivered.

"The delivery of this unit is a real tribute to the Century Electronics/TI concurrent engineering team," says Mike White. Mike is a member of the JSOW Power Team.

The JSOW Power Team includes TIers, government representatives and supplier personnel. They have responsibility for all of JSOW's power subsystems.

Like Mike, teammate Darrell Stokes is impressed by the quick delivery: "It's amazing that they could complete the design and deliver a functional power converter in this time. It seemed that in the beginning while we were trying to define our requirements, the specification was changing constantly. At times, I think we notified them of a new requirement every day."

Century Electronics is a small disadvantaged business specializing in custom, semi-custom and standard high-reliability power supplies, converters and transformers.

Century was awarded a letter contract on January 5 for initial funding of concurrent engineering efforts. Concurrent engi-

neering efforts during January and February by the combined TI and Century team resulted in an updated Requirements Specification and Statement of Work for use by Century to update pricing.

Negotiations were concluded March 26 with the award of a subcontract for the design, test, qualification and manufacture of 31 mechanical models and 75 fully functional units.

Delivery of the first two mechanical models took place May 7. They marked the successful completion of the first major milestone in the power converter development program.

The success of this effort is a direct result of close communication and active involvement by Century Electronics in the concurrent engineering efforts of the JSOW Power team.

"The relationship with Century Electronics is a real win-win situation," says JSOW Power Team lead Kathy Taylor. "It is not often that you can find a small business like Century and develop a close relationship in this short a period of time."



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## **JSOW SUPPLIER TEAM**

The **JSOW** baseline program has completed the selection of the supplier base required to support the Engineering and Manufacturing Development (E&MD) contract. The implementation of a concurrent engineering/teaming philosophy has allowed supplier and customer involvement early in the design process. The program has avoided some of the typical development problems through the increased communications effectiveness. This team of suppliers has provided the lowest risk approach and should mitigate much of the long term technical risk for the program. The supplier team also plays a key role in the **JSOW** program's ability to deliver an affordable weapon system. Clearly, the success and commitment of our suppliers has been instrumental in TI's ability to meet our commitments to the Navy. A few examples of **JSOW** suppliers' commitment to excellence are detailed below.

## **PAYLOAD TEAM**

TI realized early in the program that the **JSOW** payload development was critical to our success. TI selected the payload suppliers and formed a working group prior to the contract officially being awarded. The payload suppliers, **Aerojet** - (Sacramento, Calif.) **ET** - (Fairfield, Calif.) - **KDI** - (Cincinnati, Ohio) and **Rocket Research** - (Seattle, Washington), began working design concepts in February 1992, four months prior to the formal award of the **JSOW** baseline contract. This team of suppliers and TIers utilized concurrent engineering to identify and solve problems early in the developmental process. The early start and teamwork has paid off by eliminating many of the risks associated with the payload development. The payload team has met the challenge and delivered payload sections on time.

## **LUCAS AEROSPACE**

The **JSOW** supplier for the control section is **Lucas Aerospace** (Cleveland, Ohio). Designing the **JSOW** control section has provided **TI** and **Lucas** with an excellent opportunity to utilize Stereo Lithography (SLA) to produce initial castings for the control section. Although the SLA technology was new to Lucas and the complexity of the castings stretched the SLA process capabilities, Lucas successfully supported the initial delivery requirements with mechanical model control sections.

## **CENTURY ELECTRONICS**

**Century Electronics** (Culver City, Calif.), a small disadvantaged business, was selected by the **JSOW** program to supply power converters. **Century** designed, manufactured and delivered the first functional unit in four months. **Century** completed Design Verification Testing and will support the balance of the **JSOW/E&MD** baseline production.

## **EAGLE PICHER**

The actuator, system, and flight termination batteries on the **JSOW** baseline program are being provided by **Eagle Picher** (Joplin, Mo.). The actuator battery design was completed in record time, while the design activity for the system and flight termination battery is well underway. **Eagle Picher** has achieved major accomplishments in a short period of time and has done an outstanding job in supporting the **JSOW** program.

## **HR TEXTRON**

**HR Textron** (Valencia, Calif.) supplies the wing deployment device for the **JSOW** baseline program. A concurrent engineering team was formed to ensure a design approach that would meet both technical requirements and cost goals. HR Textron has delivered the required mechanical models for the STV requirements on schedule. They are currently working toward the delivery of the instrumental functional models to be delivered in December 1993.

## **DADEN ASSOCIATES**

**Daden Associates** (San Clemente, Calif.) was awarded the contract to supply the pre-amplifier/filter module (PAM) for the **JSOW** program. **Daden** completed a brass board of the PAM in May and is scheduled to deliver the first functional module in September. The integration of the PAM module, which is the only GPS receiver component that was not previously qualified, is progressing as planned.

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