

Atlantic Division

ROICC LAJES FIELD, AZORES

ROICC Report

NOVEMBER 2002

Project Summary:

Contract Number: **N62470-00-D-0005**

Task Order Number: **0017**

Title and description: **Emergency Construction**

Capability Contract (CONCAP) Worldwide -

Emergency Repair to Breakwater, Lajes Field, Azores

(A/F Project # TRZR 02-1019)

The scope of work includes emergency repairs to the breakwater that protects the POL pier facility at Lajes Field, Azores. Provide the maximum protection for repair of the breakwater within the funds available, completing as much work possible, before 30 Nov 02, which is considered the start of the major winter storms. Weather permitting, work might continue later than 30 Nov 02.

Award date: 09/30/2002.

% Complete: Base Bid Planned – 35%; Actual – 35%

The project was awarded with the Base Bid Item. The award of Option Items No 1 and 2 are pending upon further coordination.

Award amount (Base Bid): \$6,909,889.00

Current price (including change orders and options): \$6,909,889.00

Projected total cost at completion (including all pending and potential modifications): \$6,909,889.00

Original Contract Completion Date (CCD): 11/30/2002

Current CCD: 12/15/2002

Beneficial Occupancy Date (BOD): N/A.

This is the projected date of completion for the Interim repairs.

Change Order Rate (all) (\$ value of all change orders / award price; expressed as %): 0.00%

COTAR: Mr. James Baldwin

Navy Technical Representative: ENS Erwin A. Rico, CEC, USNR

A/E of record: TranSystems Corporation.

CONCAP Contractor: Kellogg Brown & Root Services.

Design Assessment: (An assessment of design quality, on a scale of 1 (low) to 10 (high)) - 8

Contractor Performance: (An assessment of construction quality, on a scale of 1 (low) to 10 (high)) - 9

Contractor Performance: (An assessment of construction timeliness, on a scale of 1 (low) to 10 (high)) - 9

Remarks:

A synopsis of significant project events and milestones follows:

Construction Photos



Overview of the Breakwater and Military Pier.

Underwater View of the Antifer cubes at the toe area.

Please note a Tetrapod still intact in front of the Antifer cubes.



REMARKS:

JUNE 2002:

- On June 11, 2002 Mr. Jim Levick from LANTDIV wrote an e-mail to the 65th CES in order to inform the status of the design and the acquisition strategy recommended. He informed Maj. Mottley that the design alternatives were due the next day, and that the best way to accomplish the repairs was to use the CONCAP contract, due to the time constraints.
- On the same day Maj. Mottley wrote an e-mail back to Mr. Levick agreeing on the posture of using the CONCAP vehicle to accomplish the repairs; he also emphasized that the repairs should be initiated not later than July 02, 2002.
- On June 17, 2002 TranSystem Corporation sent to LANTDIV six (6) different alternatives for the repairs. These alternatives with their associated costs were generated in a period of less than 5 days.
- On June 18, 2002 LANTDIV sent the alternatives to the CONCAP contractor, Brown and Root Services, in order to coordinate the best plan of action.
- On June 18, 2002 Mr. Levick sent an e-mail informing that according to conversations with ACC they were ready to issue \$ 2 million within that week. All additional funding required could only be issued after funding all other non-funded requirements. The funds were not issued as per previous conversations.
- On June 24, 2002 Mr. Levick informed ALCON, via e-mail, of the plan of action to accomplish the wave study. He explained that this study would be accomplished in cooperation from Oceanor (in Norway) and Dr. Basco (ODU Wave Consultant) during the week of 7-12 Jul 02 in Cardiff Wales at the ICCE engineering conference. Dr. Basco would be attending this conference on behalf of ODU; the project would benefit from Dr. Basco's opportunity of having face time with the Norwegian consultant. Dr. Basco using also the Dutch firm Elsevier would provide the data from GEOSAT satellite on historically measured waves at Terceira.

JULY 2002:

- Due to the fact that funding was still not available from the Mayor Claimants (ACC and DLA) for the repairs, the 65th CES transferred approximately \$ 50K to LANTDIV which served as "seed money" in order to issue a Task Order (# 0017) over the CONCAP contract with Brown and Root Services; these funds served to pay for the contractor site visit in order to assess the damage to the breakwater, and to find out different alternatives which could be accomplished in the already reduced time left to do the necessary work before the Winter storms.
- Brown and Root Services was issued Task Order 0017 on July 26, 2002 by LANTDIV to provide engineering services, including site visit, planning and estimating efforts for affecting an emergency repair to the breakwater.

AUGUST 2002:

- Brown and Root Services conducted a site visit to Terceira Island between 2 and 10 Aug 02 and developed, in coordination with LANTDIV, ROICC and the Designer of Record (TranSystems), a plan

of action to execute the emergency repair during the fall of 2002, contingent upon receipt of necessary funding at the beginning of September. The breakwater site was inspected for extent of damage, and other information that could impact construction was collected. This information included historical weather data, site access, and work space availability, stockpiling areas, methods of construction, dockside unloading capability, mooring of work barges / tug boats / other floating equipment, and construction site office location.

- During their visit Brown and Root Services inspected other breakwater sites at Municipal Ports at Praia da Vitoria and Angra do Heroismo to determine the extent of damage and methods of repair used. Potential quarries, concrete plants and storage facilities were visited in order to review their capabilities and production capacities along with methods of product transportation. The team also investigated the different types of armor stones used on the island including determining available rock sizes, concrete forms, and local experience with the different stones.
- The team met with the contractors on the island to determine their experience, capabilities including access to materials and equipment, availability to perform the work within the time constraints, and to solicit their input on construction methods and materials.

SEPTEMBER 2002:

- Funding was not received as planned and it was determined in mid-Sep that the project could not be constructed as originally designed by the target date of 30 November 2002.
- During their second visit, the representatives from Brown and Root met once again with the different construction Contractor companies capable of carrying out this type of work, and requested different quotes to these companies. Among all the companies, the Joint Venture Seth LDA/Ediçor was chosen as the one presenting the best value for the work. The prices presented by this Joint Venture were substantially below the rest of the offers presented by the other companies.
- On September 27, 2002 \$ 5,742K were transferred to LANTDIV from ACC in order to award the Breakwater repair to the CONCAP contractor, Brown & Root Services. On the same day the funds were obligated.
- On the following day an additional \$ 1,168K were received from DLA for this project. These funds were also obligated on the same day.
- Brown and Root Services (BRS) was issued Task Order 0017 Modifications 1 and 2 on 30 Sep 2002 by Atlantic Division, Naval Facilities Engineering Command (LANTDIV) to execute Emergency Repairs to Breakwater, Phase I, Lajes Field, Azores.
- Planning for the execution of repairs to the Lajes Field breakwater was continually challenged by the delay in funding; the project cannot be constructed as originally designed by the target date of 30 November 2002. However, in coordination with LANTDIV, the 65th CES, ROICC, the Designer of Record and Brown and Root Services, a plan has been developed to attempt emergency repairs this fall that offers an increased level of protection through the winter. The interim repair includes fortifying and reshaping the breakwater profile to a 2.5 to 1 slope using quarried stone, followed by installation of 20 TN Antifer Armor Cubes. Completion of the interim repair this fall is not guaranteed and will be entirely dependent on the weather. The plan of action will be adapted to the existing conditions in order to obtain the maximum protection to the pier facilities, in the shortest time and at the lowest cost to the Government; all this will be performed with the coordination of the same organizations mentioned above.
- Subsequent to the interim repairs, the final repairs would be constructed the following spring and would be consistent with the original design. Weather permitting; work would start with removing the interim

armor, excavating the toe and reshaping the profile to the final design slope, and installing permanent 30 TN Core-Loc Armor per the contract drawings.

OCTOBER 2002:

- Mobilization to the site and the actual work began on Monday 07 October 2002.
- On the same day, and through the coordination of Mr. Xavier (MTMC office), the contractor was authorized to backfill two holes that were made by the Praia City Hall on the hauling route.
- Thanks to the fast response and coordination among the USFORAZ J4 office, Mr. Xavier at the MTMC office and the ROICC office, the contractor was able to obtain the necessary authorizations and passes from HAAZ (Headquarters Azores Air Zone) for the workers and equipment inside the port facility; all this process took less than one day (normally takes more than one week).
- Hauling of quarry material for the road began on the following day. The construction of the access road was in full operation by the end of the first week. The road is being built using TOF quarry material, which is a combination of different gradations of rocks.
- The casting of the Antifer cubes started on the 14th of October. The production started with only 10 Antifer cubes per day, but soon after was increased to 16 per day.
- The crane was brought to the site on the 20th of October; it took 7 days to assemble it and additional 4 days to get it certified. Mr. James Homan from the ROICC office pointed out a few safety mechanisms in the crane that needed to be fixed, and were addressed immediately after.
- On October 24 the first D-Stones were brought to the site, in order to provide a support material for the construction of the road on the waterfront area (D-stones are the selected larger stones used on the base for the Antifer cubes and later for the Core-loc units). These rocks were placed using an Excavator.
- By the end of the month, the road had almost been completed. Also a total of 210 Antifer cubes had already been cast.
- The amount of materials from the quarry required at the site will exceed those quantities projected by an approximate of 20% (both TOF quarry run and D-Stones). Different alternatives are currently being considered in order to address this issue.

NOVEMBER 2002:

- The casting of the Antifer cubes was completed; a total of 415 Antifer cubes were cast.
- The placement of the Antifer cubes is still in progress.
- The construction of the access road has been completed.
- An alternate lifting device (pincers) is being employed to reduce the risk of failure of the lifting irons.
- The excavation of the toe was completed. Thanks to excellent weather, the contractor was able to use divers to assist on both the excavation and removal of material at the toe area and also the placement of Antifer Cubes.
- The placement of Antifer Cubes in all the underwater area has been completed.
- The amount of materials from the quarry required at the site will exceed those quantities projected by a quantity over 30% (both TOF quarry run and D-Stones).
- During the Final repairs on spring, the excavation of additional material at the toe area is expected to be sufficient for the additional material required on the final profile.

- In order to address the alternatives to reduce cost for the project and review the work progress, the ROICC office scheduled and held a conference call with Mr. Matt Gallagher and Mr. Carl Johnson (KBR), Mrs. Susan Bond (Seth LDA), ENS Erwin Rico (ROICC) at the ROICC office, and Mr. Scott Hayward (KBR), and Mr. Jan Eversen (TranSystem) over the telephone.
- Due to limited funding for the project, the options agreed by all parts as the best solution to reduce the cost are: Reduce one row of Antifer Cubes on the road, reduce the amount of D-stone to be used to protect the end of the road, and limit the production of Antifer Cubes to 415 units. The proposal of reducing one row of Antifer cubes at the toe was rejected; this would reduce the strength of the Breakwater.
- The toe excavation encountered fewer weather and wave impacts than were expected; this reduced the cost of this activity, leaving more funds for contingency of the Final repairs on spring.
- Mr. Jan Eversen will come to the Azores to present the results of the Wave Analysis; during his visit, he will also go to the Breakwater project to evaluate the progress and assist the contractor, and provide additional guidance.

Site Plan for the project
(Not on scale).

