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Department of Energy

Nevada Operations Office

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FEB 05 1988

Kittie Baier
Principal Deputy Assistant Secretary
Territorial and International Affairs
U.S. Department of the Interior
Washington, DC 20240

AMENDMENT NUMBER ONE TO MEMORANDUM OF AGREEMENT (MOA)

In response to your letter dated January 7, 1988, we enclose a signed copy of Amendment Number One to our Memorandum of Agreement (MOA) for the Establishment of a Base Camp on Bikini Atoll.

We appreciate your revision of the Scope of Work relative to our hiring an independent scientific consultant to review our work. This satisfactorily addresses our concerns and, I believe you might agree, provides DOI with strengthened oversight and accountability for the expenditure of these funds.

We will work closely with Mr. Morgan of your staff as the work proceeds.

Nick C. Aquilina
Nick C. Aquilina
Manager

Enclosure:
As stated

cc w/encl:
J. H. Dryden, Dir., PASO, NV
H. U. Brown, A/OCC, NV ←

Bikini 88

HARRY BROWN'S Files, NV

The available funding (\$2,300,000) shall be expended for the following tasks:

1. Detailed design - Eneu Base Facilities - \$933,800
2. Bikini dock design - \$150,000
3. Scientific Consultant - \$150,000
4. Agricultural maintenance & Fertilization - \$860,000
5. Special studies - \$206,200

Any revision in this distribution of funds shall be approved in advance by Interior.

c. Billings will include and payment shall be provided for allowable costs incurred prior to signature of this agreement, subject to the provisions of this Article.

d. Energy will bill Interior monthly utilizing the On-Line Payment and Collection System (OPAC). Energy will furnish periodic financial or program progress reports in such reasonable detail as may be required by Interior.

ARTICLE 3 - SCOPE OF WORK

The required scope of work is identified in a statement of work attached hereto and is incorporated herein. That statement of work includes all activities requested prior to signature of this agreement. Revised statements of work shall be provided as required during the performance period.

ARTICLE 4 - DELIVERABLES

In addition to the plans, drawings, reports or other documents required in the attached scope of work, progress reports shall be provided to Interior's operational representative at 50 percent and 75 percent of completion of projects identified in the scope of work.

ARTICLE 5 - PROGRAM MANAGEMENT

Holmes & Narver, Inc., Pacific Operations, a cost type integrated and "captive" Energy contractor, will act under the direction of Energy for purposes of this agreement. H&N/PO, under Contract Number DE-AC088-86NVI0471 with Energy, performs work of actual cost only plus an award fee. Interior will be billed only for actual cost of work performed, including appropriate H&N overhead costs.

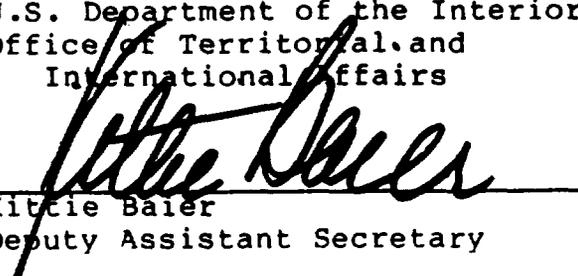
Larry Morgan, an Interior employee, will act under the direction of the Deputy Assistant Secretary for Territorial and International Affairs on behalf of Interior and shall serve as contract representative within the scope of this agreement.

The Director, PASO, will act for Energy in policy and major procedural matters arising out of this agreement, and will direct the contractor to assure timely and economical completion of work.

Meetings between Energy and Interior shall be held on a regular basis not less than semi-annually to review the program scope, mechanics, and the MOA in general for changes as necessary.

APPROVED

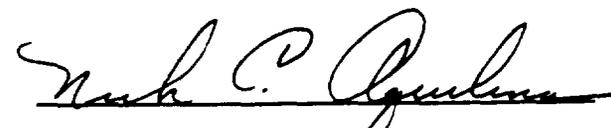
U.S. Department of the Interior
Office of Territorial and
International Affairs


Kittie Baier
Deputy Assistant Secretary

1-7-88

APPROVED

U.S. Department of Energy
Nevada Operations Office


Contracting Officer

SCOPE OF WORK

BIKINI ATOLL RESETTLEMENT PROJECT

The following defines the scope of work for the next phase of effort on the Bikini Resettlement Project, addressing specifically A) detailed engineering design for Eneu Base Facilities, B) design of a dock for Bikini Island, C) special studies to support the environmental impact statement, D) an agriculture maintenance and fertilizer project of Eneu Island, and E) an independent scientific consultant selected by the Bikini Council to review the findings and recommendations of the Department of Energy, Lawrence Livermore National Laboratory, the Bikini Atoll Rehabilitation Committee and the Department of the Interior.

A. Detailed Design Phase for Eneu Base Facilities

1. Hold conferences with the Bikini Planning Council, the Department of the Interior Contract Representative, and other interested parties or agencies as required to review comments from the Conceptual Design Phase submittal.
2. Coordinate with and secure comments from the Department of the Interior, Department of Energy, and the Republic of the Marshall Islands Government.
3. Plan and procure any necessary costal engineering studies, soil investigations, special photogrammetry, current, or other special studies.
4. Plan and procure the necessary field surveys for design.
5. Coordinate all laboratory and field tests to determine proper design.
6. Plan and make the necessary reconnaissance surveys and other field investigations.
7. Prepare complete (100%) detailed construction drawings, specifications and construction documents using standard Holmes & Narver, Inc. forms and format. The plans shall include, as appropriate; cover sheet, vicinity map, index of sheets, civil, structural, architectural, electrical and mechanical sheets.

The base facilities to be constructed at Eneu Island consist of:

- a. A paved perimeter road system to provide access to the base facilities and both the lagoon and ocean sides of Eneu Island.

- b. A medium draft dock to accommodate field trip ships, and inter-island cargo and tanker ships, which includes fuel oil and potable water transfer lines.
- c. A concrete LCU ramp for loading and off-loading construction equipment.
- d. A protected shallow draft harbor for small boats which includes a concrete boat launching ramp.
- e. Rehabilitation of the existing aircraft parking apron, extension and paving of the runway to a total length of 5,200 feet, installation of concrete blast pads and clearing of a runway safety area.
- f. A rainwater catchment system which includes paving over a 1,000,000 square foot catchment area, installing an underground collection system, a water treatment facility, pumping station(s) to transfer the rainwater and potable water, aboveground storage tanks, and a pressurized, looped potable water distribution system.
- g. A groundwater recharge and pumping system.
- h. A saltwater distribution system to provide water for flushing of toilets and urinals which include a saltwater intake structure, wet well, pump house, and a looped distribution system.
- i. A sanitary sewage collection system which includes septic tanks to settle out solids and a liquid waste discharge system which includes gravity sewers lift stations and an ocean outfall.
- j. A sanitary landfill and burn area.
- k. Revetments to protect the shoreline bordering the archaeological preserve, the southwestern tip of the island, the runway extension, the landfill and the dock with the armor rock quarried from the windward reef flat.
- l. The following buildings:
 - (1) Base housing to accommodate 16 person dormitories and 2 to 4 person bungalows.
 - (2) A dining hall with full service and cooking facilities.

- (3) The recreation building includes a TV room, pool tables, card tables, ping pong, storage area, rest room and lounge.
- (4) Warehousing - 5,600 SF.
- (5) Maintenance Shop - 3,700 SF.
- (6) Construction Offices (2) 1,300 SF.
- (7) Power and Desalinization Plant: 3,800 SF.
- (8) Scientific Facility - 3,300 SF.

Materials selected will be especially suited for the corrosive environment. Concrete block using native materials and cast on-island will be used where possible. Aluminum will be used for trusses and window frames; prepainted for roofs. All wood will be wolmanized for protection from termites and dry rot.

- m. Outdoor recreation will consist of tennis, basketball, and volley ball courts, and scuba diving facilities.
- n. Rehabilitation of Existing Structures:
 - (1) Timing Bunker: Repair and rehabilitate all concrete surfaces, provide new interior partitions and facilities so bunker can be used as a storm shelter.
 - (2) HE Storage Bunker: Repair interior surfaces, add new door to the front so bunker can be used as a storage facility.
 - (3) Power House Building: Repair and rehabilitate all concrete surfaces to prepare the building for expansion into the Port Control Facility.
 - (4) Temporary Camp Building: Rehabilitate for use as a construction camp to house and service 45 to 50 people, which includes a kitchen, dining, restrooms, shower, laundry, sleeping quarters, commissary and dayroom facilities.
- o. Demolition of the following existing structures:
 - (1) Communications Building

- (2) Assembly Building
 - (3) Camp Building
 - (4) Checkout Building
 - (5) Concrete Bunker - Nan 9.
 - (6) Barge slip
- p. A desalinization plant as an emergency backup potable water system.
- q. Fuel facilities including storage tanks for diesel, Jet-A, AVGAS, JP-4, JP-5, and automotive gasoline.
- r. Aircraft and automotive dispensing stations including distribution lines from the storage facilities to these dispensing stations.
- s. Marine fueling stations for gasoline and diesel for the small boat harbor at Eneu.
- t. The following electrical facilities:
- (1) An electrical power plant for the island will consist of two 600 KW diesel-generators with space and connections for a third 600 KW generator.
 - (2) A 15KV distribution system will be overhead located on the leeward side of the island.
 - (3) The 15KV overhead distribution will be double circuited from the generation station to the north end of the island which will have one circuit dedicated to a future line to Bikini Island.
 - (4) Distribution points will be made at the new base housing with three 75 KVA transformers, 112.5 KVA at the temporary camp, the new service area 75 KVA and 75 KVA at the new support area.
8. Prepare and submit a detailed Engineer's estimate of cost for the Project.
9. Submit 50 sets of the complete (100%) construction drawings, specifications, and other Contract Documents for the Project to the Department of the Interior for review and comments.

10. Hold conference with the Bikini Planning Council, the Department of the Interior Contract Representatives, and other interested parties or agencies as required to review comments from the preceding submission. Corrections and minor changes in the completed Contract Documents, which are required by the Bikini Planning Council or the Department of the Interior shall be made by the Engineer prior to issuance for construction.

B. Design of a Dock on Bikini Island

1. Design of the main dock at Bikini Island will be performed in two phases: Phase I - Conceptual design, and Phase II - Final Detailed Design.
2. Phase I - Conceptual Design. This phase will develop the basic concepts to be used for the dock. Several unusual environmental and marine parameters exist at the chosen dock site. Thus, the recommendations from special oceanographic and marine consultants will be used to develop potential alternate dock configurations. One of these alternates will be selected for the final detailed design.
3. Phase II - Final Detailed Design. The chosen dock configuration will be carried through to final detailed drawings. In general, the dock will consist of a flow-through type pier extending outward from the lagoon shoreline. The dock will be capable of mooring field-trip ships to be used during the rehabilitation phase of the Bikini Atoll resettlement. An LCU ramp will be located adjacent to the dock at the shoreline, and its primary purpose will be to provide island access to small boats and small cargo-carrying LCU's.
4. Electrical

The electrical facilities will consist of the lighting of the dock and a fuel pump for transferring fuel from the ships and for refueling boats when docked at Bikini Island. The lighting and pump will be powered by a diesel-generator which will have provisions for future base power when it is available on the island.

5. Mechanical

Piping will be provided during initial construction for fuel transfer to shore and marine refueling at the dock.

C. Special studies to Support the Environmental Impact Statement

1. Complete Environmental Assessment for the Bikini Dock.
 - a. Conduct archaeological testing at the location designated by the Bikini Planning Council.
 - b. Analyze the dock alternatives and their impact on the environment.
 - c. Complete the writeup with recommendations and submit the final assessment.
2. Complete Marine Environmental Surveys at the proposed sewer outfall sites at Eneu and Bikini Islands. These studies will characterize the bottom ecological conditions at the proposed outfall sites and accomplish limited current studies at the proposed Eneu site.
3. Complete Bikini Island outfall current studies. Assess water circulation and expected movement and dispersion of sewage effluent at three proposed outfall sites off the lagoon shoreline of Bikini Island.
4. Complete research of all historical files on the shipwrecks from the Operation Crossroads tests. This research document will include the following:

Phase I

- a. Name, description, and history of all ships used as targets in the Crossroads tests.
- b. Condition of the ships after each test.
- c. Final destination or location of each ship
- d. A listing of all information detailing the pre and post shot condition and location of the shipwrecks.

Phase II

Prepare a detailed Scope of Work for a subcontract to:

- a. Locate, mark and map the shipwrecks.
- b. Document their current condition.

- c. Investigate the feasibility of salvage and determine their historical significance for sportdiving and other purposes.

D. Agriculture Maintenance and Fertilizer Program

- A. Prepare a plan for accomplishing the first year clearing and fertilizer program at Eneu Island. This plan will include the following:
 1. Procurement of equipment and materials
 2. Hiring and supervision of a Bikinian workforce
 3. Renovation of housing facilities
 4. Operations and Maintenance Plan of the support facilities.

Work to be accomplished by this plan will be conducted in two phases:

Phase I will consist of clearing and removal of trees and vegetation at all the sites for the Eneu Base Facilities and clearing and removal of undergrowth in the coconut groves.

Phase II will consist of the first year of fertilizer treatment for the coconut groves. The rate and frequency of application will be developed using data from the field trials conduct at Eneu and Bikini Islands by the Lawrence Livermore National Laboratory.

E. Independent Scientific Consultant

1. DOE, through Holmes & Narver, shall retain the services of an independent scientific consultant, selected by the Bikini Council, to assist the people of Bikini in reviewing the findings and recommendations of the Department of Energy, Lawrence Livermore National Laboratory, the Bikini Atoll Rehabilitation Committee (BARC) and the Department of the Interior.
2. The agreement between Holmes & Narver and the independent scientist consultant selected by the Bikini Council shall provide that the independent scientist will:

- a. Not incur costs or enter into commitments in excess of \$150,000 unless authorized by written superseding guidance from Interior.
- b. Submit in advance of implementation a proposed workplan and budget for review by Interior to insure that the technical overview is of sufficient scope.
- c. Submit a final financial report on all expenditures.
- d. Review all pertinent scientific literature concerning radiological conditions at Bikini Atoll, including all reports prepared by BARC;
- e. Travel to Bikini Atoll to take and measure independent soil, fruit and vegetable samples. Measurements will be made at a laboratory selected by the independent scientist;
- f. Consult as necessary with BARC members and consultants;
- g. Prepare a written report for the Bikini people (in English and Marshallese) on the conclusions of BARC and a review of BARC's work in order to assist the people of Bikini in reaching decisions on scientific aspects of the radiological rehabilitation of Bikini Atoll; and
- h. As necessary, meet and consult with the people of Bikini, the Bikini Planning Council, the Department of the Interior Contract Representative and other appropriate officials and staff in Congress and the Administration.