



PMC-EF2a

(2.04.02)

**U.S. DEPARTMENT OF ENERGY  
EERE PROJECT MANAGEMENT CENTER  
NEPA DETERMINATION**



RECIPIENT: Baker Hughes Oilfield Operations Inc.

STATE: TX

**PROJECT TITLE :** High Temperature 300C Directional Drilling System

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-EE0000075	DE-EE0002782		GO2782

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**B3.11** Outdoor tests and experiments for the development, quality assurance, or reliability of materials and equipment (including, but not limited to, weapon system components), under controlled conditions that would not involve source, special nuclear, or byproduct materials. Covered activities may include, but are not limited to, burn tests (such as tests of electric cable fire resistance or the combustion characteristics of fuels), impact tests (such as pneumatic ejector tests using earthen embankments or concrete slabs designated and routinely used for that purpose), or drop, puncture, water-immersion, or thermal tests

## Rational for determination:

Baker Hughes Oilfield Operations Inc. (Baker-Hughes) would develop a drilling and steering system for Geothermal Enhanced Systems. The drilling and steering system would provide optimum performance in temperatures of up to 300°C (572°F) in hard rock formations, and under the high pressures encountered in boreholes at depths of up to 10,000 meters (33,000 feet). The system would include Drill Bit, Steerable Motor, and Drilling Fluid, and consists of 26 Tasks divided over 4 phases. This project was previously approved by GFO-10-104 on December 23, 2009 with a CX A9 and B3.6. All Phases and Tasks were approved except for Phase 4 (Tasks 4 and 5). Additional information was submitted dealing with Phase 4 (Task 4) therefore another NEPA review was needed. This review is specific to Phase 4 (Task 4).

Phase 4 (Task 4) would take place at the following location:

8550 Ferguson Rd  
Beggs, OK 74421

- Located on a one-square-mile plot, the Baker Hughes BETA test rig is capable of testing drill assemblies to 3,500 feet.

- The BETA test site has an "open drilling permit" approved by the Oklahoma Corporation Commission of the State of Oklahoma. The drilling permit has environmental protection stipulations recommended by the Technical Department of the Oil and Gas Conservation Division for Baker Hughes to follow during drilling, plugging, and abandonment operations.

According to a phone conversation between Wayne Wright (Field Operations Manager in the Oil and Gas Conservation Division of the Oklahoma Corporation Commission) and the NEPA Specialist, the field site is approved under the open drilling permit for directional drilling testing. The BETA test site is regularly inspected by and is in compliance with the Commission.

Since the field testing in Phase 4 (Task 4) of the HT/HP High Performance Directional Drilling System would occur at a permitted site with drilling equipment and support facilities already in place that was specifically designed to test projects such as this and has been utilized for directional drilling testing many times in the past, there would be no additional environmental consequences beyond those that already exist as a function of normal operations at the BETA test site.

Condition of Approval: Allowable – Phase 4 (Task 4); Prohibited – Phase 4 (Task 5).

Phase 4 (Task 4) is comprised of outdoor tests and experiments for the development, quality assurance, or reliability of materials and equipment under controlled conditions, therefore the DOE has categorized Phase 4 (Task 4) into Categorical Exclusion B3.11.

**NEPA PROVISION**

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Phase 4 (Task 5)

This restriction does not preclude you from:

Phase 4 (Task 4)

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

EF2a prepared by Casey Strickland

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:

  
NEPA Compliance Officer

Date:

5/12/10

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature:

\_\_\_\_\_  
Field Office Manager

Date:

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