

PMC-EF2a

(2.04.02)

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

**RECIPIENT:** Atlas Copco Secoroc LLC**STATE:** VA**PROJECT TITLE :** Advanced Percussive Drilling Technology for Geothermal Exploration and Development

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000522	DE-EE0005502	GFO-0005502-002	GO5502

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:

A9 Information gathering, analysis, and dissemination

Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)

B3.6 Small-scale research and development, laboratory operations, and pilot projects

Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rational for determination:

Atlas Copco Secoroc LLC (Atlas) would utilize DOE and cost share funds to develop geothermal-specific percussive drilling technology for drilling geothermal wells to depth. Phase 1 of the project was previously approved by GFO-0005502-001 on December 1, 2011. Phase I was a Proof-of-Concept validation of a high temperature compatible geothermal hammer, accomplished with design, computational modeling, material identification, and testing. Following a successful demonstration in Phase 1 and Go/No-Go review, DOE made a conditional "go" decision to proceed with this project. Prototype designs will now be fabricated and tested to advance the technology in Phase 2. This NEPA determination is for the remaining activities of the project (Phase 2).

Phase 2 tasks:

Task 7 – Prototypical High Temperature Percussive Hammer Development. Laboratory activities would be conducted at the Atlas lab at 7500 Shadwell Drive, Roanoke, VA 24019.

Task 8 – Systems Level Performance and Environmental Testing. Laboratory activities would be conducted at Sandia National Laboratories in Albuquerque, NM.

There is no fieldwork associated with Phase 2 of this project. All laboratory work would take place at the same labs as Phase 1 activities. According to the R&D laboratory questionnaire (for work to be completed at the Atlas Lab), no permits are needed and there would be no liquid effluents or toxic substances produced from this work during Phase 1 activities. Safety procedures and protocols are in place for laboratory personnel and are subject to OSHA. Granite dust would be generated during operations, and is collected by a dry dust collector and deposited in hoppers which are periodically emptied by a waste disposal contractor. Laboratory testing of subsystems and prototypes will generate considerable noise within the laboratory. Noise from laboratory testing would be isolated from the outside and would not create a condition of noise in excess of background levels outside of the building. Enhancement to the noise abatement currently in the test laboratory is included in the proposal so that excessive noise exposure to the test operators/observers will be avoided.

Based on review of the project information, DOE has determined that the Phase 2 activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that these activities are consistent with actions contained in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination," and B3.6 "Small-scale research and development, laboratory operations, and pilot projects," and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

Casey Strickland 6/13/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Date: 6/14/2013
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager