

**Notice of Intent No. DE-FOA-0001221**

**Notice of Intent to Issue  
Funding Opportunity Announcement “Next Generation of Electric Machines”  
(DE-FOA-00001208)**

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Advanced Manufacturing Office, a Funding Opportunity Announcement (FOA) entitled “Next Generation of Electric Machines”.

The goal of EERE’s Advanced Manufacturing Office (AMO) is to partner with industry, small business, universities, regional entities, and other stakeholders to identify and invest in emerging clean energy technologies. Through this FOA, AMO seeks to create future high impact manufacturing opportunities through the Next Generation of Electric Machines (NGEM) vision, which is a targeted development of high power density, high revolutions per minute motors and integrated power electronics.

Motorization of large compressors in the chemical, oil and gas industries is now a necessity for energy savings and environmental sustainability and a window of opportunity has emerged for the U.S. to lead the effort by integrating medium voltage (MV) class motors with emerging wide bandgap (WBG) technology based variable speed drives (VSDs) that will transform this particular energy sector and provide the ultimate solution for the chemical, oil and gas industry.

It is anticipated that the FOA may include the following Area of Interest:

Integrated Motor Drive Development and Validation

This FOA will facilitate efforts to integrate MV class WBG devices with megawatt (MW) range high speed motors and demonstrate significant reductions in the volume and weight of the integrated system by utilizing their higher switching frequencies and junction temperatures, as well as the inherent higher voltage capabilities of WBG devices.

Traditionally the fundamental operating frequency of MV electric motors has been limited to the line frequency of 60 Hz. MV motors operating beyond 200 Hz are seldom reported and are considered at low technology readiness level (TRL).

The goal of this FOA is to fund projects that will establish avenues to demonstrate the integration of WBG devices with next generation high rpm, high electrical frequency motors, and to reduce issues relating to their reliability, thereby accelerating the deployment and adoption of this integrated technology.

**This is a Notice of Intent (NOI) only. EERE may issue a FOA as described herein, may issue a FOA that is significantly different than the FOA described herein, or EERE may not issue a FOA at all.**

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 2-3 years.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA in the near term. All of the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA as early as February 2015 via the EERE Exchange website (<https://eere-exchange.energy.gov/>). If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

In anticipation of the FOA being released, Applicants are advised to complete the following steps, which are **required** for application submission:

- Register and create an account in EERE Exchange at <https://eere-exchange.energy.gov/>. This account will allow the user to register for any open EERE FOAs that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: [EERE-ExchangeSupport@hq.doe.gov](mailto:EERE-ExchangeSupport@hq.doe.gov)

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>
- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at [https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect\\_Ready\\_Set\\_Go.pdf](https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf)
- Register in Grants.gov to receive automatic updates when Amendments to a FOA are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE Exchange.

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