



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3305

July 6, 2010

Kathryn Wrench
Oakland University
2200 N. Squirrel Rd.
Rochester, New York 48309-4401

Dear Ms. Kathryn Wrench:

Subject: Photovoltaic (PV) Manufacturing Initiative, DE-FOA-0000237
Concept Paper Review and Evaluation
Your Tracking Number: 8073
Project Title: A Ten Year Plan for a Michigan University led PV Manufacturing Collaboration

Thank you for submitting a Concept Paper in response to the above-referenced Funding Opportunity Announcement (FOA). The purpose of the Concept Paper evaluation was to help the government determine potential applicants' ability to meet the objectives of the PVMI and to provide feedback to potential applicants to assist in their decisions regarding the submission and the content of a full application. All Concept Papers were reviewed and evaluated by DOE subject matter experts, based on the Organizational Objectives and the Capabilities and Resources criteria identified in the FOA.

Based on the review, DOE identified a list of fundamental, significant, and moderate deficiencies associated with the Concept Papers received. The particular deficiencies identified in your Concept Paper are denoted by a check mark in the attached list. The nature, number and degree of these identified deficiencies should be considered in your decision to submit a full application. You may also use the other listed deficiencies as possible areas for improvement in your full application. Please note that should you decide to proceed with a full application, there is no guarantee that addressing the attached deficiencies will result in your selection for award.

DOE will be posting changes to the PV Manufacturing Initiative FOA that should be reviewed closely in your consideration of submitting a full application. The FOA soliciting full applications, DE-FOA-0000259, is anticipated to be posted to Grants.gov and FedConnect by mid-July. Applicants to DE-FOA-0000259 will have approximately 60 calendar days from the date DE-FOA-0000259 is posted to prepare and submit a full application. Any questions regarding DE-FOA-0000259 should be submitted through FedConnect as described in the FOA. Applications to DE-FOA-0000259 will be evaluated based on the merit review criteria identified in DE-FOA-0000259 for full applications. Your Concept Paper, and the feedback provided on your Concept Paper, will not be taken into consideration by merit reviewers during the full application evaluation phase for DE-FOA-0000259.

All decisions on proceeding with a full application rest with the applicant. **When submitting a full application, you must include the above-referenced tracking number in the project title and cover page of your application.** Thank you for your time and effort in submitting your Concept Paper.

Sincerely,

Leon B. Fabick
Project Officer



ATTACHMENT

Below is a list of reviewer comments on the Concept Papers received in response to the Photovoltaic Manufacturing Initiative (PVMI) Funding Opportunity Announcement Number DE-FOA-0000237. Comments made on your individual Concept Paper are indicated by a mark in the associated check box.)

Fundamental Deficiencies (concept described is non-responsive to the PVMI objectives and any resulting proposal would not meet the minimum requirements of the FOA)

- Fails to meaningfully discuss the basic concepts requested in the FOA:*** The submitted concept paper fails to meaningfully address the basic concepts requested, such as photovoltaic technology development and manufacturing, collaborative and/or multi-user-facility approaches (beyond simply scaling up a single product or production line), and dynamic and continuing technical objectives.
- Limited producer-supplier partnerships only:*** The concepts and approach put forth by the applicant fail to align with the breadth of industry coordination intended under the PV Manufacturing Initiative and specified in the evaluation criteria. The proposed team structure is comprised of only a single producer and its supply chain, with R&D partnerships limited to bilateral agreements between that producer and individual suppliers. Technical objectives are fixed and focused on the needs of a single company, with the primary benefits accruing to only that company rather than to a more significant proportion of the PV industry.
- No demonstrated financial viability:*** The applicant has not provided convincing evidence demonstrating the organization's financial viability or its ability to meet the cost-share requirements.
- No existing capabilities or facilities:*** The applicant possesses no existing PV capabilities or facilities and no demonstrated experience in securing or ramping up such capabilities or facilities.
- Only a single university participant:*** The proposed scope of work is to be conducted at essentially a single university, with no expressed intent or mechanism for meaningfully expanding university participation.
- Only a single industry adviser / partner to the university consortium:*** The proposed university consortium has only a single industry partner, with the benefits of technology transfer and commercialization accruing to that single company only, rather than having a

broader impact on the PV industry. No intent or mechanism for expanding industry participation is stated.

- Extremely narrow technology focus – possibly product-specific:*** The proposed technical objectives are extremely limited in scope, relative to the breadth of activities and technologies in the PV industry, and are unlikely to have a widespread impact on domestic manufacturing. No concept is presented for the consideration of additional research or products beyond the initial, static objectives.
 - Very early-stage research:*** The research proposed in the technical objectives is at a very early and fundamental stage, leaving significant risk that any associated PV manufacturing development and impact will only take place many years later than intended by the PV Manufacturing Initiative, if at all.
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Significant Deficiencies (concept contains one or more deficiencies that would detract from the competitiveness of any submitted proposal)

- Lack of horizontally integrated industry participation / has limited number of industry partners:*** To ensure broad industry impact, the applicant is encouraged to increase the number of industry partners, especially those who occupy potentially competitive positions in the value chain (e.g., cell and module manufacturers within a given conversion technology).
- Lacks mechanism for open industry membership:*** The applicant is encouraged to develop and describe a plan for growing the consortium through the addition of new industry members over time, including those that occupy positions in the value chain that are potentially competitive to existing members.
- Lacks open solicitation for university R&D:*** The applicant is encouraged to develop and describe a mechanism for competitively soliciting and selecting all projects, in a consistent and unbiased manner, from an open field of domestic universities.
- Managing entity has conflict of interest:*** The applicant is encouraged to address the apparent conflict of interest between the managing entity and initial or new members and participants, especially with regard to R&D project selection and funding.
- Insufficient breakdown of finances / very large funding request:*** The applicant is encouraged to provide a more detailed description of the breakdown of revenue and expenses by specific technology focus areas. Because the requested level of DOE funding is high relative to the anticipated total funds available, the Solar Program needs to be able

to identify funding requirements by focus area to assist in developing a balanced portfolio. (A sample financial worksheet to use will be provided in the modified FOA released for the full application process.)

- Unconvincing evidence for sufficient user base for facility:*** The applicant is encouraged to provide strong evidence of the capacity and willingness of the intended user base to pay the user fees necessary to sustain the multi-user facility at the proposed level.
 - Non-Federal cost share is unbalanced:*** The applicant is encouraged to either provide a greater proportion of their non-Federal cost share in early years, or stronger evidence of their ability to meet their non-Federal cost share requirements in later years (Note that the modified FOA released for the full application process will include a yearly minimum on the cost share.)
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Moderate Deficiencies (concept contains one or more additional opportunities for improvement for any submitted proposal)

- Poor definition of technical goals:*** The applicant is encouraged to provide an improved delineation of the proposed, initial technology focus area(s), with reference to identified industry needs.
- Insufficient link demonstrating relevance of early-stage or foundational work to manufacturing:*** The applicant is encouraged to establish a stronger link between the proposed technical objectives and the impact on commercial PV manufacturing and technology development.
- Commercialization / tech transfer mechanisms insufficiently described:*** The applicant is encouraged to more thoroughly address the proposed mechanisms for the transfer of PV manufacturing advances from R&D outcomes to commercialization and manufacturing by domestic companies.
- Lack of detail in equipment needs:*** In light of the significant capital equipment component of the proposed concept, the applicant is encouraged to describe in greater detail the organization's specific equipment needs, challenges, and opportunities with respect to the proposed technical objectives. A discussion of the size and scale of capital investment, relative to market needs, may also be appropriate.
- Lack of clarity on industry input mechanisms:*** The applicant is encouraged to provide greater detail on industry involvement in the selection of technical objectives, in order to better delineate industry interest and relevance.

- Lack of clarity on industry cost-sharing:*** The applicant is encouraged to clarify the nature of industry cost-sharing mechanisms and commitments relative to individual R&D projects / partnerships and to the consortium as whole.
 - Lack of clarity on R&D project solicitation and selection:*** The applicant is encouraged to clarify the mechanisms and structure by which R&D objectives will be defined (and funding allocated) and by which R&D projects will be selected and monitored, and to clarify which categories of participants (universities, companies, etc.) will be performing the R&D work and where they will be performing it.

 - Too much of R&D is focused on support of proprietary work at individual companies:*** The applicant is encouraged to justify the extent of proprietary R&D work being funded for or at individual member companies out of consortium funds, in the context of the intent to have a broad industry impact through increased shared and/or coordinated R&D.
 - Concept incorporates activities beyond the technology scope of the PVMI:*** The proposed objectives appear to include market transformation or system integration activities that may not have close synergy with the PV technical objectives. The applicant is encouraged to consider and address the relevance of these activities within the scope of the PVMI's goals to support technology development for improved domestic PV manufacturing.
 - Unclear relationship of proposed functions to existing organization:*** The applicant is encouraged to make more clear the delineation and segregation of proposed management, accounting, and other activities under the PVMI from existing work and functions within the organization.
 - Lack of expertise in PV:*** The applicant appears to lack extensive direct experience with photovoltaics and is encouraged to more clearly address how the proposed organization will accurately address the needs and dynamics of the PV industry.
 - Insufficient breadth in technologies addressed:*** The applicant is encouraged to expand, or more thoroughly address, the limited scope of the proposed technical focus area(s), in the context of having a broad positive impact on PV manufacturing as an industry.
 - Insufficient breadth in market segments addressed:*** The applicant is encouraged to expand, or to more thoroughly address, the limited breadth of market segments targeted by the proposed objectives, in the context of having a broad positive impact on PV manufacturing as an industry.
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