

From: Eric Tobin [mailto:etobin@spirecorp.com]
Sent: Tuesday, September 20, 2011 2:06 PM
To: amtech
Cc: Steve Hogan; Roger Little; Mike Nowlan
Subject: AMTech Comments

Please see the attached comments from Spire Corporation in response to NIST's request for information regarding the Advanced Manufacturing Technology Consortia program. We have provided responses where we felt that our input would be useful and left the remainder blank.

Please feel free to contact me should you have any questions regarding our responses.

Regards,

Eric J. Tobin

VP, Product Management
Spire Corporation
One Patriots Park
Bedford, MA 01730-2396
P: 781-325-0781 (direct) / 800-510-4815
F: 781-275-6010
e-mail: etobin@spirecorp.com
<http://www.spirecorp.com>

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National Institute of Standards and Technology

Request for Information on How To Structure Proposed New Program: Advanced Manufacturing Technology Consortia (AMTech)

Request for Information: The objective of this request for information is to assist NIST in the development of the new AMTech program, should NIST receive FY 2012 appropriated funds for this purpose. In this connection, the questions below are intended to assist in the formulation of comments, and should not be construed as a limitation on the number of comments that interested persons may submit or as a limitation on the issues that may be addressed in such comments. Comments containing references, studies, research, and other empirical data that are not widely published should include copies of the referenced materials. All comments will be made publicly available. NIST is specifically interested in receiving input pertaining to one or more of the following questions:

Responses from Spire Corporation, One Patriots Park, Bedford, MA:

1. Should AMTech consortia focus on developments within a single existing or prospective industry, or should its focus be on broader system developments that must be supplied by multiple industries?

AMTech consortia should place a heavy emphasis on the solar industry. Solar is the fastest growing industry in the U.S., and the U.S. is expected to become the world's largest solar market within a few years. Solar has the potential to create millions of jobs in many different sectors. Although much solar manufacturing is now located in Asia, the U.S. has a chance to regain the lead in solar manufacturing jobs as the domestic market rapidly expands and it becomes economically advantageous for companies to locate manufacturing in closer proximity to the end market.

2. Who should be eligible to participate as a member of an AMTech consortium? For example, U.S. companies, *i.e.*, large, medium, and/or small; institutions of higher education; Federal agencies; state, local, and tribal governments; and non-profit organizations?

AMTech consortia should be open to all of the above. However, government agencies and labs should be supported by their own budgets.

3. Should AMTech place restrictions on or limit consortium membership?

AMTech consortium members should be U.S. registered entities only.

4. Who should be eligible to receive research funding from an AMTech consortium? For example, U.S. companies *i.e.*, large, medium, and/or small; institutions of higher education; Federal agencies; state, local, and tribal governments; and non-profit organizations?

All of the above except for federal and state agencies and governments should be eligible to receive AMTech funding. A set-aside for universities and small businesses—for instance 10% and 30%, respectively—would facilitate involvement by these entities.

5. What criteria should be used in evaluating proposals for AMTech funding?

The criteria for evaluating proposals should be those conventionally used for evaluating technical

proposals (e.g., technical merit and feasibility, alignment with program objectives, experience and qualifications, project management plan, etc.). However, very heavy weighting should be applied to the potential for commercial success and market competitiveness of the proposed concept or technology.

6. What types of activities are suitable for consortia funding?

Any activities within the realm of research, development, and demonstration.

7. Should conditions be placed on research awards to ensure funded activities are directed toward assisting manufacturing in the U.S.?

Yes. However, we do not have specific recommendations on the development of those conditions.

8. What are ways to facilitate the involvement of small businesses in AMTech consortia?

Allocating a small-business set-aside of perhaps 25-30% of funding would greatly facilitate involvement of small businesses. Additionally, no cost-share requirements should be placed on small businesses.

9. What are best practices for facilitating the widest dissemination and adoption of knowledge and technology through consortia?

10. While it is expected that the research efforts of AMTech consortia (including participants from the Federal, academic, and private industry sectors) will take place largely at the pre-competitive stage in the development of technologies, the generation of intellectual property is possible, and even likely. What types of intellectual property arrangements would promote active engagement of industry in consortia that include the funding of university-based research and ensure that consortia efforts are realized by U.S. manufacturers?

11. Would planning grants provide sufficient incentive for industry to develop roadmaps and initiate the formation of consortia? If not, what other incentives should be considered?

Yes. Planning grants would provide a great incentive for industry to initiate formation of consortia. This would be particularly incentivizing for small businesses.

12. Should each member of an AMTech consortium be required to provide cost sharing? If so, what percentage of cost sharing should be provided?

No. Cost share percentage should depend on the size of the business. There should be no cost share requirements on small businesses, whereas large companies could provide up to 50% cost share.

13. What criteria should be used in evaluating research proposals submitted to an AMTech consortium?

Potential for commercialization should be strongly considered here as well.

14. What management models are best suited for industry-led consortia?

15. Should the evaluation criteria include the assessment of leadership and managerial skills?

Yes, based both on prior experience and proven track record of success with similar projects in similar environments if possible.

16. Should limitations be placed on the duration of consortia?

No. Not if milestones are achieved and success is demonstrated on a consistent basis.

17. How should an AMTech consortium's performance and impact be evaluated? What are appropriate measures of success?

It should be strongly based on commercial success – the transfer of newly developing technologies to the commercial market with ability to provide market-competitive solutions.

18. What are the problems of measuring real-time performance of individual research awards issued by an industry-led consortium? What are appropriate measures of success?

19. How should the NIST AMTech program be evaluated?

Independent review boards should be established.

20. What are lessons learned from other successful and unsuccessful industry-led consortia?

21. How can AMTech do the most with available resources? Are there approaches that will best leverage the Federal investment?

AMTech should encourage involvement of a wide array of different participants including universities, small businesses, and Federal labs. Resources can be leveraged with cost share from larger companies.

22. How should AMTech interact with other Federal programs or agencies?

AMTech should encourage participation of other Federal agencies at their cost.

23. What role can AMTech play in developing, leading, or leveraging consortia involving other Federal agencies?

AMTech/NIST can work to encourage and develop inter-agency agreements.