The Virginia Joint Commission

JCOTS

on Technology and Science

# Nanotechnology Manufacturing and Research and Development Advisory Committees

## November 2, 2006 1:00 p.m.

## Speaker's Conference Room 6th Floor, General Assembly Building

- **Call to order, roll call:** *Roll call and chairman's welcome.*

Delegate Cosgrove called the meeting to order.

- **Nanotechnology Whitepaper Discussion:** *The working group chairs will provide a brief update on progress and receive feedback from the advisory committee. This is also an opportunity for the advisory committee to engage in an open discussion, focused on the following questions:*

  - *What is the feedback to current draft?*
  - *What should be the format of our final report?*
  - *What specific "asks" or "requests" should be included in the whitepaper?*
  - *What are the next steps before our final meeting on the 16th?*
  - *What steps need to be taken before the final JCOTS meeting on November 30th?*
  - *What steps need to be taken before the start of the 2007 Session?*

The advisory began the review of the whitepaper draft with brief presentations from each sub-workgroup. Several of the draft sections are available on the JCOTS website. Dr. Hull presented the draft of the research and development section.

Dennis Manos urged the advisory committee to support Dr. Kadtke's position that the advisory committee needs to be looking at an innovation ecosystem when discussing research opportunities.

The advisory committee began a discussion on what a nanotechnology authority would look like in Virginia. The advisory committee generally agreed that a virtual collaboration effort would be the best option, as opposed to a 'bricks and mortar' facility. Dr. Hull suggested about $100-$200 million would be needed to fully equip the universities with the latest instrumentation and fabrication tools. That money would be spread across several universities, all collaborating on

nanotechnology research and development. This model has been developed in California, which also has a more centralized university system.

The advisory committee next addressed the education section of the whitepaper with Terrance Leslie leading the discussion. Mr. Leslie discussed the importance of workforce training and education initiatives, such as the HJR 25 STEM study currently underway. The advisory committee also discussed the possibility of securing funding for HB 1244 (2006) which provided forgivable loans to students majoring in a STEM field and working in a STEM field in Virginia for four years after graduation. Mr. Leslie and Dr. Mattauch proposed a statewide outreach program to get students interested in STEM fields, sponsored by both universities and the private sector.

Delegate Purkey proposed a 10% investment tax credit for companies hiring interns or apprentices. The advisory committee supported this idea as a means of promoting industry involvement with students, which could lead to greater interest and incentive for students to major in a STEM field.

One final suggestion was that schools, especially in Southwest Virginia, expand their vocational programs to help train technicians needed in the nanotechnology industry.

The next section discussed was the business development section, led by Dr. Hull. The advisory committee supported the idea of proof of concept grants as well as a virtual center for nanotechnology. The virtual center would be supported by staff and a board that would administer grants and qualify companies for any tax credits created for hiring an intern/apprentice.

Gaining the most support was a proposal to remove the authority of local governments to tax machinery and tools used for nanotechnology manufacturing, testing, and development. Delegate Purkey informed the advisory committee that this action would result in strong opposition from localities. Several members of the advisory committee identified this tax as a burden to the nanotechnology industry, which frequently invests in very expensive tools and machinery.

- **Nanotechnology Legislation Discussion:** *Staff will present legislative options for establishing a nanotechnology authority within the Commonwealth to aid development of the industry by promoting and funding research, development, and commercialization of nanoscale materials and products.*

The individual whitepaper workgroups of the advisory committee plan to develop 2-3 recommendations for the whitepaper, some of which will contain legislative recommendations. Staff will prepare the legislative recommendations, one of which will likely follow in concept the previous legislative draft (based on Connecticut's plan) for the 'NanoBusiness Accelerator'.

- **Public comment:** *Members of the public be given the opportunity to express their views about the advisory committee and its work.*

There was no public comment.

- **Actions for next meeting:** *The chairman may wish to direct staff and members of the advisory committee to follow up on particular items for the next meeting of the group.*

The advisory committee developed a timeline for the completion of the whitepaper. At the next meeting the main whitepaper workgroup of the advisory committee will take final comments on the whitepaper draft and produce a final document before the final November 30 JCOTS meeting. The full timeline is available on the JCOTS website.

Potential action/legislation discussed:

1. Tax credit for companies that hire interns/apprentices in STEM fields.
2. Removing the authority of localities to tax certain tools and machinery used in nanotechnology development, testing, and manufacturing.
3. NanoBusiness Accelerator to provide various grants (education, research, proof of concept, commercialization, etc.).
4. Virtual collaboration initiative to facilitate cooperation among universities in researching and developing nanotechnology.