



Joel Berman
Chairman, CEO

MechoShade Systems, Inc.
42-03 35th Street
Long Island City NY., NY, 11101
+718 729 2020 X1210
Fax: +718 729 0135
Email: jcb@mechoshade.com
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TO: Jaclyn A. Brillling
Secretary
New York State Public Service Commission
3 Empire State Plaza,
Albany, New York, 12223-1350

Subject: SBC 3 – R&D Programs

RE: More Public Choice; New and Expanded Shading Systems

Dear Ms. Brillling:

We at MechoShade Systems Inc. (MSS), a New York Corporation, are most pleased with the opportunity of advising the State of NY Public Service Commission (SNYPSC), of the advantages to both the public and to MSS, of the involvement of NYSERDA and LBNL in the NY Times project. We wish to document the benefits accruing to NY State, to MSS and to the country due to this involvement. We will emphasize the long range effect of the research and validation provided by the Lawrence Berkley National Laboratory (LBNL), on the impact of MSS's AAC SolarTrac™ program of automated window shading, WindowManagement™...with a daylighting control component developed for the NY Times project.

MSS developed automatic window shading in 1977 for the well known, cutting edge, extremely energy-efficient prototype office building for the State of California, The Gregory Bateson Building, in Sacramento, as a solution to the control and reduction of excessive solar heat gain, brightness and solar radiation in the building, any of which can effect energy usage, to assure comfort for persons in the office environment. This project utilized our exterior ElectroShade™

System in conjunction with the first AAC Solar Controller which adjusts the shades incrementally on the window in accordance with the solar heat gain (SHG), profile angle and incident angle of the solar ray, to minimize heat gain and maximize comfort, daylighting and view to the outside.

MSS's main activity is in the commercial –contract distribution channel. However in the past 5 years we have entered into the consumer-residential distribution market where a simpler version of MSS's AAC Solar Tracking System may be employed in conjunction with automated shading, to improve energy consumption and meet expanded aesthetic requirements.

MSS has been upgrading and improving our AAC system, program and hardware over these many years and moved from the hand-wired, wire wrap “computer” circa 1977-78 to the state of the art PCs of today, which may be integrated with BMS- Building Management Systems. Although MSS has had success in promoting our AAC Solar Tracking program for many important projects in the United States and around the world, and has been included in most of the Bronze, Silver and Gold rated LEED projects, we have not been able to convince any of the NY-based developers to include automated shading in their new building programs.

The involvement of NYSERDA in the NY Times project has changed the initial concept from manual shades, which though effective, cannot be assured to be in the right place at the right time, to the automated solar tracking system, which does assure proper positioning of the shades on the window in accordance to the solar condition, providing appropriate solar protection where and when needed.

We are convinced that LBNL's support and research sponsored by NYSERDA, was instrumental in convincing the NY Times to consider some very important energy conserving initiatives. LBNL is supporting the design of high transmission glass to allow more light into the building, automated shading to properly control light, heat and view to assure solar protection only to the extent needed, while maximizing protection, view and daylighting. Add to these benefits the inclusion of automated interior lighting control to reduce the lighting and air conditioning loads. This integrated program of subsystems, window management and lighting management, takes advantage of the natural daylight in the peripheral zones of the NY Times Building to substantially improve energy efficiency and comfort for the occupants while meeting the design criteria of the architects and owners.

We believe as a result of the NYSERDA + LBNL involvement, the NY Times agreed to build a test mock up facility which was instrumented, monitored, and is in the process of being validated by LBNL. The data is being used, as we speak, to upgrade and substantially expand MSS's AAC Program by adding a Daylighting Brightness-WindowManagement™ Mode. This mode is in support of the Solar Tracking capability of AAC and allows for the determination and control of excessive brightness levels at the window wall. Excessive brightness may dictate the need for more artificial lighting to counter excessive veiling glare, which if not controlled may require more artificial lighting and subsequent higher AC loads.

The real advantage of the NYSERDA + LBNL involvement is their validation of the effect of these systems, which has never been available in the past. This involvement has now created interest in two new NYC buildings, i.e.: the Bank of America Building and Freedom Tower. We are working with the building engineers and designers of these projects reviewing the Cost Benefit Analysis of automated shading and controlled lighting with high transmission glass. The impact is far beyond these two buildings. MSS is an international company with sales and marketing offices and dealers throughout North America, plus distributors worldwide, serviced by offices in Hong Kong, London and Beirut. Validation of our claims is critical in moving technology into commercial use.

New York City architects, as well as US architects, influence projects worldwide. Through involvement with many influential architects, MSS, a small family NYC-based business, is able to bring new technologies to them and conversely access the world markets. As a result, we now export our products to China, Taiwan, South America, and the Middle East, as well as throughout North America, including Mexico and Canada.

It has been difficult to quantify and present for future users, the positive impact of independent scientific validation of the effect of automated solar shading until the partnership of NYSERDA, LBNL and the NY Times. I am convinced that the data developed will now allow for inclusion of automated shades, with or without a daylighting component as part of the prescriptive design approach for approval by NY State, and other states' energy analysis of prospective building designs that do not follow a design formula. This will allow for creative designs, and if included, automated shading can reduce the size of air-conditioning systems, chillers, ducts and fans which in itself will reduce energy consumption and the connected loads.

I am pleased to say, the confidence NYSERDA and LBNL brought to the NY Times resulted in MSS securing the NY Times Herald Tribune Building project in Sarasota, Florida, a 300,000 sq ft building with the same automated solar shade control and daylighting control systems, but with a Florida based group of architects. This is a double benefit. First it exports our technology to new firms and second, it expands MSS's business opportunities.

Simply put, the NY Times project confirmed MSS's presentation to the LightFair Committee to allow MSS to exhibit our products and programs, despite the fact that we do not manufacture traditional lighting fixtures. Through our presentation in 2004, "Window Management: A Prerequisite to Daylighting", MSS was able to work with LightFair to add a Daylighting Seminar, which has now become a permanent fixture at LightFair. In addition, there is now an exhibition section devoted to manufacturers of daylighting equipment.

We have downloaded the State of NY Public Service Commission, Notice Soliciting Comments re: System Benefits Charge III. List of Questions. And comment as follows.

#1- See Above- Yes!

#2- Yes, and at least at an increased funding level plus inflation, plus an outreach program as described below (see #14).

#3-It appears there is a greater need due to Environmental and Political concerns.

#9- MSS was not fully aware of the scope of the R&D program of NYSERDA. Now that we have more knowledge of the programs, we will be sending a request for R&D in daylighting and specialized light sensors. Our sister company, Digital Matrix Inc., based in Hempstead, NY, is producing products and doing research into the field of MEMS, NANO, and LIGA technologies, and will investigate the opportunities of R&D grants through the NYSERDA industrial division. Digital Matrix Inc. was not aware of the NYSERDA R&D grant programs.

#14- We are a small company when compared to the large firms that are structured to take advantage of government grants. I suggest a small business marketing initiative to small, technical, entrepreneurial companies. I also suggest that assistance be provided to these companies on NYSERDA's scope of interest in funding, their requirements and procedures as to what is needed to obtain a grant. An office of an Ombudsman to assist the hi-tech small business community within New York State is highly recommended.

Thank you for the opportunity for us to comment on our exciting experience with NYSERDA and the dynamic New York Times project.

Sincerely,

Joel Berman
Chairman, CEO