

MINUTES OF THE SPECIAL MEETING
CITY OF STAMFORD, CONNECTICUT
URBAN REDEVELOPMENT COMMISSION
TUESDAY, JANUARY 30, 2007

1. Chairman Stephen C. Osman called the special meeting to order at 8:12AM. The following were in attendance:

Commission:

Stephen C. Osman, Chairman
James I. Nixon, Vice Chairman
Joel P. Mellis, Secretary/Treasurer
Edward J. Fuhrman
Robert S. Robins

Staff:

Rachel Goldberg, General Counsel

Other:

Clem Onyemelukwe

2. Fact Finding Trip to Mohegan Energy, Environment & Economics Demonstration Center

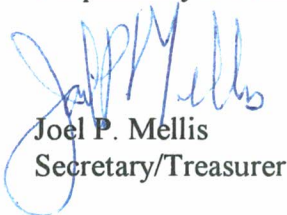
At 8:15AM, Commissioner Fuhrman made a motion, seconded by Commissioner Nixon, and carried by unanimous vote calling for a recess. The participants then traveled to Uncasville for a tour of the power facilities to see the "clean energy" initiatives being utilized at the Mohegan Reservation. A report compiled by Commissioner Nixon is attached as part of these official minutes.

At 2:00PM, the participants left Uncasville, returning to Stamford at 3:50PM.

3. Adjournment

Having completed the business for which this special meeting was convened, Commissioner Nixon made a motion to adjourn. The motion was carried by unanimous vote and the meeting was adjourned at 3:51PM.

Respectfully submitted,



Joel P. Mellis
Secretary/Treasurer

CLEAN ENERGY INITIATIVES
As Implemented by the Mohegan Tribe
At the Mohegan Sun Complex in Uncasville, CT

This report describes the findings of the Urban Redevelopment Commission of the City of Stamford as the result of a field trip to the Mohegan Sun Complex on **January 30, 2007**. The purpose of the trip was to gain first-hand knowledge of the operation of various clean energy installations which might have application in the further redevelopment of the urban center of Stamford.

The innovative, "clean" technologies by the Mohegan include:

- Stationary Fuel Cells
- Photovoltaic electric generation
- Ground Source Heat Pumps
- Building (hotel) energy demand reduction
- Materials recycling and reuse
- Alternate vehicle fuel use, and
- Vehicle emission control through retrofitting

Stationary Fuel Cells

By far the most impressive application of clean energy technology on the site was the pair of 200kw Fuel Cells which were engineered, installed, and are maintained by UTC Power, a unit of United Technologies Company. These cells convert natural gas directly into electricity (i.e. without the involvement of large rotating components e.g. an internal combustion engine driving a generator) and heat (which can be used for building HVAC systems) with carbon dioxide as the only objectionable by-product. The units operate without noise or vibration, and do not pollute ground-water.

We were told that the next generation of this brand of fuel cells would be available in about two years, and will generate considerably more power (+50%?) at little or no increase in price. Promotional literature for this hardware is attached as Appendix I.

Photovoltaic Electric Generation

This technology has been employed by the Tribe in their renovation and expansion of the restroom facilities at Fort Shantock, an historic park which has been returned to Mohegan Tribe ownership after years of state control. It is located a few miles from the hotel/casino complex. This set-up uses photovoltaic solar panels mounted on the south-facing roof of the building, to provide power for water pumps, interior and lighting, and security monitoring. Back-up power is provided by a generator which is fueled by propane drawn from an underground tank. This propane also fires the hot water heater.

This installation demonstrates the potential for such technology in applications which are relatively remote from grid connections to electric power, water, and/or sewer lines. Illustrations and technical details of this project are attached as Appendix II.

Ground Source Heat Pumps

There was a very brief discussion of the ground source heat pump installation on the complex but, since the Commission had reviewed the installation at Sound Waters in Stamford a couple of years ago, further review was deemed unnecessary.

Building energy demand reduction, materials recycling & reuse, and vehicle fuel efficiency and exhaust improvement are additional techniques being employed by the Mohegan Tribal Development Department to further reduce their operating expenses, minimize air and ground pollution, and to off-set federal and state mandated fees for the air quality reduction caused by casino patrons. Needless to say, most of these techniques are already in use in various Stamford public or private operations, and can be observed and studied here for wider application. However, it should be noted that the materials recycling project of the Mohegan Sun Complex is most applicable to an operation which has a large number of eating facilities under a single general management authority. On the other hand such an arrangement might be worth considering wherever there is a concentration of restaurants whose waste is all ultimately processed by the same local entity. The details of this aspect of the Mohegan Sun operation were not explored further because discussions of the set-up had previously involved the Director of Stamford's Waste Treatment Facilities.

Other References

Our host and guide for this review was Jean McInnis, Administrator of the Mohegan Tribe Environmental Department (860.862.6112). Ms McInnis introduced the Commissioners to Robert Roche, Product Manager – Stationary Fuel Cells for UTC Power (860.727.2422), who provided technical details of the cells' structure and operating process. She also provided the contact name and phone for Keith Spitznagel, Sr. VP of Marketing for Logan Energy, a power applications consulting firm (724.449.4668). She noted, too, that a complete report on the operations history of the fuel cells is being prepared for presentation to the CT Dept of Environmental Protection. She promised to forward a copy to the Stamford URC office as soon as it is available for distribution.

James I. Nixon
Vice Chair, Stamford URC

CITY OF STAMFORD, CONNECTICUT, URBAN REDEVELOPMENT COMMISSION

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SPECIAL MEETING
NOTICE

A Special Meeting of the City of Stamford, Connecticut, Urban Redevelopment Commission, will be held in the Commission Offices on the 9th Floor of the Stamford Government Center, 888 Washington Boulevard, Stamford, Connecticut, on Tuesday, January 30, 2007 at 8:00AM.

AGENDA:

1. Roll Call
2. Fact Finding Trip to Mohegan Energy, Environment
& Economics Demonstration Center
(tour of facilities)
3. Adjournment