conference in Boston (March 2011) indicated that several types of wind turbines installed at the Museum of Science in Boston and in other southern New England locations have demonstrated similar performance issues.

F.2.2.6 Purchasing Green Energy

Green Energy is a term used to describe electricity generated from renewable resources such a wind and PV. Utilities offer customers the opportunity to purchase Green Energy for some or all of the customer's needs; rates vary with utility and the class of customer.

Individual buildings and, in some cases, tenant spaces within buildings, are expected to have individual electric services provided by NSTAR, although each may elect a different energy supplier. The Proponent and tenants will have the option to purchase Green Energy from whichever supplier they elect providing that supplier has a Green Energy option.

Purchase of Green Energy will be a choice made prior to occupation, based on then-available source options and rates. Therefore, Green Energy is identified in Table F-2 as a future study item for all buildings.

F.2.3 Other Related

F.2.3.1 Proponent's Influence on Tenant Choices

The majority of this GHG analysis is an energy analysis of buildings based on building types and uses. For each type, a number of potential GHG mitigation measures are described. Some buildings are being developed core-and-shell for future tenants. Others, which approach being fit-out by the Proponent, will have at least part of the space leased to retail, restaurant, or other tenants. Therefore, the Proponent's ability to influence tenants to fit out and operate their spaces with sustainable and energy efficient designs and operating practices will influence the overall energy and GHG profile of the Project.

The Proponent's influence is not quantifiable as GHG reductions at this stage of the Project, but represents an important component in the Project's long-term energy efficiency and, hence, GHG emissions.

Actual building energy use will depend upon the core & shell design, for which the Proponent is responsible, and also upon what the tenant adds to the building (fit-out) and how the tenant operates. Tenants will require City of Boston building permits for their fit-out, and must comply with the Stretch Code that City of Boston has adopted as its building code.

While the Proponent does not have ultimate control over the tenant's energy use, it is committed to exerting whatever influence it can on commercial tenants to encourage decisions that will maximize the building's energy efficiency. The Proponent will assist

tenants to maximize energy efficiency in fit-out by providing a LEED Guide to encourage and assist in meeting the requirements for LEED Certifiable status and to work toward more energy efficient tenant-controlled spaces.

While not directly contributing to GHG reductions, a Tenant Manual provides recommendations on energy reducing systems and equipment for tenant use and informs the tenant of system limitations imposed by building design. The Tenant Manual is currently under development for the numerous speculative office buildings and will be used as the basis for all third party lease agreements associated with the Project.

The Tenant Manual will inform tenants of the core & shell features that are provided that allow tenant choices in energy-related fit-out such as:

- providing chilled water distribution to each floor for use in fan coils or active chilled beams;
- providing electric metering of energy use and efficiency for individual tenant controlled space; and
- the availability and benefits of an Energy Management System and other building features.

The Tenant Manual will encourage tenants to minimize energy use. The Proponent has committed to preparation and implementation of an innovative Tenant Manual containing a set of guidelines that will in some cases require and in others encourage tenants to adopt appropriate sustainable design, energy efficiency, water use, water pollution control, and TDM commitments to the extent feasible as part of their respective lease agreements.

The Tenant Manual will require a tenant to:

- implement Sustainable Design and Construction Guidelines;
- use variable frequency drives in HVAC distribution systems;
- design electric wiring and electric systems compatible with the application of building Energy Management Systems and automated lighting controls;
- commission the fit-out systems;
- use Energy Star rated appliances, if available;
- participate in the state-wide Green Initiatives Recycling Program;
- implement recycling of construction waste;

- promote employee participation to on-site amenities such as ATMs, retail, and restaurants;

- promote participation in additional TDM program measures to reduce Project-generated single-occupancy vehicle trips. This may include providing subsidized transit passes, flexible employee work hours, and direct deposit of pay checks;

- promote employee and patron participation in alternative transportation amenities to reduce single-occupancy vehicles, including the potential of shuttle service to the Red and Green MBTA Lines, possible subsidized T passes, provision of a multi-mode transportation hub to include bicycle lanes and bicycle storage facilities, on-site showers, and provisions for Zip Car Service;

- provide preferential parking for ride sharing and car sharing, and the potential for landlord-provided electric vehicle charging stations

F.2.3.2 Rainwater Harvest

Rainwater harvest is the practice of collecting and storing rainwater for use in irrigation, sanitary uses, and process uses. Opportunities for rainwater harvest will be examined during subsequent design. However, the mere act of pumping rainwater to the tops of tall buildings to use for process makeup or sanitary (flushing) water involves considerable pumping energy. While high water costs may make stormwater reuse economical, it does so at a higher energy use and GHG emissions.

F.2.3.3 Water Conservation

Several features of the Project buildings and open spaces of the project will reduce water consumption, in turn reducing wastewater generation. Such reductions reduce indirect GHG emissions by reducing the MWRA's water pumping and wastewater treatment energy requirements.

The Project buildings will be designed to be at least LEED certifiable under the LEED 2009 rating system from the US Green Building Council. One of the pre-requisites in the LEED 2009 rating system is a mandatory 20% reduction of potable water consumption in plumbing fixtures compared to a modified EPAct baseline.

During design development, the Proponent is committed to achieving at least 20% reduction through the selection and installation of advanced low-flow toilets, dual-flush toilets, high-efficiency urinals, and low-flow shower heads, faucets and lavatories. Greater levels of reduction may be achievable, as will be determined during Design Development.