DF

CRWA

Charles River Watershed Association

December 23, 1999

Robert Durand, Secretary
Executive Office of Environmental Affairs
Attention: MEPA Unit
100 Cambridge Street, 20th floor
Boston, MA 02202

RE: EOEA #11754 Draft Environmental Impact Report Kendall Square Station Equipment Upgrade Project, Cambridge, Massachusetts

Dear Secretary Durand:

The Charles River Watershed Association (CRWA) is pleased to have the opportunity to comment on the Draft Environmental Report, Kendall Square Station Equipment Upgrade Project, submitted by Southern Energy Kendall, L.L.C. This project involves replacement of three existing main power boilers, currently fueled with No. 6 fuel oil and natural gas, with a new high-efficiency system comprising a combustion turbine generator and a heat recovery steam generator. The upgrade will increase generating capacity at the Kendall Square Station from 64 to 234 megawatts.

General

CRWA feels that the project, and its accompanying mitigation, is potentially of high value to the Charles River and its surroundings. The upgrade will be constructed on an existing power facility site. CRWA supports generation of electricity at its point of use and supports redevelopment of brownfields (and the indirect environmental benefit of maintaining greenfields elsewhere as undeveloped). The plant will reduce air emissions of NO_x by 200 tons per year and SO_2 by 100 tons per year. Management of the site's stormwater will be improved over current conditions. Both stormwater and system wastewater will be disconnected from the Massachusetts Water Resources Authority CSO system. The proponent has proposed to work with the Metropolitan District Commission and others in construction of a river walk along Broad Canal. Perhaps most significant to the restoration of the Charles River, SE Kendall has proposed an innovative approach to enhancing the environment by using its cooling water discharge to disrupt a century old salt wedge at the river's bottom to eliminate water column stratification and oxygenate the river and river sediments.

2391 Commonwealth Avenue, Auburndale, Massachusetts 02466-1773, Telephone (617) 965-5975 Fax (617) 332-7465
Website: www.crwa.org Email: crwa@crwa.org.

Cooling Water Discharge

The use of SE Kendall's cooling water discharge to break up the salt wedge is the first serious proposal in twenty years to address this condition, and CRWA is very supportive of the proposal's concept. The virtual elimination of the salt wedge will dramatically enhance river habitat, help reduce the toxicity of river sediments, and reduce bio-availability of phosphorus. It should be noted that no other proposal to address this problem is beyond any stage but that of conjecture, the stage at which all proposed solutions have remained except for 2.5 years of the 91 years of the existence of the wedge. We believe, therefore, that this proposal merits close examination to determine whether it can work without unduly harming existing river life, and in particular the anadromous fish runs.

To that end, CRWA would like SE Kendall to provide better predictions of future conditions in the river, particularly those related to the cooling water discharge, to better understand improvements and impacts associated with the project. The period of greatest concern occurs during low flow events, normally during the late summer and early fall. A detailed discussion of these events should be made available, particularly temperature variations, and whether the thermal plume from the diffusers could form a barrier to fish passage. In addition, a review of potential operating alternatives should be examined. Could, for example, the plant shift its discharge entirely to the seawall outfall during extreme and extended low flow events? Is there a hybrid alternative to the current discharge proposal, where some portion of the cooling water is passed through a small cooling tower before discharge to the Charles. Are there any alternatives which would allow the change in temperature from cooling water withdrawal to discharge to be reduced from the current 20 degrees Fahrenheit?

CRWA believes that the proponent should install a streamflow gaging station in the river at or near the Longfellow Bridge to help determine critical flow situations, as well as monitor river conditions after diffuser installation for at least two years to establish best operating practices. Such monitoring would also prove useful in determining the nature and extent of the benefits of breaking up the salt wedge.

Water Consumption

Currently, approximately half of the water piped through the steam heating system in surrounding buildings is lost in use or through leaks. SE Kendall should examine its system to determine whether reductions in steam system water losses are possible and to minimize the need for boiler makeup water.

CRWA is not opposed to the withdrawal at the plant of 650,000 gallons per day on average from the Charles River for system and make-water. In the end, the alternative source for that water would be the Cambridge water supply system, whose reservoir provides flow to the Charles approximately 12 miles upstream. Removing the water closer to the mouth of the Charles would be preferred. It should be noted, however, that whether SE Kendall buys the water from Cambridge or not, the city is in the business of

selling the water, and there is, therefore, no guarantee of additional flow to the river from the reservoir should the proponent obtain the water elsewhere. CRWA requests that the proponent examine flow mitigation strategies in the Lower Basin, and in particular strategies that enhance flow during the summer and early fall.

SE Kendall should also investigate best available technologies for reducing fish larvae entrainment at the intake. Are there filters or other devices that could reduce entrainment? Also, the proponent should estimate the current carrying capacity of fish in the Basin. How could the carrying capacity change as water and sediment quality conditions improve? Would entrainment have a larger effect on future fish populations in improved conditions or would the Basin's carrying capacity be the limiting factor?

Fish impingement is predicted to be low, at approximately 700 fish lost per year. Since it is likely that fish populations in the area will increase with better river conditions, CRWA requests that the proponent minimize future fish impingement by installing a return system with rotating screens to return fish to Broad Canal. Long-term fish impingement monitoring should be conducted to determine actual impacts to the Basin fish community.

Stormwater

Southern Energy has proposed a combination of sweeping, sumps with oil/water separators, and Stormceptors to manage stormwater from the site. CRWA encourages the re-use of treated stormwater on, or adjacent to, the site as much as possible, rather than the discharge of stormwater directly into the river or canal. For example, the stormwater could be used to water vegetation planted along the Broad Canal river walk.

Wastewater

The proponent should characterize the boiler makeup reject and boiler blowdown water, providing estimates of chemical and physical characteristics and more quantitative predictions of any receiving water impacts, particularly under 7Q10 low flow conditions, if appropriate. We did note the prediction (p. 9-72 and 9-73) that total suspended solids and total dissolved solids in the discharge would be about 2 percent higher than in the intake.)

In Closing

We believe it is worth noting that SE Kendall began its investigation of potential discharge benefits in the Charles over a year ago. Since then, they have made numerous presentations on the concept to local, state and federal agencies, and have modified their analyses based on questions and comments during those presentations. CRWA appreciates that much of this analysis has been conducted outside the EFSB, MEPA, or NPDES processes, and regardless of the outcome, believes that the project is a better one because of the proponent's willingness to investigate this opportunity.

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report. We look forward to your decision on this project.

Sincerely,

Robert L. Zimmerman, Jr.
Executive Director

Kathleen M. Baskin, P.E.
Project Director

Cc: Barbara Blumenis, USACE
Kevin Brander, DEP
Rick Corsi, MDC
Charles Cooper, TRC
Norm Cowden, Southern Energy
Joan LeBlanc, TBHA
Paul DiPietro, MDC
Julia O'Brien, MDC
Arleen O'Donnell, DEP
Alex Strysky, City of Cambridge
Bill Walsh-Rogalski, EPA
David Webster, EPA
Save the Harbor/Save the Bay