ALAN G. HEVESI
COMPTROLLER

110 STATE STREET
ALBANY, NEW YORK 12236

STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

March 8, 2006

Dr. Alvin M. Berk
SUNY Downstate Medical Center
Interim Vice-President for Facilities
450 Clarkson Avenue
Brooklyn, New York 11203

Re: Emergency Power Supply Systems
SUNY Downstate Medical Center
Report 2004-S-60

Dear Dr. Berk:

Pursuant to the State Comptroller's authority as set forth in Article V, Section 1, of the State Constitution and Article II, section 8 of the State Finance Law, we audited the actions taken by the State University of New York Downstate Medical Center (Center) to correct the problems that caused the Center's emergency power supply system to fail on August 14, 2003. Our audit covered the period of August 1, 2003 through September 2, 2005.

A. Background

On August 14, 2003, a catastrophic failure of the northeastern electrical power grid caused much of the eastern half of the United States, including New York City, to be virtually without electrical power. When power failures occur, hospitals, including the Center, have emergency electrical generators which are designed to temporarily substitute for the public power source. On that date, the emergency generators at the Center activated when electrical power was lost, however, the electricity was not transferred to the facility.

This situation occurred when two automatic transfer switches (ATS) malfunctioned. The ATSs were designed to automatically connect the Center's power lines to the back up generators when the public power source failed. The Center initially lost power for about two hours while the Center's engineers manually connected the generators to the hospital's electrical system. This connection also failed, reportedly because of a load imbalance, and was reconnected after another power loss of approximately 20 minutes. Thereafter, the generators ran effectively until public power was restored the next day. The emergency power failure forced clinicians to cancel elective surgeries and transfer some patients to Kings County Hospital which is located directly across the street from the Center.

B. Audit Scope, Objective and Methodology

We conducted our performance audit in accordance with generally accepted government auditing standards. This program results audit, covered the period August 1, 2003 through September 2, 2005, and assessed the adequacy of the emergency power supply system, and reviewed the actions taken by the Center to correct the problems that caused the emergency power supply to fail when the Northeastern United States experienced a power failure on August 14, 2003. To accomplish our objective, we interviewed Center personnel, reviewed reports and documentation of the causes of the problem and the actions taken to correct the problem. We also observed a test of the emergency power supply system on September 2, 2005.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State, several of which are performed by the Division of State Services. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions and public authorities, some of who have minority voting rights. These duties may be considered management functions for purposes of evaluating organizational independence under Generally Accepted Government Auditing Standards. In our opinion, these management functions do not affect our ability to conduct independent audits of program performance.

C. Results of Audit

We found that Center officials have taken actions to correct the problems that caused the failure of the emergency power supply system in August 2003. We also note that Center officials have instituted a practice of formal testing and training in an effort to avoid any similar problems in the future.

Center management conducted an analysis to determine the causes of the ATS and generator failures and to identify strategies to reduce the risk of a reoccurrence. It was determined that the failures were attributable to the age and condition of the ATS and generators; deficiencies in the hospital's equipment testing and preventative maintenance program and in the hospital's standard operating procedures (SOP) for power failures; and inadequate staff training.

To address these concerns, Center management implemented improvements to address the problems and resolved to continuously monitor the generators performance. Monitoring includes, but is not limited to, the following:

- Emergency electrical power SOPs were revised in June 2004 with respect to testing and maintenance of essential service system components;

- An extended 8-hour full-connected load test of the main generator system and a full load bank test of secondary generators were performed and are now scheduled annually; and

- Generators are now tested monthly pursuant to the National Fire Protection Association guidelines and are fully documented and presented to the Center Safety Committee.

Center officials took further preventative measures by providing training to additional maintenance staff on how to handle the type of failure that occurred. These same staff received training on the general control and operation of generators and the main switchboard.

As a result of our review and observations we believe that Center management has corrected the problems that led to the failure of the generators during the blackout. We reviewed the Center's generator tests for the period from January 2004 through July 2005 and noted that the tests reported the generators as operating effectively. Our observation of a test of the generator system noted that the power was transferred as intended.

We provided a draft copy of this report to Center officials for their review and comment. They responded that they agreed with our observations and conclusions. We considered their comments in preparing this report and their comments are included as Appendix A.

Major contributors to this review were Brian Mason, Tom Trypuc and Orin Ninvalle. We wish to express our appreciation to the management and staff of the Center for the courtesies and cooperation extended to our auditors during this examination.

Very truly yours,

Steven E. Sossei
Audit Director

cc: Ivan M. Lisnitzer
John Slaymaker

THE STATE UNIVERSITY *of* NEW YORK

Elizabeth D. Capaldi

February 10, 2006

Mr. Steven E. Sossei
Audit Director
Office of the State Comptroller
110 State Street
Albany, New York 12236

Dear Mr. Sossei:

In accordance with Section 170 of the Executive Law, enclosed are the comments of State University of New York Health Science Center at Brooklyn regarding the draft audit on Emergency Power Supply System (2004-S-60).

Sincerely,

Elizabeth D. Capaldi

Enclosure

Appendix A

SUNY DOWNSTATE Medical Center

University Hospital of Brooklyn
College of Medicine
School of Graduate Studies
College of Nursing
College of Health Related Professions

Vice President for Facilities

February 2, 2006

Kevin O'Donogue
University Auditor
Office of the Vice Chancellor
And Chief of Staff

Dear Mr. O'Donogue:

Thank you for forwarding a copy of the draft audit report #2004-S-60, Emergency Power Supply System SUNY Downstate Medical Center issued by the Office of the State Comptroller (OSC). As the report indicates, the institution has corrected any earlier deficiencies in the power supply system. We agree with this assessment.

Sincerely,

Alvin M. Berk, PhD.
Interim Vice President for Facilities