

**Report to the Twenty-Fourth Legislature
2008 Regular Session**

Pursuant to
Act 068, Session Laws of Hawaii 2007

**Report of the Division of Consumer Advocacy,
Department of Commerce and Consumer Affairs,
Relating to the Emergency Appropriation to investigate
the major power outages that occurred on October 15,
2006, on the islands of Oahu, Maui and Hawaii**

**Department of Commerce and Consumer Affairs
State of Hawaii**

December 2007

I. Introduction

Act 068, Session Laws of Hawaii 2007 (“Act 68”), provided an emergency appropriation of \$100,000 to the Division of Consumer Advocacy, Department of Commerce and Consumer Affairs to investigate the power outages that occurred on October 15, 2006, on the islands of Oahu, Maui and Hawaii. Act 68 also required the filing of this report identifying: (1) the date of each expenditure; (2) the identity of any recipient of payments for each expenditure; and (3) the scope of the consultant contract for which each expenditure was provided.

II. Contract Information

A. Date of encumbrance and identity of the expert consultant

On January 1, 2007, the Division of Consumer Advocacy, Department of Commerce and Consumer Affairs (“Consumer Advocate”), executed a contract for goods and services with Sega, Inc., a Kansas corporation, (“Sega”) to serve as an expert witness in possible or actual litigation in the course of the Consumer Advocate’s participation in the investigation to examine the major power outages that occurred on the islands of Oahu, Hawaii, and Maui on October 15 – 16, 2007, which involved Hawaiian Electric Company, Inc. (“HECO”), Hawaii Electric Light Company, Inc. (“HELCO”), and Maui Electric Company, Inc. (“MECO”) (HECO, HELCO, and MECO are collectively referred to as the “HECO Companies”) in Public Utilities Commission Docket No. 2006-0431. The contract is effective as of January 1, 2007 and ends on June 30, 2008, with two options for extension of one year each.

The total amount of Sega’s contract for expert services is \$85,100. Due to the timing of the emergency appropriation (effective on May 11, 2007) and the Consumer Advocate’s necessity to begin its investigation with Sega’s assistance at the beginning of the 2007 calendar year, the total amount of the encumbrance was made via use of the Consumer Advocate’s fiscal year 2006-2007 Personal Services – Fee Basis funds. In order to utilize such existing funds, the Consumer Advocate chose to defer expending certain other personal services (consultant) funds in order to focus attention on this important matter, with the expectation that funds could transferred once the emergency appropriation was effective and received by the Consumer Advocate.

As of October 15, 2007, the Consumer Advocate has paid Sega approximately \$84,947.27 to assist with conducting extensive discovery, interviewing key employees of the HECO Companies, completing field inspections of the key generating units involved in the major power outages (the islands of Oahu, Maui, and Hawaii), preparing a statement of position, responding to the information requests of the HECO Companies, and participating in numerous technical and other meetings convened by the parties to this proceeding.

All of the existing procedural steps identified by the parties have occurred. The Consumer Advocate is aware, however, that this legislature or the Hawaii Public Utilities

Commission could require the Consumer Advocate to engage in additional steps relating to this proceeding. Accordingly, the Consumer Advocate is seeking an amendment of the contract (effective October 15, 2007) to include an additional \$40,000 of consultant fees, in anticipation of any further procedural steps required by the legislature or the Hawaii Public Utilities Commission.

B. Scope of Services

The scope of services within the contract is as follows:

The Scope of Services (hereinafter referred to as Phase I efforts) listed below are specifically itemized and included as SEGA INC.'s (hereinafter "CONTRACTOR") general preparation to serve as an expert witness in possible or actual litigation in the course of the DIVISION OF CONSUMER ADVOCACY's (hereinafter "DIVISION") participation in the investigation to examine the major power outages that occurred on the islands of Oahu, Hawaii, and Maui on October 15-16, 2006 which involved Hawaiian Electric Company, Inc. (hereinafter referred to as "HECO"); Hawaii Electric Light Company, Inc. (hereinafter referred to as "HELCO"); and the Maui Electric Company, Limited (hereinafter referred to as "MECO") in Docket No. 2006-0431. These services assume a cooperative discovery environment in which issues are resolved through negotiation or litigation, the commencement of which starts with the need to provide written direct testimony or to appear at an evidentiary hearing, to respond to protracted or particularly litigious discovery efforts, or to analyze and comment upon unanticipated major issues, such services shall be addressed and funded through a Supplemental Agreement to this Contract (Phase II efforts).

(1) CONTRACTOR shall assist the DIVISION by providing the following services in connection with the DIVISION'S participation and evaluation of the issues to be addressed by the parties in Docket No. 2006-0431:

- (a) Analyze and evaluate the report and other documents filed by HECO, HELCO, and MECO pertaining to the outage that occurred on October 15, 2006, resulting from the earthquake that occurred off the island of Hawaii, which is the subject of Docket No. 2006-0431.
- (b) Prepare discovery (i.e., information requests, supplemental information requests, and rebuttal information requests) for submission on behalf of the DIVISION to HECO, HELCO, and MECO from whom information should be obtained;
- (c) Analyze and evaluate the responses of HECO, HELCO, and MECO to the discovery issued on behalf of the DIVISION in the instant proceeding as well as analyze and evaluate the information

- (d) from related docketed matters provided by the DIVISION pertaining to the assumptions made in developing the findings and recommendations set forth by HECO, HELCO, and MECO;
- (e) Prepare a written Statement of Position, exhibits, and supporting workpapers for submission on behalf of the DIVISION;
- (f) Prepare responses on behalf of the DIVISION to the discovery questions issued by HECO, HELCO, and MECO on the recommendations made by CONTRACTOR in the written Statement of Position, exhibits, and supporting workpapers;
- (g) Participate in conference calls to discuss issues and/or clarify positions in the pre-filed discovery and/or written Statement of Position, exhibits, and workpapers; and
- (h) Provide technical assistance in settlement negotiations, if any.

III. Sega's Conclusions

After completing an extensive review of the record, Sega concluded that: (1) there are at least three main underlying causes that contributed or may have contributed to the power outages occurring and potentially lengthening the recovery duration; (2) the HECO Companies' activities and performance prior to and during the power outages were reasonable and in the public interest; (3) the island-wide power outages could not have been avoided on Maui and were understandable on Oahu; and (4) the HECO Companies should not be assessed penalties for these uncommon island-wide outages.

As stated above, Sega concluded that there were three main underlying causes that contributed or may have contributed to the power outages occurring and potentially lengthening the recovery duration. First, the reaction of the Electro-Hydraulic Control System Low Fluid level mercury switches to the earthquake's seismic vibrations and their relays locking out the system was a primary underlying cause that contributed to the island-wide outage on Oahu. Second, the lack of formalization to the HECO Companies' training programs for plant and system operators contributed or may have contributed to the Power Outages. Finally, HECO's specific generation mix and lack of quick-start combustion turbine generator capability did not permit HECO to start units to prevent the island-wide outage and contributed to the length of time required to restore the system

Sega recommended that the HECO Companies implement the following recommendations: (a) formalize their training programs for plant and system operators to include more formalized training, practiced simulation, certification, re-qualification and record keeping; (b) evaluate and pursue providing additional black start capability on HECO's system; and (c) develop and commence a long-term program to implement Supervisory Control and Data Acquisition ("SCADA") control on HECO's existing distribution breakers, and the HECO Companies to implement a standard requiring SCADA control for all new distribution breakers that are installed on all three islands.

A copy of the Consumer Advocate's Statement of Position is attached as Exhibit 1 to this report.