IN THE COMMONWEALTH COURT OF PENNSYLVANIA

MARK BANFIELD, *et al.,*	:
Petitioners,	:
	: **DOCKET NO. 442 M.D. 2006**
v.	:
PEDRO CORTES,	:
Respondent.	:

<u>AFFIDAVIT OF DOUGLAS W. JONES, Ph.D.</u>

I, Dr. Douglas W. Jones, swear under penalty of perjury that the foregoing is true:

1.   I am an Associate Professor in the University of Iowa Department of Computer Science, a position I have held since 1988.

2.   I have been doing computer programming since 1968 and have been studying electronic voting systems since 1994, when I was appointed to the Iowa Board of Examiners for Voting Machines and Electronic Voting Systems.

3.   Since 2000 alone, I have published numerous articles on the subject, as documented in my curriculum vita, attached hereto as Exhibit A.

4.   In my career, I have examined technical documents for electronic voting machines manufactured and distributed by four of the five vendors whose products are presently in use in Pennsylvania: Premier Election Solutions, Election Systems & Software-, Hart InterCivic and Sequoia Voting Systems, as well (the "Vendors").

5.   I am familiar with the Complaint that Petitioners have filed in this case and the allegations contained therein.

6. In my opinion, in order to adequately test whether the Secretary of the Commonwealth (the "Secretary") properly certified electronic voting machines for use in Pennsylvania elections in accordance with the state election code, it is essential that Petitioners' experts be informed precisely what documents and materials were available to the Secretary and the Secretary's designees.

7. Furthermore, a determination of the propriety of the Secretary's examination process requires access to the same documents and materials that were available to the Secretary. If the Secretary bases a conclusion on some document or material that is not available, then there is no way to challenge that conclusion.

8. It is my understanding that the Secretary had access to the actual voting machines and their software and source code. As such, it is my opinion that these must be available to Petitioners' experts.

9. I am aware that the Vendors and the Secretary have argued that Petitioners can adequately present their case using only paper documents created by the Vendors themselves. I strenuously disagree.

10. If the Secretary bases conclusions on examination of voting machines or on examination of source code, there is no way for Petitioners' experts to test those conclusions.

11. Furthermore, in my experience, many of the technical documents created by the Vendors regarding their products are misleading and do not adequately describe the functionality of the machines themselves. I have encountered many documents purporting to be "design documents" that obviously played no role in the design process, having been written after the voting systems were built and manufactured, in order to fulfill requirements imposed by the
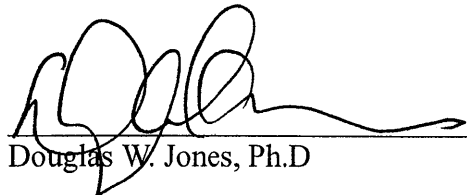
Vendors' customers.

12.   Additionally, the vast majority of the vendor documents I have seen documented the intended behavior of the voting system. Assessing a voting system for security defects and potential for failure involves an examination of how it behaves when used in ways that are typically not documented. Undocumented behavior can be found by experiment or examination of source code.

13.   Without access to an electronic voting system's source code, there is a remote chance that experiments with the system might identify security failures. While examination of source code is difficult, the availability of such code greatly enhances the ability of a voting system examiner to identify security problems.

Under penalty of 18 Pa.C.S. § 4904, as made applicable by 42 Pa.C.S. § 102 (defining "affidavit"), I declare that the aforesaid is true and correct.

Dated: _____
Oct 15, 2009

Douglas W. Jones, Ph.D