IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF MISSISSIPPI

JOHN TYLER CLEMONS, *et al.*)
)
     Plaintiffs,)
  -v-   ) Case No.
) 3:09-CV-00104-WAP-SAA
)
UNITED STATES DEPARTMENT OF)
COMMERCE; *et al.*,   )
)
     Defendants.)

AFFIDAVIT OF KIMBALL BRACE,

Kimball Brace, first being duly sworn on oath, deposes and says:

1. I am the president of Election Data Services, Inc. (E.D.S. Inc.), a Manassas, Virginia—based consulting firm whose specialty is reapportionment, redistricting matters, election administration issues, and the Census.

2. I and E.D.S. Inc. has been retained by the law firm of Webster, Chamberlain & Bean with regard to the case of *Clemons, et al. vs. US Department of Commerce, et al..* E.D.S. Inc. is billing the firm for my time at my normal hourly rate, along with any expenses incurred.

3. I started Election Data Services, Inc. in 1977, and have been with the company since that time.

4. Prior to 1977, I was a journalist and was employed by such companies as NBC News, Congressional Quarterly, and Plus Publications. While I was with NBC News, I was a researcher, advance man, and during the 1972 election year, an election analyst for the NBC News Elections Unit. One of my responsibilities was to follow the redistricting process that occurred after the 1970 census. At Congressional Quarterly, I was in charge

1

of congressional voting studies. At Plus Publications, I was Associate Editor of a newsletter called *Election Administration Reports*, a bi-weekly publication for state and county election administrators and registrars of voters.

5. I attended American University in Washington, D.C., from 1969 through 1974 (having taken a year off for the 1972 campaign), where I earned a B.A. degree in Political Science.

6. Since 1979, I, individually and with E.D.S. Inc., have been actively involved in many aspects of the redistricting and reapportionment process, having gone through three full census and redistricting cycles. I have been a consultant to many state and local governmental organizations around the nation, providing strategic advice and consulting on redistricting matters, coordinating the development of extensive databases used in the redistricting process, creating and assisting others with the creation of districting plans, and analyzing many aspects of districts and district configurations. Over the past 29 years, Election Data Services' clients for redistricting services have come from more than half the states in the nation.

7. We were also retained by the U.S. Department of Justice, Civil Rights Division, to assist with the building of a massive database of election returns and geography for evaluating racial bloc voting and redistricting plans in the State of South Carolina. In addition, I have over the past three decades been called upon to provide reports, expert witness testimony, and assistance to attorneys in more than 60 different court cases.

8. I frequently give speeches to groups and organizations, and participate in numerous conferences and panels on various aspects of apportionment, redistricting and the Census. Since the early 1980s I have been a regular participant and speaker at annual and bi-

annual meetings of the Task Force on Redistricting of the National Conference of State Legislatures.

9. I was appointed by the U.S. Secretary of Commerce to the 2010 Census Advisory Committee, a 20-person advisory board to the Director of the Census Bureau and am currently serving in my second term.

10. I was also sent by the U.S. State Department and the International Foundation for Electoral Systems (IFES) to the Central Asian country of Kazakstan to present a three-day workshop on redistricting. I am regularly called upon by members of the press with questions on redistricting, reapportionment, the Census, election administration issues, and politics in general.

11. A copy of my vita is attached as **Exhibit 1**. As president of Election Data Services, Inc., I supervise and direct all major projects in which the company is involved; including our efforts to evaluate this case.

12. Election Data Services, Inc. has been viewed by clients, the press, academics, and the general public as a research facility and consulting firm dealing with many aspects of the electoral process. The company and its staff have been hired by state and local governments across the nation to provide software, database development services, and consulting services for the creation of districting plans and the analysis of many aspects of the apportionment and redistricting process.

13. During the course of our work over the past three decades, we have undertaken and performed many different analyses of redistricting plans from around the nation. Most notably have been our efforts to calculate compactness measures for both congressional and state legislative districts in all 50 states. Our company supplied compactness data

and the analysis of congressional districts in Texas and throughout the nation that was

reported in Drs. Pildes and Niemi's December 1993 Michigan Law Review article (92

MICH. L. REV. 483), which was cited with approval by Justice O'Connor in *Bush v. Vera,*

517 U.S. 952, 960 (1996) (plurality opinion).

14. In addition, the company provides assistance in the election administration field to state

and local jurisdictions in such areas as precinct management, voter registration systems,

and voting equipment evaluation.   I personally have been involved in the election

administration field for nearly 30 years. While I was in college at American University

in the early 1970s, my primary professor was Dr. Richard Smolka, who was starting a bi-

weekly publication for state and local election administrators called Election

Administration Reports. I worked with him at that time and following my employment at

NBC News and Congressional Quarterly. I again worked with Dr. Smolka in 1975 and

1976 when I was Associate Editor of Election Administration Reports. In that job, I was

regularly in contact with state and county election officials about the issues of importance

to their offices, and traveled to a number of jurisdictions to observe both the elections and

recount process.

15. In 1975, I was retained as a consultant to the Automatic Voting Machine company and

traveled throughout the nation to observe Election Day operations, particularly in punch

card voting jurisdictions. From 1977 to 1979, I was part of a team that had a contract

with the Federal Election Commission to study the use of statistics in the election

administration field. As the lead investigator, I traveled throughout the nation to review

how numbers were collected, tallied, and used in various elections offices.

16. In 1980, E.D.S. Inc. was retained by the Federal Election Commission to compile a listing of what kind of voting system was used in each county of the nation. In the past two decades, we have maintained and updated after each general election a database of this information. Our most recent study of the use of voting systems is available on our website (www.electiondataservices.com), and has been used by the media, the press, and other third party sources around the nation to help explain different voting systems. Our data and maps have been published in *USA Today, Newsweek, Time Magazine, the New York Times, the Los Angeles Times,* and other publications around the nation. Following the 2000 Presidential election, I was called by 40-50 reporters a day to provide information and comment on the election administration field around the nation. I was also interviewed by NBC, CBS, ABC and CNN numerous times about the 2000 election controversy. Starting in 2004 through the present time I have been a consultant to NBC News on election administration matters and provided on-air commentary on election night.

17. In addition, I was retained by the Gore-Lieberman Campaign Committee and provided expert witness testimony about voting equipment in the *Bush v. Gore* lower court evidentiary hearing on December 2, 2000. Portions of our voting system database have been purchased by various vendors of voting systems to help in their marketing efforts. In addition, the United States Department of Justice, Anti-Trust Division, retained our services and analyzed our database during their review in the mid-1990s of the merger of two of the largest vendors in the election administration field. I have been notified of the Department's desire to retain our firm in 2010 to deal with another merger of the two currently largest voting equipment vendors.

18. Over the past three decades, I, individually and with E.D.S. Inc., have been involved in various aspects of the election administration process. We have been retained by various local jurisdictions to assist them in evaluating different voting systems on the market. We were contracted by the Federal Election Commission in 1995 to research and publish a major study on statewide voter registration systems *(Developing a Statewide Voter Registration Database: Procedures, Alternatives and General Models)*. I was the principal investigator on that project, and traveled around the nation to visit state election offices. From 1997 to 1999, E.D.S. Inc. was retained by the states of Illinois, North Carolina, and Pennsylvania to conduct similar studies. In each of these studies, I, along with other E.D.S. Inc. employees, traveled throughout the states to compile information and meet with local election officials. In 2005 we were retained by the newly created U.S. Election Assistance Commission to compile and analyze what became the largest and most comprehensive survey of voting and election administration practices ever conducted by a U.S. governmental organization. A copy of the full report on the 2004 Election Day Survey is available on the commission's website: www.eac.gov. We performed this same task for the EAC's 2006 study, and were retained as a subcontractor for the EAC's 2008 survey.

19. Since 1993, E.D.S. Inc. has created and actively marketed a computer mapping system designed to help local election administrators make changes to voting precincts and update their voter registration systems with the new boundaries. As a result of that work, we have traveled to most of the states of the nation to make presentations to local election authorities, as well as attend statewide conferences for local election officials. Since the passage of the Help American Vote Act of 2002 (HAVA), we have been utilizing this

program and others to help with the creation of statewide voter registration databases in

different states. The system is also used to verify that voters are assigned to the correct

voting district or precinct.

20. E.D.S. Inc. regularly collects election returns for each state in the nation. In 1992 we

published a 500-page volume of county-level voter registration and voter turnout data,

and election returns for the entire nation (*The Election Data Book: A Statistical Portrait*

of Voting in America, 1992 (Bernan Press, 1993)). While we only published the single

volume, we have continued to compile an electronic county-level database for each

general election since that time, which we sell to numerous institutions and organizations.

21. E.D.S., Inc. offers a wide variety of graphics services, from the creation of maps and

posters to working with Census Bureau electronic mapping files. For every election year

since 1988, E.D.S. Inc. has produced a full color poster of the nationwide election results

within days after the November general elections. This poster can be seen in most

congressional offices and the White House.

22. Initially E.D.S. Inc. conducted redistricting activities the old fashion way, using paper

maps, lots of acetate, and plenty of color pencils. In order to see where different racial,

ethnic origin and political groups were located in a jurisdiction, we colored thematic

maps by hand. Unfortunately, that meant careful planning for what colors would show

what percentage range. It was too time consuming to try one set of ranges, then change,

and make another map. However, with the advent of personal computers (PCs) in the

early 1980s, we began using some of the earliest mapping software packages, usually to

produce color maps for exhibits in court cases. This ultimately lead us to more extensive

geographic information system (GIS) software packages and our own development of

redistricting software that was used in numerous state and local redistricting projects in the 1990 round. We continued developing GIS software applications to help state governments compile precinct configurations for submission to the Census Bureau under P.L. 94-171 (whereby, census data was compiled by precinct for use in redistricting). We developed analysis software for use during the 2000 redistricting process, and have utilized both major redistricting software packages over the past three years.

23. Over the past nearly 25 years we have compiled extensive databases for use in redistricting and court cases in a number of different states and localities.

24. In the mid-1980s Election Data Services, Inc. developed software to calculate the distribution of congressional districts to the states based on population or other data. Initially developed in the Basic programming language, in the early 1990s we reprogrammed it as macros for Excel spreadsheets. The program implemented the "methods of equal proportions" formula that was adopted by the US Congress in 1941 as the official manner to divide seats in the US House of Representatives among the states.

25. As the Constitution stipulates, each state is provided at least one initial seat in the House of Representatives. The formula is actually used to hand out the remaining 385 districts. The formula itself is difficult to describe, but to simplify when asked by members of the press, I usually describe it as the process to divide the remaining 385 districts on the basis of the remaining population, as each district is assigned. A more exactly description was documented by Greg Giroux, a reporter for Congressional Quarterly recently as:

> The rest of the seats are handed out based on statistical "priority values" assigned
> to each additional seat that a state might get. In as close to plain English as the
> formula will allow, these priority values are calculated in a two-step process that
> requires dividing a state's population by the square root of the product of the
> number of seats it's already been assigned and that number plus one. The priority

numbers are then rank ordered: "State A" will get an additional seat if its priority
value for that seat is greater than any other state's. The seats are disbursed to
states based on these rankings until all 435 have been awarded.
http://www.cqpolitics.com/wmspage.cfm?docID=news-000003255602
December 1, 2009

26. Our reapportionment program calculates not only how many seats each state would

receive based on the population or other numbers put into the formula, but it also

calculates and reports the number of people a state gained its last seat by or lost the next

seat by. It reports the last seat number that is given to a state, as well as what number

seat the next district would be if the calculations continued past the 435 seat cut-off. The

program will also allow the user to change the maximum number of seats to be

calculated. Finally, the program calculates the ideal district size for each state, by taking

the state's total population and dividing it by the number of seats that the state has been

awarded.

27. On at least a yearly basis, we have utilized the apportionment program to analyze the

Census Bureau's annual state population estimates. Our resulting studies and press

releases have been constantly referenced by the media and scholars. Usually released the

same day the Census Bureau estimates are unveiled, our studies can be found on our

website (www.electiondataservices.com). A copy of our most recent study, released

December 23, 2009, is attached to this report as **Exhibit 2**.

28. Because of our three decade experience in all realms of redistricting, including the

programming for both redistricting software and reports, we have substantial experience

with the method of calculating deviation reports.

29. For the purposes of this affidavit, we have modified our reapportionment program to do

additional calculations on state deviations. A series of tables were then generated to

analyze the apportionment process from 1940 to the current 2000 in effect this decade.

These are the apportionment years where the "method of equal proportions" was used to determine congressional apportionment, as stipulated by Congress in a law passed in 1941 (2 U.S.C. § 2a). These tables are attached to this report as **Exhibit 3** (1940), **Exhibit 4** (1950), **Exhibit 5** (1960), **Exhibit 6** (1970), **Exhibit 7** (1980), **Exhibit 8** (1990), and **Exhibit 9** (2000).

30. The presence of states with very minimal population has been the source of the bulk of the inequality we see in the House of Representatives over this time period. Nevada's population in the first census after its admission (1870) was only 42,491. Nevada's presence skewed the numbers for every census after that until the 1960 census. In 1960, the newly admitted state of Alaska became the most over-represented state. Alaska was the most over-represented state by a factor of 44.90% while Maine was the most under-represented state by a factor of 18.06%. Alaska repeated as the most over-represented state in 1970.

31. In 1980, for the first time (since the adoption of the Method of Equal Proportions) a state with more than one representative was the most over-represented. This was Montana. In 1990 and 2000 Wyoming, with a single seat, was the most over-represented state. In 2010, Rhode Island, with two representatives will be the most over-represented. (My basis for this projection is described below starting at Para. 33).

32. What we can conclude is that the problem with newly admitted states is now behind us. We are more than fifty years past the admission of Alaska and Hawaii. The interstate malapportionment that we are seeing is going to continue in numbers far in excess of the levels that the Supreme Court has approved for any purposes in the one-person, one-vote context. We can no longer blame newly admitted states for the significant disparity.

33. While we don't know yet what the final count from the 2010 Census will be, and therefore the official apportionment results, we can create reliable estimates and test those estimates on the anticipated deviations that will result.

34. For the purposes of studying the 2009 population estimates released by the Census Bureau in December, 2009, Election Data Services, Inc. created a series of estimates for possible 2010 population projections (see **Exhibit 2**) based upon various amounts of change that were apparent in the Bureau's data. The six trend models used various time factors that the change would be calculated upon.

35. First, there is a "long-term" trend model that reflects the overall change that has occurred so far this decade; that is from 2000 to 2009, and projects it forward nine months to correspond to census day on April 1, 2010. Second, there are four "mid-term" trend models that use the population change that has occurred from 2004 to 2009, from 2005 to 2009, from 2006 to 2009, and from 2007 to 2009. Finally, a "short-term" trend model incorporates the change that has occurred in just the past year, from 2008 to 2009, and carries that rate of change forward to 2010.

36. Demographically this nation has undergone fundamental changes in this decade, particularly in the different populations of the 50 states. Since World War II, the Census Bureau has estimated how many people move each year. Traditionally that change was about 17% per year. But starting in the midpoint of the 2000 decade, this population movement stopped or severely slowed down. The most recent report for 2008, taken at the onset of the housing and mortgage crisis, as well as the economic recession, reported that only 11% of the population had moved, the lowest percentage since the studies began nearly 60 years before.

37. Because the "long-term" trend model includes years at the beginning of the decade, when times were good and people moved, including between states, projecting this pattern to 2010 is likely to over project the expected population. Conversely, the "short-term" trend model, which only uses the change that occurred from 2008 to 2009, at the heart of the recession, means it will show the lowest expected population. By choosing six different time series for the trend models, one will be able to see a range of possible outcomes. None of the six is expected to be exactly correct when the final Census numbers are released later this year. The "short-term" model is probably preferable because there is such a short time before the actual Census, which means less time for actual changes to occur.

38. I have taken the tables from the original press release for the six models and modified them to reflect the results of the deviation analysis calculations shown earlier in this report. These new tables are attached as **Exhibit 10** (showing results from 2000 to 2009 "long term" trend model); **Exhibit 11** (showing results from the 2004 to 2009 "mid-term" trend model); **Exhibit 12** (showing results from the 2005 to 2009 "mid-term" trend model); **Exhibit 13** (showing results from the 2006 to 2009 "mid-term" trend model); **Exhibit 14** (showing results from the 2007 to 2009 "mid-term" trend model; and **Exhibit 15** (showing results from the 2008 to 2009 "short-term" trend model).

39. The six models produce expected nationwide population estimates that are within an overall range of 500,000 out of the 308 million people. Again, no single model is expected to be absolutely correct, but they show a relatively narrow range for what we might expect later this year. As noted in the press release report (see **Exhibit 2**), the 2009 population estimates have not been statistically adjusted for any known undercount,

nor were there estimates provided for U.S. military personnel overseas. This later

component has in the past been counted by the Department of Defense and the Census

Bureau and allocated to the states, as it will once again in 2010.

40. The six models produce for 2010 an expected total deviation of between 64.0% and

64.47%, using the same methods of calculations as reported above. The total deviation

(in numbers) is expected to be between 453,747 and 457,483.

41. Utah will gain a seat in the House of Representatives and will not be an under-

represented state after the 2010 census.

42. The other four states involved in this litigation will continue to have significant

deviations from both the ideal district and from the most under-represented state.

43. Montana's population will continue be greater than the ideal district size. The degree of

under-representation is likely to be between 38.25% and 38.52%.

44. Delaware's population will continue to be greater than the ideal district size. The degree

of under-representation is likely to be between 25.80% and 26.07%

45. South Dakota's population will continue be greater than the ideal district size. The

degree of under-representation is likely to be between 15.15%% and 15.43%.

46. Mississippi's population will continue be greater than the ideal district size. The degree

of under-representation is likely to be between 4.27% and 4.52%.

47. While it would be inappropriate to use these numbers to actually reapportion the House

prior to the census, these projections are quite reliable for the purposes of determining

whether or not the plaintiffs will still be substantially under-represented after the 2010

census. It is a virtual certainty that all plaintiffs from these four states will be under-

represented at levels greater than levels that have been ruled unconstitutional by the Supreme Court in cases involving intrastate congressional apportionment.

48. After the 2010 census, Rhode Island, with two seats, will replace Wyoming as the most over-represented state.

49. The Bureau of the Census publishes reliable estimates of the percentage of each state's population in terms of the number of citizen's in each state. I have used estimates released on October 26, 2009.

50. I have employed these estimates to calculate an apportionment plan for the House of Representatives that contrasts a plan that includes all residents **(Exhibit 16)** compared to a plan that uses just citizens **(Exhibit 17)**.

51. Both plans assume an ideal district size of approximately 300,000. The plan with all residents (the traditional method of apportionment) (Exhibit 16) has an ideal district size of 299,998. This produces a House of Representatives of 1028 seats. The Total Deviation for this plan is 29.98% or 89,928 persons. The plan which only considers citizens for apportionment purposes (Exhibit 17) has an ideal district size of 299,880. This produces a House of Representatives of 940 seats. The Total Deviation for this plan is 23.41% or 70,192 persons.

52. This demonstrates that if Congress chooses to apportion on some basis other than that traditionally employed, it is possible to reduce the level of deviation with a smaller House of Representatives than might otherwise be possible.

53. There is no alternative other than increasing the size of the House of Representatives that can produce substantial reductions in the level of under-representation now being experienced by millions of voters in this nation.

Kimball Brace

Subscribed and sworn to before me on this /7 day of February, 2010.

Notary Public in and for the
State of North Carolina

NOTARY PUBLIC
WILLIAM E. LANE
Forsyth County, NC
My Commission Expires
November 8, 2012
NORTH CAROLINA