REPORT OF THE DEPARTMENT OF THE TREASURY, DIVISION OF RISK MANAGEMENT

# Recommended Liability Insurance for Constitutional Officers and Regional Jails under the VARisk Program

TO THE GOVERNOR AND THE GENERAL ASSEMBLY OF VIRGINIA



**HOUSE DOCUMENT NO. 58** 

COMMONWEALTH OF VIRGINIA RICHMOND 2005

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## **Executive Summary**

### **Purpose**

Mercer Oliver Wyman Actuarial Consulting, Inc. (Mercer) was asked by DRM to provide an allocation of the projected FY 2007 and FY 2008 costs of the Constitutional Officer (VARisk) insurance program to the constitutional officers and regional jails. FY 2007 refers to the period from July 1, 2006 through June 30, 2007. We relied on our annual analysis of the overall funding requirements of the Constitutional Officer insurance program as of June 30, 2005 using data as of March 31, 2005.

Please note that the VARisk program is also referred to as the Constitutional Officers program in this report.

### Results - Recommended Premiums

The overall premium figures are from our preliminary June 30, 2005 reserve analysis and reflect the projected ultimate losses associated with claims expected to be reported during FY 2007 along with the FY 2007 program and administrative expenses. Three overall premium figures are allocated for FY 2007 and FY 2008. The first premium figure, termed "Mercer Oliver Wyman's Recommended Funding on a Claims-Made Basis", represents the projected premium necessary to achieve a \$0 fund position as of June 30, 2007 and maintain the \$0 fund position through June 30, 2008. The second premium figure represents the necessary premium to meet the projected undiscounted losses and expenses as of June 30, 2005. The third premium figure represents the necessary premium to meet the projected discounted losses and expenses as of June 30, 2005. The discounting calculation assumes a 3.0% annual interest rate.

The methodology used to allocate the overall funding amounts to the constitutional offices and regional jails is described in the "Analysis" section of this report. The allocation calculations are detailed in the attached exhibits.

It should be noted that all figures are on a claims-made (as opposed to occurrence) basis and, with the exception of the "Mercer Oliver Wyman Recommended Funding", are not adjusted for the overall fund position.

The following table summarizes the funding projections under the three premium scenarios discussed above.

|                 | Constitutional         | Regional         |                  |  |
|-----------------|------------------------|------------------|------------------|--|
|                 | Officers               | Jails            | <u>Total</u>     |  |
| Mercer Oliver V | Vyman's Recommende     | d Funding on a C | laims-Made Basis |  |
| FY 2007         | \$1,812,332            | \$344,668        | \$2,157,000      |  |
| FY 2008         | \$2,925,105            | \$556,295        | \$3,481,400      |  |
| Premium Ba      | sed on Projected Undi  | scounted Losses  | and Expenses     |  |
| FY 2007         | \$2,980,781            | \$566,884        | \$3,547,665      |  |
| FY 2008         | \$3,123,728            | \$594,069        | \$3,717,797      |  |
| Premium B       | ased on Projected Disc | counted Losses a | nd Expenses      |  |
| FY 2007         | \$2,795,482            | \$531,643        | \$3,327,126      |  |
| FY 2008         | \$2,929,164            | \$557,067        | \$3,486,231      |  |

## **Accounting Projections**

The accounting projection exhibits display estimated fund cash flows and fund balances through FY 2010 under each of the three premium scenarios. The first row of each accounting exhibit shows the fund balance at the beginning of the year. For 2005, the fund balance at the beginning of the year is the fund balance as of June 30, 2004 as provided by the Commonwealth. For other fiscal years, it is the estimated fund balance at the end of the prior fiscal year (row 8).

The premium shown on row 2 varies depending on the funding assumptions presented. Row 3 represents transfers. Row 4 represents loss payments by fiscal year. Loss payments for FY 2005 were estimated based on data through March 31, 2005 provided by DRM. Loss payments for FYs 2006 through 2010 are our projections based on our reserve analysis using data as of March 31, 2005. The program and administrative expenses (rows 5 and 6) for 2005 through 2010 were provided by DRM. The anticipated investment income is presented as row 7. This projection is based on the fund balance at the beginning of the year, assumed premium collections and transfers at the beginning of the year, loss and expense payments made evenly throughout the year, and an assumed 3.0% annual rate of return.

The inflow of funds (i.e. premiums and investment income) is added to the fund balance at the beginning of the year and projected outflows (i.e. loss payments and program and

administrative expenses) are subtracted from this total to arrive at the projected end of year fund balance (row 8).

#### Results – Reserves and Settlements

In Mercer's preliminary analysis as of June 30, 2005 of the fund position for the Constitutional Officers Liability program and other DRM programs, we projected future payments associated with claims which have been reported on or before June 30, 2005. These future payments are referred to as the "required reserve" in our report. Rows 9 and 10 of the accounting projections exhibits contain our reserve estimates on an undiscounted basis and a discounted basis. As of June 30, 2005, we estimate the reserve to be \$6.943 million on an undiscounted basis and \$6.631 million on a discounted basis. The discounted reserve estimate represents the present value of the projected future payments or, in other words, how much would need to be invested today so that principle plus interest would be sufficient to pay claims as they come due. At the direction of DRM, a 3.0% annual interest rate assumption is used for discounting.

DRM requested that this report include the number and amount of settlements concluded in the previous fiscal year, and the impact of those settlements on the program's reserves. It is our understanding that eight claims were settled between July 1, 2004 and June 30, 2005, with settlement amounts totaling \$175 thousand. DRM also provided their case reserve estimates on these claims prior to settlements. Using these case reserves, we estimated the programs reserves as of June 30, 2005 assuming that the settlements had not occurred and the claims remained open. Under this scenario, we estimate that the program reserves would have been \$7.134 million on an undiscounted basis and \$6.813 million on a discounted basis.

#### Conditions and Limitations

Information concerning the program structure and risk exposure, as well as losses by office, were provided by DRM. We relied on the accuracy and completeness of this information without independent verification. If the data is inaccurate or incomplete, our findings and conclusions may need to be revised.

The conclusions are projections of the financial consequences of future contingent events and are subject to uncertainty. There may be abnormal statistical fluctuations in the future. Due to the inherent uncertainties in the estimation of future costs, it cannot be guaranteed that the estimates set forth in the report will not prove to be inadequate or excessive; actual costs may vary significantly from our estimates.

Unanticipated changes in factors such as judicial decisions, legislative actions, claim consciousness, claim management, claim settlement practices, and economic conditions may significantly alter the conclusions.

As discussed earlier in our text, we have been asked to provide premium estimates on a claims-made basis.

The "Mercer Oliver Wyman Recommended Funding" is our estimate of the premium required to present a \$0 fund position as of June 30, 2007 and June 30, 2008 on a discounted basis. We used an interest rate of 3.0% for discounting at the direction of DRM. We have not reviewed the investment policy or assets of the Commonwealth and express no opinion as to the appropriateness of this assumption. In addition, we have assumed that the Commonwealth will have assets supporting the projected liabilities, and have further assumed that these assets will have appropriate liquidity to meet loss payments as they come due.

The conclusions are predicated on the assumption that the selected reporting, reserving and payment patterns, frequency and severity trends, and claim distributions apply, and will continue to apply, to the program. The risk exposure covered by the program, as well as the claim reserving, management, and settlement practices, are assumed to be consistent over time, except as noted.

The report has been prepared solely for internal use by the Commonwealth, specifically DRM, and its accountants, auditors and attorneys. Other distribution, or use of this report by management or related parties described above, is not authorized without the prior written consent of Mercer. With our written consent, this report may be distributed only in its entirety. However, this report should not replace the due diligence on behalf of any third party and Mercer assumes no liability related to third party use of this report.

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### **ANALYSIS**

### Data

For purposes of this report, DRM provided the following information:

- 1. Actual losses as of March 31, 2005 by office, for fiscal report years 1993 through 2005.
- 2. Number of constitutional officers and regional jails FYs 1993 through 2005.

## Methodology

The first step in our analysis was to compile historical loss (including loss adjustment expense) and claim count information by the various types of entities covered under the VARisk program. The entity types used in our analysis are (1) Clerks, (2) Commissioners of Revenue, (3) Commonwealth Attorneys (4) Regional Jails, (5) Sheriffs, and (6) Treasurers. Exhibits 5 through 8 provide historical incurred losses, loss reserves, paid losses, and reported claim counts by entity type and policy year.

Based on the information from DRM on the total number of entities historically covered by the VARisk program and the current number of entities covered by type, we have estimated the historical number of each type of entity covered by this program. This information is presented as Exhibit 9. It should be noted that if the actual number of entities covered by type for each year is available, we would be pleased to update our analysis for any material change.

The next step is to project these reported losses by entity type and fiscal year to an ultimate basis based on the loss development factors from our preliminary June 30, 2005 actuarial report. These projected ultimate losses are then trended to a FY 2004/2005 cost level based on a 5% per year trend and divided by the number of entities to arrive at pure premiums (i.e. losses per entity) at a FY 2005 cost level. The projected ultimate losses,

projected ultimate losses trended to a FY 2005 cost level, and the pure premiums are shown in Exhibits 2 through 4.

Based on the trended pure premiums, we select a preliminary FY 2005 cost level pure premium by entity. These preliminary selections are "re-balanced" so that the overall selected pure premium is achieved. The result is our final selection of the pure premiums (limited to \$1 million per occurrence) by entity type as shown on the last row of Exhibit 2.

The selected pure premiums by entity are multiplied by the respective entity exposures to derive preliminary ultimate losses at the FY 2005 cost level. Each entity's percentage share of the total ultimate losses is then applied to the overall funding estimates to derive each entity's share of the FY 2007 and FY 2008 funding amounts. These calculations are shown in Exhibit 1.

#### **EXHIBIT 1**

### **COMMONWEALTH OF VIRGINIA**

#### DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

#### PROJECTIONS FOR 2007 AND 2008

|  | Clerks        | Comm. Of<br>Revenue        | C'wealth<br>Attorneys        | Regional<br><u>Jails</u> | <u>Sheriffs</u>   | <u>Treasurers</u> | <u>Total</u> |
|--|---------------|----------------------------|------------------------------|--------------------------|-------------------|-------------------|--------------|
| Preliminary<br>Ultimate Loss at<br>2005 Cost Level | 185,663       | 83,638                     | 179,058                      | 461,635                  | 1,940,537         | 38,467            | 2,889,000    |
| Allocation for<br>Premium                          | 6%            | 3%                         | 6%                           | 16%                      | 67%               | 1%                | 100%         |
|  |               | Mercer Oliver              | Wyman's Recor                | mmended Fund             | ding on a Claims- | Made Basis        |              |
|  | <u>Cierks</u> | Comm. Of<br>Revenue        | C'wealth<br>Attorneys        | Regional<br><u>Jails</u> | <u>Sheriffs</u>   | Treasurers        | <u>Total</u> |
| Premium for 2007                                   | 138,621       | 62,447                     | 133,689                      | 344,668                  | 1,448,854         | 28,721            | 2,157,000    |
| Premium for 2008                                   | 223,734       | 100,789                    | 215,775                      | 556,295                  | 2,338,452         | 46,355            | 3,481,400    |
|  |               |                            |                              |                          |                   |                   |              |
|  |               |                            | <del>-</del>                 |                          | nted Losses and I | Expenses          |              |
|  | <u>Clerks</u> | Comm. Of<br><u>Revenue</u> | C'wealth<br><u>Attorneys</u> | Regional<br><u>Jails</u> | <u>Sheriffs</u>   | Treasurers        | <u>Total</u> |
| Premium for 2007                                   | 227,993       | 102,707                    | 219,882                      | 566,884                  | 2,382,962         | 47,238            | 3,547,665    |
| Premium for 2008                                   | 238,926       | 107,633                    | 230,427                      | 594,069                  | 2,497,240         | 49,503            | 3,717,797    |
|  |               | Premium Ba                 | ased on Projecti             | on of Discount           | ed Losses and Ex  | rpenses           |              |
|  | <u>Clerks</u> | Comm. Of<br>Revenue        | C'wealth<br>Attorneys        | Regional<br><u>Jails</u> | <u>Sheriffs</u>   | Treasurers        | <u>Total</u> |
| Premium for 2007                                   | 213,819       | 96,322                     | 206,213                      | 531,643                  | 2,234,826         | 44,301            | 3,327,126    |
| Premium for 2008                                   | 224,044       | 100,929                    | 216,074                      | 557,067                  | 2,341,697         | 46,420            | 3,486,231    |

Notes: 1) The projected ultimate for each report year is the balanced pure premium from Exhibit 2 multiplied by the exposures for each office in Exhibit 9.

The allocation of the premium is determined by each office's share of the projected ultimate loss.
 The total premiums for the recommended funding level, undiscounted losses and discounted losses are from the Accounting Projections exhibits from Mercer's preliminary reserve analysis as of June 30, 2005.

#### DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

#### INDICATED AND SELECTED PURE PREMIUMS BY OFFICE

| Report                       |          |                     |                              |                          |                   |            |              |
|------------------------------|----------|---------------------|------------------------------|--------------------------|-------------------|------------|--------------|
| Year                         |          | 0                   | Ot Mb                        | D''                      |                   |            |              |
| Ending<br><u>6/30</u>        | Clerks   | Comm. Of<br>Revenue | C'wealth<br><u>Attorneys</u> | Regional<br><u>Jails</u> | Sheriffs          | Treasurers | Total        |
| <u>5,00</u>                  | <u> </u> | 110101100           | 7 storre yo                  | <u>vans</u>              | <u>071011,110</u> | 1100001013 | <u>1010.</u> |
| 1993                         | 1,980    | 59                  | 1,922                        | 2,842                    | 44,652            | 192        | 9,493        |
| 1994                         | 552      | 2,607               | 476                          | 10,963                   | 29,576            | 138        | 6,798        |
| 1995                         | 111      | 33                  | 714                          | 20,003                   | 18,275            | 867        | 4,488        |
| 1996                         | 1,397    | 3                   | 1,098                        | 15,073                   | 18,915            | 1,584      | 4,862        |
| 1997                         | 1,014    | 424                 | 1,521                        | 798                      | 14,584            | 26         | 3,401        |
| 1998                         | 67       | 63                  | 600                          | 23,773                   | 18,202            | 84         | 4,335        |
| 1999                         | 522      | 675                 | 280                          | 9,958                    | 30,630            | 452        | 6,564        |
| 2000                         | 730      | 59                  | 5,303                        | 6,363                    | 11,266            | 40         | 3,506        |
| 2001                         | 4,817    | 1,936               | 1,778                        | 13,078                   | 6,404             | 221        | 3,277        |
| 2002                         | 354      | 269                 | 1,279                        | 23,061                   | 16,035            | 77         | 4,119        |
| 2003                         | 296      | 6                   | 1,769                        | 37,680                   | 11,526            | 8          | 3,677        |
| 2004                         | 452      | 1,011               | 1,347                        | 15,670                   | 14,032            | 124        | 3,714        |
| 2005                         | 5,284    | 0                   | 1,228                        | 24,802                   | 22,461            | 14         | 6,331        |
| All-Period<br>Exposure       |          |                     |                              |                          |                   |            |              |
| Weighted                     | 1,355    | 538                 | 1,491                        | 15,802                   | 19,491            | 296        | 4,922        |
| All-Period                   |          |                     |                              |                          |                   |            |              |
| Excluding                    |          |                     |                              |                          |                   |            |              |
| High/Low                     | 1,112    | 412                 | 1,248                        | 15,053                   | 18,682            | 203        | 4,709        |
| 5 Year Exposure              |          |                     |                              |                          |                   |            |              |
| Weighted                     |          |                     | 4 400                        |                          | 4440=             |            | 4.000        |
| Average                      | 2,241    | 643                 | 1,480                        | 22,901                   | 14,105            | 89         | 4,226        |
| Report Years<br>1994 through |          |                     |                              |                          |                   |            |              |
| 2005 Average                 | 1,300    | 590                 | 1,450                        | 16,769                   | 17,659            | 303        | 4,589        |
| Selected Pure                |          |                     |                              |                          | •                 |            |              |
| Premium                      |          |                     |                              |                          |                   |            | 4,500        |
| Preliminary Pure             |          |                     |                              |                          |                   |            |              |
| Premium for                  |          |                     |                              |                          |                   |            |              |
| Projected Report             |          |                     |                              |                          |                   |            |              |
| Years                        | 1,535    | 643                 | 1,480                        | 22,901                   | 15,527            | 296        |              |
| Selected Pure                |          |                     |                              |                          |                   |            |              |
| Premium times                |          |                     |                              |                          |                   |            |              |
| Projected                    |          |                     |                              |                          |                   |            |              |
| Exposure                     |          |                     |                              |                          |                   |            | 2,889,000    |
| Implied<br>Loss              | 194 205  | 92.092              | 177 652                      | 450.044                  | 1 025 202         | 20 165     | 2 966 217    |
|                              | 184,205  | 82,982              | 177,653                      | 458,011                  | 1,925,302         | 38,165     | 2,866,317    |
| Off-Balance                  |          |                     |                              |                          |                   |            |              |
| Factor                       |          |                     |                              |                          |                   |            | 1.0079       |
| Balanced                     |          |                     |                              |                          |                   |            |              |
| Pure                         |          |                     |                              |                          |                   |            |              |
| Premium                      | 1,547    | 648                 | 1,492                        | 23,082                   | 15,649            | 298        | 4,500        |
|                              |          |                     |                              |                          |                   |            |              |

Notes: 1) The indicated pure premiums equal the developed, trended losses in Exhibit 3 divided by exposures in Exhibit 9.

2) The implied loss by office is the preliminary pure premium multiplied by the exposure base in Exhibit 9.

3) Indicated pure premiums are "re-balanced" to achieve consistency with the overall Constitutional Officers' selected pure premium.

## DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

#### INCURRED LOSSES - DEVELOPED TO ULTIMATE AND TRENDED TO JUNE 30, 2005 LEVELS

| Report<br>Year<br>Ending |               | Comm. Of | C'wealth         | Regional     |                 |                   |              | Trend Factor to 6/30/2005 |
|--------------------------|---------------|----------|------------------|--------------|-----------------|-------------------|--------------|---------------------------|
| <u>6/30</u>              | <u>Clerks</u> | Revenue  | <u>Attorneys</u> | <u>Jails</u> | <u>Sheriffs</u> | <u>Treasurers</u> | <u>Total</u> | at 5.0% p.a.              |
| 1993                     | 214,298       | 6,911    | 207,987          | 51,264       | 4,993,557       | 22,284            | 5,496,301    | 1.7959                    |
| 1994                     | 59,787        | 303,334  | 51,565           | 197,745      | 3,307,550       | 16,106            | 3,936,088    | 1.7103                    |
| 1995                     | 13,156        | 4,170    | 84,440           | 394,448      | 2,234,333       | 110,252           | 2,840,799    | 1.6289                    |
| 1996                     | 167,673       | 332      | 131,749          | 271,309      | 2,326,503       | 204,331           | 3,101,897    | 1.5513                    |
| 1997                     | 121,698       | 54,285   | 182,483          | 14,366       | 1,793,850       | 3,390             | 2,170,072    | 1.4775                    |
| 1998                     | 8,075         | 8,079    | 72,022           | 427,918      | 2,238,901       | 10,774            | 2,765,770    | 1.4071                    |
| 1999                     | 62,604        | 86,378   | 33,565           | 179,244      | 3,767,448       | 58,315            | 4,187,554    | 1,3401                    |
| 2000                     | 87,631        | 7,529    | 636,408          | 114,534      | 1,385,701       | 5,217             | 2,237,020    | 1.2763                    |
| 2001                     | 578,091       | 247,753  | 213,413          | 235,409      | 787,717         | 28,570            | 2,090,954    | 1.2155                    |
| 2002                     | 42,506        | 34,374   | 153,442          | 415,092      | 1,972,264       | 9,982             | 2,627,661    | 1.1576                    |
| 2003                     | 35,483        | · 831    | 212,331          | 678,243      | 1,417,738       | 1,096             | 2,345,723    | 1.1025                    |
| 2004                     | 54,277        | 129,377  | 161,668          | 282,056      | 1,725,902       | 16,050            | 2,369,331    | 1.0500                    |
| 2005                     | 634,071       | 0        | 147,408          | 496,047      | 2,785,160       | 1,759             | 4,064,445    | 1.0000                    |
| Office                   |               |          |                  |              |                 |                   |              |                           |
| Total                    | 2,079,350     | 883,354  | 2,288,482        | 3,757,678    | 30,736,625      | 488,125           | 40,233,614   |                           |

Notes: Ultimate Incurred Losses Trended to June 30, 2005 Levels equal Exhibit 4 trended at an annual rate of 5.0%.

## DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

### UNLIMITED INCURRED LOSSES - DEVELOPED TO ULTIMATE LEVELS

| Report         |               |          |                  |              |                 |                   |              |
|----------------|---------------|----------|------------------|--------------|-----------------|-------------------|--------------|
| Year<br>Ending |               | Comm. Of | C'wealth         | Regional     |                 |                   |              |
| <u>6/30</u>    | <u>Clerks</u> | Revenue  | <u>Attorneys</u> | <u>Jails</u> | <u>Sheriffs</u> | <u>Treasurers</u> | <u>Total</u> |
| 1993           | 119,329       | 3,848    | 115,815          | 28,546       | 2,780,599       | 12,408            | 3,060,546    |
| 1994           | 34,956        | 177,353  | 30,149           | 115,618      | 1,933,856       | 9,417             | 2,301,349    |
| 1995           | 8,077         | 2,560    | 51,839           | 242,157      | 1,371,687       | 67,685            | 1,744,004    |
| 1996           | 108,084       | 214      | 84,927           | 174,888      | 1,499,685       | 131,713           | 1,999,510    |
| 1997           | 82,370        | 36,742   | 123,511          | 9,724        | 1,214,149       | 2,295             | 1,468,790    |
| 1998           | 5,739         | 5,742    | 51,185           | 304,113      | 1,591,145       | 7,657             | 1,965,581    |
| 1999           | 46,716        | 64,457   | 25,047           | 133,755      | 2,811,328       | 43,516            | 3,124,817    |
| 2000           | 68,661        | 5,899    | 498,642          | 89,741       | 1,085,733       | 4,087             | 1,752,764    |
| 2001           | 475,597       | 203,827  | 175,576          | 193,672      | 648,057         | 23,505            | 1,720,233    |
| 2002           | 36,718        | 29,694   | 132,549          | 358,572      | 1,703,716       | 8,623             | 2,269,872    |
| 2003           | 32,184        | 754      | 192,591          | 615,187      | 1,285,930       | 994               | 2,127,640    |
| 2004           | 51,693        | 123,216  | 153,969          | 268,625      | 1,643,716       | 15,286            | 2,256,506    |
| 2005           | 634,071       | 0        | 147,408          | 496,047      | 2,785,160       | 1,759             | 4,064,445    |
| Office         |               |          |                  |              |                 |                   |              |
| Total          | 1,704,194     | 654,306  | 1,783,208        | 3,030,644    | 22,354,760      | 328,945           | 29,856,057   |

Notes: The Unlimited Incurred Losses equal Exhibit 5 multiplied by the cumulative loss development factors from the June 30, 2005 Constitutional Officers Liability reserve analysis interpolated at 9, 21, 33, etc. months.

## DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

### UNLIMITED INCURRED LOSSES AS OF MARCH 31, 2005

| Report<br>Year |               |          |                  |              |                 |            |              |
|----------------|---------------|----------|------------------|--------------|-----------------|------------|--------------|
| Ending         |               | Comm. Of | C'wealth         | Regional     |                 |            |              |
| 6/30           | <u>Clerks</u> | Revenue  | <u>Attorneys</u> | <u>Jails</u> | <u>Sheriffs</u> | Treasurers | <u>Total</u> |
| 1993           | 119,329       | 3,848    | 115,815          | 28,546       | 2,780,599       | 12,408     | 3,060,546    |
| 1994           | 34,956        | 177,353  | 30,149           | 115,618      | 1,933,856       | 9,417      | 2,301,349    |
| 1995           | 8,077         | 2,560    | 51,839           | 242,157      | 1,371,687       | 67,685     | 1,744,004    |
| 1996           | 108,084       | 214      | 84,927           | 174,888      | 1,499,685       | 131,713    | 1,999,510    |
| 1997           | 82,370        | 36,742   | 123,511          | 9,724        | 1,214,149       | 2,295      | 1,468,790    |
| 1998           | 5,739         | 5,742    | 51,185           | 304,113      | 1,591,145       | 7,657      | 1,965,581    |
| 1999           | 46,687        | 64,417   | 25,031           | 133,671      | 2,809,572       | 43,488     | 3,122,866    |
| 2000           | 68,436        | 5,880    | 497,007          | 89,446       | 1,082,171       | 4,074      | 1,747,015    |
| 2001           | 471,220       | 201,951  | 173,960          | 191,889      | 642,092         | 23,288     | 1,704,400    |
| 2002           | 35,965        | 29,085   | 129,831          | 351,219      | 1,668,777       | 8,446      | 2,223,323    |
| 2003           | 30,955        | 725      | 185,237          | 591,697      | 1,236,829       | 956        | 2,046,399    |
| 2004           | 47,863        | 114,088  | 142,562          | 248,723      | 1,521,938       | 14,154     | 2,089,328    |
| 2005           | 306,581       | 0        | 71,273           | 239,845      | 1,346,658       | 851        | 1,965,207    |
| Office         |               |          |                  |              | ÷               |            |              |
| Total          | 1,366,261     | 642,604  | 1,682,327        | 2,721,536    | 20,699,157      | 326,432    | 27,438,318   |

Notes: 1) Data evaluated as of March 31, 2005 and provided by DRM.

<sup>2)</sup> The Unlimited Incurred Losses equal the sum of Unlimited Case Reserves and Paid Losses from Exhibit 6 and Exhibit 7, respectively.

# DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

### UNLIMITED CASE LOSS RESERVES AS OF MARCH 31, 2005

| Report<br>Year<br>Ending<br><u>6/30</u> | Clerks  | Comm. Of<br>Revenue | C'wealth<br><u>Attorneys</u> | Regional<br><u>Jails</u> | <u>Sheriffs</u> | <u>Treasurers</u> | <u>Total</u> |
|---|---------|---------------------|------------------------------|--------------------------|-----------------|-------------------|--------------|
| 1993                                    | 0       | 0                   | 0                            | 0                        | 0               | 0                 | 0            |
| 1994                                    | 0       | 0                   | 0                            | 0                        | 0               | 0                 | 0            |
| 1995                                    | 0       | 0                   | 0                            | 0                        | 80,000          | 0                 | 80,000       |
| 1996                                    | 0       | 0                   | 0                            | 0                        | 0               | 0                 | 0            |
| 1997                                    | 0       | 0                   | 0                            | 0                        | 0               | 0                 | 0            |
| 1998                                    | 0       | 0                   | 0                            | 7,161                    | 31,000          | 0                 | 38,161       |
| 1999                                    | 0       | 0                   | 0                            | 0                        | 854,035         | 0                 | 854,035      |
| 2000                                    | 0       | 0                   | 8,500                        | 0                        | 6,500           | 0                 | 15,000       |
| 2001                                    | 0       | 0                   | 40,765                       | 4,238                    | 7,000           | 0                 | 52,003       |
| 2002                                    | 0       | 6,000               | 20,743                       | 124,082                  | 779,560         | 0                 | 930,385      |
| 2003                                    | 0       | 0                   | 1,860                        | 132,500                  | 469,264         | 0                 | 603,624      |
| 2004                                    | 9,593   | 89,238              | 107,456                      | 118,666                  | 1,283,310       | 8,500             | 1,616,764    |
| 2005                                    | 299,253 | 0                   | 66,500                       | 229,250                  | 1,310,185       | 0                 | 1,905,188    |
| Office                                  |         | · ·                 |                              |                          |                 |                   |              |
| Total                                   | 308,846 | 95,238              | 245,824                      | 615,898                  | 4,820,854       | 8,500             | 6,095,160    |
|   |         |                     |                              |                          |                 |                   |              |

Notes: Data evaluated as of March 31, 2005 and provided by DRM.

## DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

## UNLIMITED PAID LOSSES AS OF MARCH 31, 2005

| Report<br>Year |           |          | •         |              |            |                   |              |
|----------------|-----------|----------|-----------|--------------|------------|-------------------|--------------|
| Ending         |           | Comm, Of | C'wealth  | Regional     |            |                   |              |
| 6/30           | Clerks    | Revenue  | Attorneys | <u>Jails</u> | Sheriffs   | <u>Treasurers</u> | <u>Total</u> |
| 1993           | 119,329   | 3,848    | 115,815   | 28,546       | 2,780,599  | 12,408            | 3,060,546    |
| 1994           | 34,956    | 177,353  | 30,149    | 115,618      | 1,933,856  | 9,417             | 2,301,349    |
| 1995           | 8,077     | 2,560    | 51,839    | 242,157      | 1,291,687  | 67,685            | 1,664,004    |
| 1996           | 108,084   | 214      | 84,927    | 174,888      | 1,499,685  | 131,713           | 1,999,510    |
| 1997           | 82,370    | 36,742   | 123,511   | 9,724        | 1,214,149  | 2,295             | 1,468,790    |
| 1998           | 5,739     | 5,742    | 51,185    | 296,953      | 1,560,145  | 7,657             | 1,927,420    |
| 1999           | 46,687    | 64,417   | 25,031    | 133,671      | 1,955,537  | 43,488            | 2,268,831    |
| 2000           | 68,436    | 5,880    | 488,507   | 89,446       | 1,075,671  | 4,074             | 1,732,015    |
| 2001           | 471,220   | 201,951  | 133,195   | 187,651      | 635,092    | 23,288            | 1,652,397    |
| 2002           | 35,965    | 23,085   | 109,088   | 227,137      | 889,217    | 8,446             | 1,292,937    |
| 2003           | 30,955    | 725      | 183,377   | 459,197      | 767,565    | 956               | 1,442,776    |
| 2004           | 38,270    | 24,850   | 35,106    | 130,057      | 238,627    | 5,654             | 472,564      |
| 2005           | 7,327     | 0        | 4,773     | 10,595       | 36,472     | 851               | 60,018       |
| Office         |           |          |           |              |            |                   |              |
| Total          | 1,057,415 | 547,366  | 1,436,503 | 2,105,638    | 15,878,303 | 317,932           | 21,343,157   |
|                |           |          |           |              |            |                   |              |

Notes: Data evaluated as of March 31, 2005 and provided by DRM.

## DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

### REPORTED CLAIM COUNT

| Report<br>Year<br>Ending<br><u>6/30</u> | <u>Clerks</u> | Comm. Of<br><u>Revenue</u> | C'wealth<br><u>Attorneys</u> | Regional<br><u>Jails</u> | <u>Sheriffs</u> | <u>Treasurers</u> | <u>Total</u> |
|---|---------------|----------------------------|------------------------------|--------------------------|-----------------|-------------------|--------------|
|   |               |                            |                              |                          |                 |                   |              |
| 1993                                    | 16            | 1                          | 9                            | 26                       | 329             | 4                 | 385          |
| 1994                                    | 20            | 13                         | 18                           | 60                       | 348             | 6                 | 465          |
| 1995                                    | 17            | 3                          | 21                           | 28                       | 397             | 9                 | 475          |
| 1996                                    | 23            | 3                          | 22                           | 30                       | 325             | 6                 | 409          |
| 1997                                    | . 19          | 5                          | 17                           | 9                        | 210             | 8                 | 268          |
| 1998                                    | 11            | 6                          | 25                           | 26                       | 220             | 6                 | 294          |
| 1999                                    | 12            | 8                          | 23                           | 51                       | 183             | 5                 | 282          |
| 2000                                    | 27            | 3                          | 21                           | 58                       | 212             | 3                 | 324          |
| 2001                                    | 18            | 8                          | 22                           | 90                       | 194             | 8                 | 340          |
| 2002                                    | 27            | 9                          | 36                           | 84                       | 201             | 9                 | 366          |
| 2003                                    | 22            | 19                         | 25                           | 60                       | 173             | 5                 | 304          |
| 2004                                    | 15            | 5                          | 22                           | 43                       | 102             | 4                 | 191          |
| 2005                                    | 15            | 0                          | 12                           | 32                       | 87              | 1                 | 147          |
| Office                                  |               |                            |                              |                          |                 |                   |              |
| Total                                   | 242           | 83                         | 273                          | 597                      | 2,981           | 74                | 4,250        |
|   |               |                            |                              |                          |                 |                   |              |

Notes: Data evaluated as of March 31, 2005 and provided by DRM.

# DIVISION OF RISK MANAGEMENT CONSTITUTIONAL OFFICERS

## CONSTITUTIONAL OFFICE EXPOSURES

| Report<br>Year     | CONSTITUTIONAL OFFICE EXPOSURES |                            |                              |                          |                 |                   |       |  |  |  |
|--------------------|---------------------------------|----------------------------|------------------------------|--------------------------|-----------------|-------------------|-------|--|--|--|
| Ending <u>6/30</u> | <u>Clerks</u>                   | Comm. Of<br><u>Revenue</u> | C'wealth<br><u>Attorneys</u> | Regional<br><u>Jails</u> | <u>Sheriffs</u> | <u>Treasurers</u> | Total |  |  |  |
| 1993               | 108                             | 116                        | 108                          | 18                       | 110             | 440               |       |  |  |  |
| 1994               | 108                             | 116                        | 108                          | 18                       | 112             | 116               | 579   |  |  |  |
| 1995               | 118                             | 127                        | 118                          | 20                       | 112             | 116               | 579   |  |  |  |
| 1996               | 120                             | 128                        | 120                          |                          | 122             | 127               | 633   |  |  |  |
| 1997               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 1998               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 1999               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2000               | 120                             | 128                        |                              | 18                       | 123             | 129               | 638   |  |  |  |
| 2001               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2002               | 120                             |                            | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2003               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2004               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2005               | 120                             | 128                        | 120                          | 18                       | 123             | 129               | 638   |  |  |  |
| 2000               | 120                             | 129                        | 120                          | 20                       | 124             | 129               | 642   |  |  |  |
| 2006               | 120                             | 129                        | 120                          | 20                       | 124             | 400               | 2.10  |  |  |  |
| 2007               | 120                             | 129                        | 120                          | 20                       | 124             | 129               | 642   |  |  |  |
| 2008               | 120                             | 129                        | 120                          |                          |                 | 129               | 642   |  |  |  |
|                    | .20                             | 123                        | 120                          | 20                       | 124             | 129               | 642   |  |  |  |

Notes: 1) Office level exposure data for 1996 through 2005, and total exposure data for 1993-1995 as of June 30 of each year were provided by DRM.

<sup>2)</sup> The exposure base for Regional Jails is the number of physical sites. This exposure base was used for consistency with prior loss reserve studies.

## COMMONWEALTH OF VIRGINIA SELF INSURANCE FUND REVIEW AS OF 6/30/05

## ACCOUNTING PROJECTIONS WITH MERCER OLIVER WYMAN'S RECOMMENDED FUNDING ON A CLAIMS-MADE BASIS CONSTITUTIONAL OFFICERS

|     |                                  | FISCAL YEARS ENDING |       |       |       |       |                |  |
|-----|----------------------------------|---------------------|-------|-------|-------|-------|----------------|--|
|     |                                  | 2005                | 2006  | 2007  | 2008  | 2009  | 2010           |  |
| 1.  | FUND BALANCE (BEGINNING OF YEAR) | 7,390               | 7,829 | 7,305 | 6,046 | 6,114 | 6,304          |  |
| 2.  | PREMIUM                          | 3,102               | 3,102 | 2,157 | 3,481 | 3,648 | 3,823          |  |
| 3.  | TRANSFER TO STATE AGENCIES       | 0                   | 0     | 0     | 0     | 0     | 0              |  |
|     | TRANSFER OF RESERVE              | 0                   | 0     | 0     | 0     | 0     | 0              |  |
|     | TRANSFER OF FUND BALANCE         | 0                   | 0     | 0     | 0     | 0     | 0              |  |
| 4.  | LOSS PAYMENTS                    | 2,464               | 3,544 | 3,283 | 3,271 | 3,311 | 3,392          |  |
|     | CURRENT REPORT YEAR              | 187                 | 287   | 301   | 316   | 332   | 348            |  |
|     | PRIOR REPORT YEARS               | 2,277               | 3,257 | 2,982 | 2,955 | 2,979 | 3,043          |  |
| 5.  | PROGRAM EXPENSES                 | 17                  | 18    | 19    | 19    | 20    | 20             |  |
| 6.  | ADMINISTRATIVE EXPENSES          | 324                 | 334   | 344   | 354   | 365   | 376            |  |
| 7.  | INVESTMENT INCOME                | 142                 | 269   | 229   | 231   | 237   | 247            |  |
| 8.  | FUND BALANCE (END OF YEAR)       | 7,829               | 7,305 | 6,046 | 6,114 | 6,304 | 6,586          |  |
| RE  | QUIRED RESERVE                   |                     |       |       |       |       |                |  |
| 9.  | UNDISCOUNTED                     | 6,943               | 6,433 | 6,335 | 6,409 | 6,610 | 6,905          |  |
| 10. | DISCOUNTED                       | 6,631               | 6,140 | 6,046 | 6,114 | 6,304 | 6 <u>,</u> 586 |  |
| FU  | ND POSITION                      |                     |       |       |       |       |                |  |
| 11. | UNDISCOUNTED                     | 886                 | 872   | (289) | (295) | (306) | (319)          |  |
| 12. | DISCOUNTED                       | 1.198               | 1.165 | ` o´  | ` oʻ  | 0     | 0              |  |

NOTE:

- (1) PRIOR YEAR END FUND BALANCE EXCEPT THE ACTUAL FUND BALANCE FOR 2005 PROVIDED BY DEPT OF TREASURY
- (2) ACTUAL 2005 AND PROJECTED 2006 PREMIUMS; 2007 THROUGH 2010 SET TO PRODUCE \$0 FUND POSITION.
- (3) FROM DEPT OF TREASURY
- (4) BASED ON RESERVE ANALYSIS USING DATA AS OF 6/30/05.
- (5), (6) FROM DEPT OF TREASURY.
  - (7) 0.03 x (ROW (1)+ROW(2)-ROW(3)-(ROW(4)x.5)-(ROW (5)x.5)-(ROW (6)x.5))
  - (8) ROW (1)+ROW (2)-ROW (3)-ROW (4)-ROW (5)-ROW (6)+ROW (7)
- (9), (10) REQUIRED RESERVES ARE EXPECTED VALUE PROJECTIONS FROM EXH. COL-3 AND COL-4 AND DO NOT INCLUDE CONFIDENCE INTERVAL MARGINS.
  - (11) ROW (8)-ROW (9)
  - (12) ROW (8)-ROW (10)
    - DOLLARS ARE IN THOUSANDS.

### COMMONWEALTH OF VIRGINIA SELF INSURANCE FUND REVIEW AS OF 6/30/05

## ACCOUNTING PROJECTIONS WITH <u>PREMIUM BASED ON PROJECTION OF UNDISCOUNTED LOSSES AND EXPENSES</u> CONSTITUTIONAL OFFICERS

|     |                                  | FISCAL YEARS ENDING |       |       |        |       |       |  |
|-----|----------------------------------|---------------------|-------|-------|--------|-------|-------|--|
|     | <del>-</del>                     | 2005                | 2006  | 2007  | 2008   | 2009  | 2010  |  |
| 1.  | FUND BALANCE (BEGINNING OF YEAR) | 7,390               | 7,829 | 7,305 | 7,478  | 7,833 | 8,330 |  |
| 2.  | PREMIUM                          | 3,102               | 3,102 | 3,548 | 3,718  | 3,896 | 4,083 |  |
| 3.  | TRANSFER TO STATE AGENCIES       | 0                   | 0     | 0     | 0      | 0     | 0     |  |
|     | TRANSFER OF RESERVE              | 0                   | 0     | 0     | 0      | 0     | 0     |  |
|     | TRANSFER OF FUND BALANCE         | 0                   | 0     | 0     | 0      | 0     | 0     |  |
| 4.  | LOSS PAYMENTS                    | 2,464               | 3,544 | 3,283 | 3,271  | 3,311 | 3,392 |  |
|     | CURRENT REPORT YEAR              | 187                 | 287   | 301   | 316    | 332   | 348   |  |
|     | PRIOR REPORT YEARS               | 2,277               | 3,257 | 2,982 | 2,955  | 2,979 | 3,043 |  |
| 5.  | PROGRAM EXPENSES                 | 17                  | 18    | 19    | 19     | 20    | 20    |  |
| 6.  | ADMINISTRATIVE EXPENSES          | 324                 | 334   | 344   | 354    | 365   | 376   |  |
| 7.  | INVESTMENT INCOME                | 142                 | 269   | 271   | 281    | 296   | 316   |  |
| 8.  | FUND BALANCE (END OF YEAR)       | 7,829               | 7,305 | 7,478 | 7,833  | 8,330 | 8,941 |  |
| RE  | QUIRED RESERVE                   |                     |       |       |        |       |       |  |
| 9.  | UNDISCOUNTED                     | 6,943               | 6,433 | 6,335 | 6,409  | 6,610 | 6,905 |  |
| 10. |                                  | 6,631               | 6,140 | 6,046 | 6,114  | 6,304 | 6,586 |  |
|     | ND POSITION                      | 222                 |       |       | 4 40 4 | 4 700 | 0.000 |  |
| 11. |                                  | 886                 | 872   | 1,143 | 1,424  | 1,720 | 2,036 |  |
| 12. | DISCOUNTED                       | 1,198               | 1,165 | 1,432 | 1,719  | 2,026 | 2,355 |  |

NOTE:

- (1) PRIOR YEAR END FUND BALANCE EXCEPT THE ACTUAL FUND BALANCE FOR 2005 PROVIDED BY DEPT OF TREASURY
- (2) 2005 2006 FROM DEPT OF TREASURY, 2007 AND FORWARD BASED ON PROJECTIONS OF ULTIMATE LOSSES FROM COL-2.
- (3) FROM DEPT OF TREASURY
- (4) BASED ON RESERVE ANALYSIS USING DATA AS OF 6/30/05.
- (5), (6) FROM DEPT OF TREASURY.
  - (7) 0.03 x (ROW (1)+ROW(2)-ROW(3)-(ROW(4)x.5)-(ROW (5)x.5)-(ROW (6)x.5))
  - (8) ROW (1)+ROW (2)-ROW (3)-ROW (4)-ROW (5)-ROW (6)+ROW (7)
- (9), (10) REQUIRED RESERVES ARE EXPECTED VALUE PROJECTIONS FROM EXH. COL-3 AND COL-4 AND DO NOT INCLUDE CONFIDENCE INTERVAL MARGINS.
  - (11) ROW (8)-ROW (9)
  - (12) ROW (8)-ROW (10)
    - DOLLARS ARE IN THOUSANDS.

## COMMONWEALTH OF VIRGINIA SELF INSURANCE FUND REVIEW AS OF 6/30/05

## ACCOUNTING PROJECTIONS WITH <u>PREMIUM BASED ON PROJECTION OF DISCOUNTED LOSSES AND EXPENSES</u> CONSTITUTIONAL OFFICERS

|     |                                  | FISCAL YEARS ENDING |       |       |       |       |       |  |
|-----|----------------------------------|---------------------|-------|-------|-------|-------|-------|--|
|     | -                                | 2005                | 2006  | 2007  | 2008  | 2009  | 2010  |  |
| 1.  | FUND BALANCE (BEGINNING OF YEAR) | 7,390               | 7,829 | 7,305 | 7,251 | 7,360 | 7,593 |  |
| 2.  | PREMIUM                          | 3,102               | 3,102 | 3,327 | 3,486 | 3,653 | 3,828 |  |
| 3.  | TRANSFER TO STATE AGENCIES       | 0                   | 0     | 0     | 0     | 0     | 0     |  |
|     | TRANSFER OF RESERVE              | 0                   | 0     | 0     | 0     | 0     | 0     |  |
|     | TRANSFER OF FUND BALANCE         | 0                   | 0     | 0     | 0     | 0     | 0     |  |
| 4.  | LOSS PAYMENTS                    | 2,464               | 3,544 | 3,283 | 3,271 | 3,311 | 3,392 |  |
|     | CURRENT REPORT YEAR              | 187                 | 287   | 301   | 316   | 332   | 348   |  |
|     | PRIOR REPORT YEARS               | 2,277               | 3,257 | 2,982 | 2,955 | 2,979 | 3,043 |  |
| 5.  | PROGRAM EXPENSES                 | 17                  | 18    | 19    | 19    | 20    | 20    |  |
| 6.  | ADMINISTRATIVE EXPENSES          | 324                 | 334   | 344   | 354   | 365   | 376   |  |
| 7.  | INVESTMENT INCOME                | 142                 | 269   | 264   | 267   | 275   | 286   |  |
| 8.  | FUND BALANCE (END OF YEAR)       | 7,829               | 7,305 | 7,251 | 7,360 | 7,593 | 7,919 |  |
| RE  | QUIRED RESERVE                   |                     |       |       |       |       |       |  |
| 9.  | UNDISCOUNTED                     | 6,943               | 6,433 | 6,335 | 6,409 | 6,610 | 6,905 |  |
| 10. | DISCOUNTED                       | 6,631               | 6,140 | 6,046 | 6,114 | 6,304 | 6,586 |  |
| FU  | ND POSITION                      |                     |       |       |       |       |       |  |
| 11. | UNDISCOUNTED                     | 886                 | 872   | 916   | 951   | 983   | 1,014 |  |
| 12. | DISCOUNTED                       | 1,198               | 1,165 | 1,205 | 1,246 | 1,289 | 1,333 |  |

#### NOTE:

- (1) PRIOR YEAR END FUND BALANCE EXCEPT THE ACTUAL FUND BALANCE FOR 2005 PROVIDED BY DEPT OF TREASURY
- (2) 2005 2006 FROM DEPT OF TREASURY, 2007 AND FORWARD BASED ON PROJECTIONS OF ULTIMATE LOSSES FROM COL-2.
- (3) FROM DEPT OF TREASURY
- (4) BASED ON RESERVE ANALYSIS USING DATA AS OF 6/30/05.
- (5), (6) FROM DEPT OF TREASURY.
  - (7) 0.03 x (ROW (1)+ROW(2)-ROW(3)-(ROW(4)x.5)-(ROW (5)x.5)-(ROW (6)x.5))
  - (8) ROW (1)+ROW (2)-ROW (3)-ROW (4)-ROW (5)-ROW (6)+ROW (7)
- (9), (10) REQUIRED RESERVES ARE EXPECTED VALUE PROJECTIONS FROM EXH. COL-3 AND COL-4 AND DO NOT INCLUDE CONFIDENCE INTERVAL MARGINS.
  - (11) ROW (8)-ROW (9)
  - (12) ROW (8)-ROW (10)
    - **DOLLARS ARE IN THOUSANDS.**

MERCER OLIVER WYMAN

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