

Table 1: Scale Factors for Cut-Based e-veto

| Selection        | scale factor | total      | stat       | +syst      | - syst    |
|------------------|--------------|------------|------------|------------|-----------|
| Loose Bar        | 0.8199535    | 0.2146061  | 0.1528547  | 0.1506050  | 0.1506365 |
| Loose Cra        | 0.5878864    | 0.6833232  | 0.6004294  | 0.3262136  | 0.2194180 |
| Loose End        | 1.0026513    | 0.0390012  | 0.0336541  | 0.0195221  | 0.0197147 |
| Loose (TOL) Bar  | 0.7875967    | 0.2963428  | 0.2007199  | 0.2180155  | 0.2175664 |
| Loose (TOL) Cra  | 0.5768284    | 0.7469277  | 0.6521251  | 0.3641894  | 0.2407472 |
| Loose (TOL) End  | 1.2051554    | 0.1942359  | 0.1617854  | 0.1040108  | 0.1074858 |
| Loose (MOL) Bar  | 1.4584952    | 1.2159963  | 0.8747493  | 0.8364655  | 0.8446662 |
| Loose (MOL) Cra  | 2.2420325    | 4.3997303  | 3.5743207  | 2.5655134  | 1.2948200 |
| Loose (MOL) End  | 1.8028031    | 0.4278740  | 0.3568092  | 0.2255896  | 0.2361428 |
| Medium Bar       | 1.3667885    | 0.9591027  | 0.6850556  | 0.6629286  | 0.6712503 |
| Medium Cra       | 0.5591096    | 1.6188789  | 1.3834418  | 0.8407484  | 0.5850172 |
| Medium End       | 1.7809924    | 0.4903207  | 0.3557895  | 0.3373846  | 0.3310069 |
| Medium (TOL) Bar | 1.5937505    | 1.3469690  | 0.9853136  | 0.9065531  | 0.9184133 |
| Medium (TOL) Cra | 0.6781242    | 1.9415156  | 1.6614862  | 1.0044634  | 0.6882335 |
| Medium (TOL) End | 1.7667786    | 0.8781810  | 0.5662357  | 0.6712520  | 0.6417064 |
| Medium (MOL) Bar | 1.7986001    | 2.1254599  | 1.5660124  | 1.4049319  | 1.4370752 |
| Medium (MOL) Cra | 2.2080883    | 6.7030016  | 5.3251688  | 4.0709715  | 2.2194343 |
| Medium (MOL) End | 2.3566541    | 1.5870379  | 1.0710147  | 1.1711605  | 1.1087487 |
| Tight Bar        | 1.8698225    | 2.5707294  | 1.9126464  | 1.6553631  | 1.7176827 |
| Tight Cra        | 1.6714747    | 4.2141063  | 3.4448430  | 2.4272926  | 1.4152222 |
| Tight End        | 1.9881540    | 0.5887733  | 0.4539946  | 0.3748909  | 0.3668000 |
| Tight (TOL) Bar  | 2.1637324    | 2.8707410  | 2.1800107  | 1.7906664  | 1.8678083 |
| Tight (TOL) Cra  | 1.6878471    | 4.2513575  | 3.4754044  | 2.4485925  | 1.4249662 |
| Tight (TOL) End  | 2.1881023    | 1.2700603  | 0.8725310  | 0.9228992  | 0.8660805 |
| Tight (MOL) Bar  | 2.5620092    | 4.3339494  | 3.3167932  | 2.6279134  | 2.7896238 |
| Tight (MOL) Cra  | 6.5531190    | 17.0264521 | 13.3256542 | 10.5984439 | 4.4985129 |
| Tight (MOL) End  | 3.1265260    | 2.1433944  | 1.5796370  | 1.4487535  | 1.3369257 |

Table 2: Scale Factors for BDT-Based e-veto

| Selection        | scale factor | total      | stat       | +syst      | - syst    |
|------------------|--------------|------------|------------|------------|-----------|
| Loose Bar        | 1.4965629    | 1.5427197  | 0.6468977  | 1.4005383  | 1.3969456 |
| Loose Cra        | 1.4053331    | 1.2323631  | 1.1430133  | 0.4606948  | 0.4457053 |
| Loose End        | 1.5865658    | 0.3548605  | 0.2641322  | 0.2297906  | 0.2369816 |
| Loose (TOL) Bar  | 1.5553407    | 1.6982284  | 0.7129400  | 1.5413294  | 1.5358421 |
| Loose (TOL) Cra  | 1.2920819    | 1.2195551  | 1.1304753  | 0.4575374  | 0.4376157 |
| Loose (TOL) End  | 2.0191129    | 0.6578904  | 0.4672219  | 0.4484298  | 0.4631669 |
| Loose (MOL) Bar  | 2.8279714    | 3.7065792  | 1.6909712  | 3.2983854  | 3.2860434 |
| Loose (MOL) Cra  | 7.3107651    | 2.9501125  | 2.3259482  | 1.8146980  | 0.7218113 |
| Loose (MOL) End  | 3.5533372    | 1.5566095  | 1.1321309  | 1.0663912  | 1.0683225 |
| Medium Bar       | 2.1510145    | 3.3578337  | 1.5059158  | 3.0012106  | 2.9841150 |
| Medium Cra       | 1.4520208    | 4.7729834  | 4.0887604  | 2.4623991  | 1.4989644 |
| Medium End       | 3.5334206    | 1.6892683  | 1.4356595  | 0.8874416  | 0.8902300 |
| Medium (TOL) Bar | 2.2060812    | 3.5229116  | 1.5826855  | 3.1473820  | 3.1290728 |
| Medium (TOL) Cra | 1.4520208    | 4.7729834  | 4.0887604  | 2.4623991  | 1.4989644 |
| Medium (TOL) End | 4.0128203    | 2.3490127  | 1.9849716  | 1.2526249  | 1.2560847 |
| Medium (MOL) Bar | 4.5282353    | 6.0705511  | 3.2153709  | 5.1490758  | 5.1093656 |
| Medium (MOL) Cra | 12.4989753   | 10.2410800 | 6.4521777  | 7.9529318  | 1.5049095 |
| Medium (MOL) End | 7.6604588    | 2.3504955  | 1.2191753  | 1.9394107  | 2.0095872 |
| Tight Bar        | 1.6630261    | 4.9116266  | 2.3569005  | 4.3091875  | 4.2781087 |
| Tight Cra        | 2.2415224    | 8.9690624  | 7.2423291  | 5.2908175  | 3.1985182 |
| Tight End        | 7.9020988    | 3.0400123  | 1.4753152  | 2.6580294  | 2.6171570 |
| Tight (TOL) Bar  | 1.6151126    | 5.0758592  | 2.4274429  | 4.4577874  | 4.4252498 |
| Tight (TOL) Cra  | 2.2415224    | 8.9690624  | 7.2423291  | 5.2908175  | 3.1985182 |
| Tight (TOL) End  | 8.1704457    | 3.2526396  | 1.5792134  | 2.8435453  | 2.8139265 |
| Tight (MOL) Bar  | 2.6622260    | 8.1513603  | 4.1875406  | 6.9935098  | 6.9437903 |
| Tight (MOL) Cra  | 25.5219456   | 23.7232233 | 13.2971923 | 19.6462720 | 5.4123853 |
| Tight (MOL) End  | 13.4395839   | 5.5298183  | 2.8406121  | 4.7444509  | 2.5606455 |