UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

APPLE IPOD ITUNES ANTI-TRUST LITIGATION	Lead Case No. C-05-00037-JW

Supplemental Declaration of Roger G. Noll
[REDACTED]

Previously I have submitted several declarations in this matter pertaining to class certification. My most recent reports focused on explaining how an economist would calculate the effect of update 4.7 to the iTunes software that disabled the use of RealNetworks' Harmony, which had enabled owners of iPods to download audio files from Internet sites that competed with the iTunes Store.

I have read the opinion of the Court that removed plaintiffs' claims regarding update 4.7 from this litigation, but that retained plaintiffs' claims regarding update 7.0. Attorneys for the plaintiffs have asked me to determine whether methods that are common to all class members could be used to calculate the damage to consumers from this latter update, assuming that plaintiffs' allegations that this update was anticompetitive are true.

The method that an economist would use to determine whether a software update harmed competition and damaged consumers does not depend on which update is analyzed. The appropriate method is to construct an econometric model to explain iPod prices and to determine whether iPod prices were higher after the update. From the perspective of building an econometric model of iPod pricing, the only difference between update 4.7 and update 7.0 is the date at which they were implemented, and the only difference in their potential effect on iPod

prices is that these updates applied to different iPod models.

Any update that caused Harmony to be incompatible with iPods would have the effect of increasing the extent to which customers were locked in to iPods. Greater lock-in would cause the demand for replacement iPods to be less responsive to price, and hence could have allowed Apple to set higher prices for iPods than otherwise would have been the case. Whether Apple did set iPod prices above the level that otherwise would have been the case is an empirical matter to be determined by econometric analysis.

Regardless of whether the 4.7 update was anticompetitive, my prior analysis found that the 4.7 update elevated iPod prices. If the 7.0 update caused increased lock-in to iPods, the effect would have been to perpetuate at least some of the elevation in prices arising from update 4.7. Hence, the econometric model in my prior report would need to be amended to separate the period affected by update 4.7 from the period affected by update 7.0. The most appropriate method is to use the same basic econometric model of iPod prices that was used in my prior report, but to change the specification to include an indicator variable for the period after update 7.0 was introduced and to replace the indicator variable for update 4.7 with another indicator variable that begins when update 4.7 was released but that ends when update 7.0 is released. This specification permits a test of whether update 7.0 perpetuated elevated prices for iPods.

To illustrate the feasibility of analyzing the effect of 7.0 update, a revised version of the regression that was contained in my previous report has been estimated. The data that are used in the new regression have been improved in several ways.

One change is an adjustment to the unit cost of each iPod model. The prior regression used the unit standard cost for all sales, including direct sales to consumers. In the new regression, the cost measure is standard unit cost just for indirect sales, which includes resellers

and original equipment manufacturers. ███████████████████████████

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Another change is that Apple has provided additional data that eliminate some of the data problems that were described in my prior report. The period covered by the new data set is November 3, 2001, through March 26, 2011. The new data from Apple ████████████████

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The last change is that the previous regression did not include the "U2 Special Edition" models because of uncertainty about whether they have the same specifications as the iPod models on which they are based. ████████████████████████████████

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The new data productions do not solve all of the data problems that were listed in my prior report. Because important data problems still remain unresolved, regressions that are based on these data must be regarded as provisional.

For example, the new data ██
███ Apple also has not yet responded to questions that about these data that must be answered before they can be used.

Apple has provided some information about price ████████████████████████

██

██

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

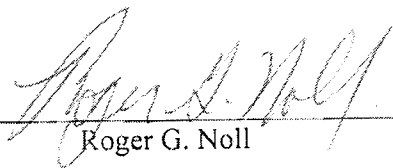[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The new regression is reported in Exhibit 1. The fit of the equation is very high, with an adjusted R^2 of 0.98, meaning that all but two percent of the variation in prices of iPod models is explained by the regression. The pattern of the coefficients is similar to the prior regression and is generally consistent with expectations. [REDACTED]

[REDACTED]

[REDACTED] Both coefficients are highly significant and very precisely estimated (the 95 percent confidence interval for the coefficient on update 7.0 is plus or minus roughly six cents).

This regression demonstrates that a damage method that is common to members of the class can be implemented.

I declare that the foregoing is true to the best of my knowledge and belief.

_____
Roger G. Noll

Executed on July 18, 2011, at Stanford, California.

<u>CERTIFICATE OF SERVICE</u>

I hereby certify that on July 18, 2011, I authorized the electronic filing of the foregoing with the Clerk of the Court using the CM/ECF system which will send notification of such filing to the e-mail addresses denoted on the attached Electronic Mail Notice List, and I hereby certify that I caused to be mailed the foregoing document or paper via the United States Postal Service to the non-CM/ECF participants indicated on the attached Manual Notice List.

I certify under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on July 18, 2011.

s/ Bonny E. Sweeney
BONNY E. SWEENEY

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