

**Washington DC Local People Meter
2005**



A Super-Q Audit Process



Nielsen
Media Research

Washington DC Local People Meter

Table of Contents

Table of Contents	i
Internal Audit Charter	iii
Executive Summary	1
Service Description	2
Field Visits Results	3
• Collection of Metered Data	4
○ All Codes Tested	5
• Collection of Demographic Data	8
○ Birth Date of Household Members	9
○ Cable/ADS Status	9
○ Household Size	9
○ Housing Unit Information	10
○ Identification of Owner/Renter	10
○ Education of Owner/Renter	11
○ Gender of Household Members	12
○ Hispanic Identity of Owner/Renter	12
○ Language Classification	12
○ Country of Origin	12
○ Race of Owner/Renter	12
○ Unmetered Devices	13
○ Working Women	13
○ Household Income	14
○ Occupation of Owner/Renter	15
○ Personal Computer and Internet Access	15
○ Pets	15
○ SAP/PIP	16
○ Vehicles	18



Washington DC Local People Meter

Table of Contents (continued)

Appendices

Market and Demographic BreaksAppendix 1

Individual Household Error RatesAppendix 2

Income DiscrepanciesAppendix 3

GlossaryAppendix 4



MISSION AND SCOPE OF WORK

The internal audit department is designed to be a key contributor in our continual effort to improve the quality of the services we provide to our clients. The mission of this department is to provide independent, objective assurance and consulting services designed to add value and improve our operations. It helps the organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and the Media Rating Council's (MRC) governance process.

The scope of work of the internal audit department is to determine whether the organization's network of risk management, control, as designed and represented by management, is adequate and functioning in a manner to ensure:

- Risks are appropriately identified and managed.
- Significant best practices issues impacting the organization are recognized and addressed appropriately.
- Quality and continuous improvement are fostered in the organization's control process.
- Significant managerial, and operating information is accurate, reliable, and timely.
- Departments' actions are in compliance with policies, procedures and quality standards.
- Third party data are acquired with a high standard of quality and is adequately protected.
- Product related programs, plans, and objectives are achieved.

Opportunities for improving management control, profitability, and the organization's image may be identified during audits. They will be communicated to the appropriate level of management.

ACCOUNTABILITY

The chief research officer, in the discharge of his/her duties, shall be accountable to management and the operating committee in the following manner:

- Provide annually an assessment on the adequacy and effectiveness of the organization's processes for controlling its activities and managing its risks in the areas set forth under the mission and scope of work.
- Report significant issues related to the processes for controlling the activities of the organization and its affiliates, including potential improvements to those processes, and provide information concerning such issues through resolution.
- Periodically provide information on the status and results of the annual audit plan and the sufficiency of department resources.
- Coordinate with and provide oversight of other control and monitoring functions (compliance, security, and external audit).

INDEPENDENCE

To provide for the independence of the internal auditing department, its personnel report to the chief research officer, who reports to the chief executive officer in a manner outlined in the above section on Accountability. It will include as part of its reports to the operating committee a regular report on internal audit personnel.

RESPONSIBILITY

The chief research officer and staff of the internal audit department have responsibility to:

- Develop a flexible annual audit plan using an appropriate risk-based methodology, including any risks or control concerns identified by management, and submit that plan to the operating committee for review and approval as well as periodic updates.
- Implement the annual audit plan, as approved, including as appropriate any special tasks or projects requested by management and the operating committee.
- Maintain a professional audit staff with sufficient knowledge, skills, experience, and professional certifications to meet the requirements of this Charter.
- Evaluate and assess significant merging/consolidating functions and new or changing services, processes, operations, and control processes coincident with their development, implementation, and/or expansion.
- Issue periodic reports to the operating committee and management summarizing results of audit activities.
- Keep the operating committee informed of emerging trends and successful practices in internal auditing.
- Provide a list of significant measurement goals and results to the operating committee.
- Consider the scope of work of the external auditors and regulators, as appropriate, for the purpose of providing optimal audit coverage to the organization at a reasonable overall cost.

AUTHORITY

The chief research officer and staff of the internal audit department are authorized to:

- Have unrestricted access to all functions, records, property, and personnel.
- Have full and free access to the operating committee.
- Allocate resources, set frequencies, select subjects, determine scopes of work, and apply the techniques required to accomplish audit objectives.
- Obtain the necessary assistance of personnel in units of the organization where they perform audits, as well as other specialized services from within or outside the organization.

The staff of the internal audit department is not authorized to:

- Perform any operational duties for the organization or its affiliates.
- Direct the activities of any organization employee not employed by the internal auditing department, except to the extent such employees have been appropriately assigned to auditing teams or to otherwise assist the internal auditors.

STANDARDS OF AUDIT PRACTICE

The internal audit department will meet or exceed the *Standards for the Professional Practice of Internal Auditing* of The Institute of Internal Auditors.

Chief Research Officer



Executive Summary

Nielsen Internal Audit conducted an examination of the Washington DC Local People Meter (LPM) service. Nielsen Quality Assurance performed Field Visits in February 2005, while Nielsen Internal Audit (IA) compiled the results obtained and analyzed the information from March 2005 through April 2005. Results of the Field Visits were evaluated against the Media Rating Council's *Minimum Standards for Media Rating Research*.

Nielsen IA noted the following situations of noncompliance with the *MRC Minimum Standards*:

- Related to unmetered devices, IA concluded that the discovery of four unmetered devices across three households indicated noncompliance with *MRC Minimum Standard A.2*.
- Related to the collection of Household Income information, IA concluded that an overall discrepancy rate of 53.8% (42.8% with a difference of +/- \$5,000 and 28.5% with a difference of +/- \$15,000) indicated noncompliance with *MRC Minimum Standard A.2*.
- Related to the collection of Household Income information, IA concluded that the absence of clearly defined instruction in the sample procedures manual for how and when to estimate a household's income indicated noncompliance with *MRC Minimum Standard A.4*.
- Related to the collection of Household Income information, IA concluded that the absence of an empirically justifiable procedure for estimating a household's income indicated noncompliance with *MRC Minimum Standard A.13*.
- Related to the collection of Vehicle information, IA concluded that an overall discrepancy rate of 10.0% and a vehicle discrepancy rate of 6.8%, with 4.5% of the discrepancies having a report impact indicated noncompliance with *MRC Minimum Standard A.2*.

During the performance of the Field Visits, Nielsen QA attempted to observe calibration tests on all tuning devices within each household visited and all codes on each tuning device. This resulted in the testing of 6,957 tuning codes and 90 non-tuning codes across 44 televisions, 26 VCRs, and 26 cable converters.

Related to the calibration tests observed during Field Visits, Nielsen IA concluded that an overall discrepancy rate of 5.0% (0.6% AC and 4.4% UV) indicated compliance with *MRC Minimum Standard A.2*. This rate includes the results of one household that contributed significantly to the codes observed in error. In this one household, metering problems were noted resulting in 46.0% of all discrepancies noted.



Service Description

The Washington DC Local People Meter (LPM) service is a local, meter-based, television ratings service that reports audience estimates, including demographic information, for the Washington DC DMA. The Washington DC DMA follows Boston, Los Angeles, New York, Chicago, San Francisco and Philadelphia as the seventh NSI market to convert to the LPM service. Like Boston, Los Angeles, New York, Chicago, San Francisco, and Philadelphia, Washington DC will ultimately be integrated with the NPM service, allowing all homes in the Washington DC LPM to contribute to both the NSI and NPM samples. In contributing to the NPM service, LPM homes will be weighted down to account for what would otherwise be a geographic over-representation.

Clients of the Washington DC LPM service will continue to receive NSI audience estimates in the form of the *Viewers in Profile* (ViP) book, which contains the same data and format as issued in the NSI Metered Market service. However, unlike the NSI Metered Market service, ViP reports for the LPM service will be issued in each calendar month. In addition to the traditional *ViP*, LPM audience estimates will also be made available in *Navigator*. Data reported from Washington DC LPM homes will also ultimately be included in the integrated NPM products.

The Washington DC LPM sample consists of a panel of approximately 600 metered television households, and is dispersed throughout the Washington DC DMA to be representative of the entire market. The housing units that comprise the Washington DC LPM sample are selected based on an Area Probability process from information established as a part of the United States 2000 decennial Census. No household remains in the sample longer than two years.

Once the pre-designated homes that will comprise the Washington DC LPM sample are identified, Nielsen Membership Representatives (MRs) recruit the homes to be a part of the sample. Once cooperation of a household is achieved, Nielsen Field Representatives (FRs) equip the home with the technology necessary to capture tuning and persons data. Nielsen MRs and FRs work together to maintain the household's cooperation, the accuracy of the household's demographic profile and the accuracy of the household's collected viewing data.

The technology installed in each Washington DC LPM household, which provides tuning and demographic data, includes the use of television tuning meters and Nielsen "People Meters." People Meters are connected to each television setup in every sample household and allows individuals to record their TV viewing with the touch of a button. The tuning meters, also attached to each television setup in every sample household, then records 1/2-minute-by-1/2-minute records of tuning and viewing by household members and visitors who enter information into the system.

These records of TV viewing are passively transmitted every night by telephone to Nielsen's central computer where they are electronically verified as being transmitted from a Nielsen household. Data is accumulated for households, edited and compiled into audience estimates through a fully automated process.



Overview

Nielsen Quality Assurance conducted in-field visits to a sample of Washington DC Local People Meter households during February 2005. These visits were designed to determine if (1) all devices in the household are appropriately metered, (2) Nielsen's household files relating to demographic data are complete and accurate (3) Field Representatives are visiting the households within the timeframe dictated by procedure and (4) Households are being coached regarding security and their need to notify Nielsen in the event of changes to the number of persons or sets in the home. Additionally, Nielsen Internal Audit (IA) evaluated the results of these objectives against the Media Rating Council's *Minimum Standards for Media Rating Research* in order to determine Nielsen's compliance with the *Standards*. To achieve these objectives, Nielsen visited a representative sample of thirty Washington DC LPM households and evaluated these criteria through observation and through an interview with a responsible member of each household.

Sample Selection

Nielsen selected 30 Washington DC LPM households to produce a representative sample of installed Washington DC LPM households, which as of the date of sample selection numbered approximately 435. Therefore, the field visit sample comprised approximately 6.9% of all installed Washington DC LPM homes.

To select the sample, Nielsen stratified installed homes based on (1) Field Area, (2) number of metered sets and (3) cable status. Within each stratum, the field visit sample was randomly selected. As a result, the 30 selected homes represented each of the three strata proportionately to the installed sample.

Part I – Collection of Metered Data

In performing the visits, Nielsen attempted to observe calibration tests on all tuning devices within each household visited and all codes on each tuning device. This resulted in the testing of 6,957 tuning codes and 90 non-tuning codes across 44 televisions, 26 VCRs, and 26 cable converters. Tuning devices that had no receivable channels were not included in the above counts.



The following table, which summarizes the results of Nielsen's testing, shows discrepancies on the basis of receivable tuning channels tested as well as on the basis of total households tested. Discrepancies are broken out by Miscrediting and Unidentified Viewing discrepancies. Miscrediting, or Alternate Credit (AC) discrepancies relate to situations where tuning is being credited to a station other than the station that is actually being viewed by the household. Unidentified Viewing (UV) discrepancies relate to situations where tuning is being credited to a code that is undefined by Nielsen, resulting in no station credit. Unidentified Viewing is subject to certain minutes of viewing thresholds that will fault a home (thus removing it from in-tab) should those thresholds be exceeded.

Discrepancies Noted – All Codes Tested

Combo Status	Cable Status	Base	Miscrediting (AC)		Unidentified Viewing (UV)		Total Discrepancies	
Channel Codes:								
LPM Only	Cable	1920	32	1.7%	14	0.7%	46	2.4%
LPM Only	DBS/Digital	2631	6	0.2%	85	3.2%	91	3.5%
LPM Only	Non Cable	109	1	0.9%	2	1.8%	3	2.8%
		4660	39	0.8%	101	2.2%	140	3.0%
Combo	Cable	883	0	0.0%	10	1.1%	10	1.1%
Combo	DBS/Digital	1390	3	0.2%	199	14.3%	202	14.5%
Combo	Non Cable	24	0	0.0%	0	0.0%	0	0.0%
		2297	3	0.1%	209	9.1%	212	9.2%
Total Channel Codes		6957	42	0.6%	310	4.5%	352	5.1%
Total Non-Tuning Codes		90	0	0.0%	0	0.0%	0	0.0%
Total Codes		7047	42	0.6%	310	4.4%	352	5.0%
Households:								
LPM Only	Cable	10	3	30.0%	4	40.0%	5	50.0%
LPM Only	DBS/Digital	8	2	25.0%	8	100.0%	8	100.0%
LPM Only	Non Cable	3	1	33.3%	2	66.7%	2	66.7%
		21	6	28.6%	14	66.7%	15	71.4%
Combo	Cable	3	0	0.0%	1	33.3%	1	33.3%
Combo	DBS/Digital	5	1	20.0%	5	100.0%	5	100.0%
Combo	Non Cable	1	0	0.0%	0	0.0%	0	0.0%
		9	1	11.1%	6	66.7%	6	66.7%
Total Households		30	7	23.3%	20	66.7%	21	70.0%



The figures presented in the table above include the results of two households that contributed significantly to the codes observed in error. In one household, metering problems were noted resulting in 52% of all unidentified viewing errors noted and 46% of all discrepancies.

In the second household, a mixture of unlisted channels and metering problems resulted in 30 ACs and 2 UVs, accounting for 71.4% of all miscrediting errors noted.

The above discrepancies data could not be analyzed by their effect on Viewers in Profile (ViP) or Total Viewing Sources (TVS) reportable, close to reportable or not reportable stations due to the fact that data for Washington DC LPM is not being reported on a preliminary basis as was done for previous LPM markets. Instead, the market will go live when the target installation rate is achieved. Additionally, the tuning analysis, which quantifies the estimated effect of the discrepancies noted above on the actual tuning of the sample households, could not be performed due to the preliminary data not being available. The data necessary to determine reportability status will be available once the market goes live.



Nielsen anatomized the observed discrepancies by breaking each error into one of the following classifications. See Appendix C for a more detailed accounting of individual errors.

1. Metering Problem – These errors occur when a metering failure results in miscoding. Examples include incorrect metering probe placement, loose soldering, metering error, etc.
2. Uncalibrated Code – These errors occur when a channel is not assigned a code (the system defaults to “254”).
3. Missing Off Air Channel – These errors occur when a receivable over-the-air channel is observed as receivable in the household, but is not included in Nielsen’s records.
4. Missing Cable Channel – These errors occur when a receivable cable channel is observed as receivable in the household, but is not included in Nielsen’s records.
5. Cable Change – These errors occur when, although the equipment is generating the correct code, Nielsen’s lineup information has a different station listed in the channel position than that which was observed in the home during the audit.
6. Different Share Times – These errors occur when credit is misapplied due to a single channel being shared among two or more different stations. Three situations can cause shared station errors: (1) Nielsen has a channel code denoted as a shared channel, but it is not shared, (2) Nielsen has a channel code that is NOT denoted as a shared channel, but it is shared, and (3) Nielsen’s record of the start/end times for the stations sharing the channel are not accurate.

Distribution of Errors by Type

	Miscrediting (ACs)		Unidentified Viewing (UVs)	
Metering Problem	41	97.60%	10	3.20%
Uncalibrated Code	--	--	160	51.60%
Missing Off-Air Channel	--	--	30	9.70%
Missing Cable Channel	--	--	110	35.50%
Cable Change	1	2.40%	--	--
Different Share Times	--	--	--	--
Total	42	100%	310	100%
Total Codes Tested	7,047	--	7,047	--



Part II – Collection of Demographic Data

In each of the thirty households visited as a part of Nielsen’s Field Visits procedures, a responsible member of the household (a resident age sixteen or older) was interviewed to determine whether selected demographic information was correct in Nielsen’s records. This household member was responsible for confirming demographics on behalf of all household members. Discrepancies in the demographic data collected could impact the Washington DC service in one or more of the following ways:

- Standard Reported Estimates: These are audience estimates that are reported in the Washington DC Viewers in Profile (ViP) report, the Navigator software, the Total Viewing Sources (TVS) DVD, as well as NTI, NSS and NHI reports for integrated data. Please note that throughout this section, references to NPM are simply stated as “NTI NAD” and “NTI NAD MIT.” This is because the NTI NAD and NAD MIT generally have the most discreet breaks for demos and market breaks
- Weighting Variables: These are household characteristics for which Nielsen weights its data.
- Priority Maintenance Characteristics: These are household characteristics used by Nielsen to prioritize its efforts relating to addressing service requests for homes in the sample.

See Appendix 1 for the demographics and market breaks contained that represent each of the above areas.

Birth Date of Household Members

Nielsen collects the birth date of all household members. This data is used in the presentation of audience estimates by age range in the Washington DC LPM ViP, Navigator, TVS DVD, NTI NAD and NTI NAD MIT. Additionally, presence of non-adults and age of O/R are used both as priority maintenance and weighting characteristics.

A total of 65 persons were tested during the field visits and no exceptions were noted.

Cable/ADS Status

Nielsen maintains the wired cable and Alternate Delivery System (ADS) status for all sample homes. While performing the calibration testing for homes during field visits procedures, Nielsen observed whether the Cable/ADS status for the home was accurately recorded.

Although Cable/ADS status is not used as a market break for audience estimates reported in the Washington DC LPM ViP, the TVS DVD or Navigator, it is used as a market break for the NTI NAD and NTI NAD MIT. Additionally, this information is used as a weighting variable and a priority maintenance characteristic.



There were no instances noted where a home was assigned an incorrect Cable/ADS status.

Household Size

Nielsen maintains records as to all persons living in the household. This data is used to determine household size and can also impact whether or not “presence of non-adult” information is correct. “Household size” and “presence of non-adult” are not market breaks that are reported in the Washington DC LPM ViP, the TVS DVD, or in Navigator. However, “household size” and “presence of non-adult” information are both used as market breaks in the NTI NAD and NTI NAD MIT. Additionally, they are both used as weighting variables and priority maintenance characteristics. There were no instances noted where the household size differed from Nielsen’s records.

Housing Unit Information

Nielsen verified the survey data information, dwelling type information and move-in date for the households visited as a part of field visit procedures. Relating to the verification of survey data information, Nielsen used the survey data for all basic households in the field visit sample to determine whether the basic selected by Statistical Research was the household recruited and installed by the field. Additionally, this information (i.e. address) impacts the “County Name” priority maintenance characteristic. This data was confirmed for twelve basic households and no exceptions were noted.

Dwelling type information (Multi-Family, Single-Family or Mobile Home) is maintained for all sample homes. This information is not utilized in relation to any of Nielsen’s accredited products or in any product for which Nielsen is currently seeking accreditation. One of the thirty households tested had a different dwelling type than the one listed in Nielsen’s records. This household was listed in Nielsen’s records as single-family dwellings when in fact it was a multi-family dwelling.

Similarly, the move-in date is maintained for all sample homes. This information is not utilized in relation to any of Nielsen’s accredited products or in any product for which Nielsen is currently seeking accreditation. One of the thirty households tested had an incorrect move-in date.

Identification of Owner/Renter

One person in each Nielsen home is designated as the owner/renter. Although the Washington DC LPM ViP, the TVS DVD and Navigator audience estimates are not reported by any owner/renter market break, Owner/Renter market breaks are included in the NTI NAD and the NTI NAD MIT. Additionally, data relating to the owner/renter is used in several capacities for priority maintenance and as weighting variables.



In order to verify this information, Nielsen asked the following question of each of the thirty households tested:

“Our records indicate _____ is the person or one of the people living here who owns, is buying, or rents this home. Is this still correct?”

There were no instances of the incorrect household member being designated as owner/renter in the twenty-nine households tested.

Education of Owner/Renter

Nielsen collects education information by asking a responsible household member to mark a show sheet representing the highest degree or level of school the owner/renter has completed. Although education of owner/renter is not a market break that is reported in the Washington DC LPM ViP, the TVS DVD or in Navigator, it is used as a market break in the NTI NAD and the NTI NAD MIT. Education of the Owner/Renter is used as neither a priority maintenance characteristic nor as a weighting variable in the Washington DC LPM.

The results of this testing are as follows:

Education of Owner/Renter		
Households Tested	28	
O/R education differed between Nielsen records and HH response.	2	7.14%
Incorrect education level had a NTI NAD impact.	0	0.00%
Incorrect education level did not have a NTI NAD impact.	2	7.14%
Incorrect education level had a NTI NAD MIT impact.	1	3.57%
Incorrect education level did not have a NTI NAD MIT impact.	1	3.57%

Education of owner/renter has been identified as an issue in the internal and external examinations of other Nielsen services. Consequently, Nielsen has made significant efforts to improve the quality of data collected in this area. First, in July of 2001, Nielsen introduced the use of a show-sheet, where the respondent marks their education level from fourteen choices. Previously, Nielsen field personnel classified a verbal response from the respondent into one of twenty-five choices. Secondly, Nielsen has conducted several training courses for its personnel emphasizing interviewer skills and the importance of accurate data collection. Finally, Nielsen developed a report in October 2001 to assist in identifying “real” changes in education. However, this report is less likely to identify changes to the education level of the owner/renter so much as other household members because the report flags households with (1) a member with 9, 10 or 11 years of education whose value has not changed within the last 11 months and (2) a member less than six years old whose education level is not equal to zero.



Because only one of the two discrepancies noted resulted in an impact to the NTI NAD MIT Nielsen IA believes that the results noted above are in compliance with the *MRC Minimum Standard A.2*.

Gender of Household Members

Nielsen collects the gender of all household members. This data is used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, Navigator, NTI NAD and NTI NAD MIT. Gender information is not used as a household weighting variable or as a priority maintenance characteristic. Of sixty-five persons tested in the performance of the Field Visits procedures, there were no noted instances of Nielsen recording an incorrect gender.

Hispanic Identity of Owner/Renter

The Hispanic Identity of each owner/renter was verified by asking the following question of a responsible household member:

“Is [owner/renter] Spanish, Hispanic or Latino? For example, Mexican, Mexican-American, Chicano, Puerto Rican, Cuban or another Spanish, Hispanic or Latino Group?”

Nielsen verified the Hispanic Identity of the owner/renter for all thirty households visited. No exceptions were noted.

Language Classification

In households where the owner/renter is Hispanic, Nielsen collects the Language information for each household member age 2+. This data is not presented as a market break in the Washington DC LPM ViP, the TVS DVD, Navigator, NTI NAD, NTI NAD MIT, as a weighting variable, or as a priority maintenance characteristic. Therefore, Language information was not tested for Washington DC LPM.

Country of Origin

Nielsen collects the country of origin information for the owner/renter of each household where the owner/renter answers affirmatively to the Hispanic Identity question. This information is not utilized in relation to any of Nielsen’s accredited products or in any product for which Nielsen is currently seeking accreditation. Since none of the owner/renter’s were classified as Hispanic, country of origin was not tested for any of the households visited.

Race of Owner/Renter

Nielsen collects race information by asking a responsible household member to mark a show sheet representing the race of the owner/renter. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, or Navigator, it is used as a market break for the NTI NAD and NTI NAD MIT. Additionally, Race of the owner/renter is used as a weighting variable and as a priority



maintenance characteristic. Nielsen verified the race of the owner/renter for twenty-nine of the thirty households visited. Although one exception was found, this one has no impact on the market breaks.

Unmetered Devices

Nielsen procedures are to meter all operable and used tuning and non-tuning devices in a household. In instances where a household has an operable but unused tuning or non-tuning device, the device is to be sealed by the Field Representative. A device can be sealed by placing a plastic tie through the cord so that it cannot be plugged in or the Field Representative may take the back off of the device and put the cord inside of the device so that it cannot be plugged in.

In addition to the need for all devices within the households to be monitored for the purposes of collecting complete tuning data, this information is used as a priority maintenance characteristic (Number of Sets). Number of Sets is not used as a market break for audience estimates reported in the Washington DC LPM ViP, the TVS DVD, Navigator or the NTI NAD. However, Number of Sets is used as a market break for audience estimates reported in the NTI NAD MIT.

There were four unmetered devices across three households discovered during the Washington DC LPM Field Visits. In all cases the household had a television or a TV/VCR Combo that was stored away and was not connected to any metered device. Each of these unmetered devices, should the household choose to use them without informing Nielsen, would result in an under-reporting of the household's viewing.

Nielsen IA considered the above results against *MRC Minimum Standards A.2*, particularly those indicating that 10% of households had additional devices not contained in Nielsen's records. Nielsen IA believes that these results indicate noncompliance with *MRC Minimum Standard A.2*.

Working Women

Nielsen defines a working woman for LPM as a female age 18+ who works 30 or more hours per week. In defining a working woman for purposes of NPM, there is a differentiation between a Part-Time Working Woman (PTWW) and a Full-Time Working Woman (FTWW). Females 18+ working 1-30 hours per week are defined as PTWW and Females 18+ working 30+ hours per week are defined as FTWW. This data is used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, Navigator and NTI NAD, where only the Full-Time definition is used. Audience estimates for NTI NAD MIT include both Full-Time and Part-Time working women in separate categories. However, working woman information is not used as either a weighting variable or a priority maintenance characteristic. Although one difference was noted, the information did not affect the 30-hour threshold to differentiate between Part-Time and Full-Time.



Household Income

Nielsen collects the total household income information for each household. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, or Navigator, household income is used as a market break for audience estimates reported in the NTI NAD and NTI NAD MIT. Household income information is not used as a weighting variable or priority maintenance characteristic. Household income was verified at twenty-six out of the thirty households visited, as two respondents did not know the household income, one respondent refused to circle an answer from the show sheet, and one household demos were collected over the phone.

The results of this testing are as follows:

Household Income		
Households where income was verified	26	
Household income information differed between Nielsen records and HH response.	14	53.84%
Incorrect Income information resulted in NTI NAD reporting impact.	1	3.84%
Incorrect Income information did not result in NTI NAD reporting impact.	13	50.00%
Incorrect Income information resulted in NTI NAD MIT reporting impact.	2	7.69%
Incorrect Income information did not result in NTI NAD MIT reporting impact.	12	46.15%

See Appendix 3 for each of the individual discrepancies as well as a distribution of the amount of the differences, which indicate that 42.8% of the differences were within \$5,000 of Nielsen's records while 57.1% of the differences were +/- \$15,000 or more.

Nielsen IA considered the results of the above testing against *MRC Minimum Standard A.2*, particularly those indicating that 53.8% of homes tested had a Household Income discrepancy. IA believes that this situation is noncompliant with *MRC Minimum Standard A.2*.



Nielsen IA noted that there is no documentation in the sample procedures manual or on the household demographic collection form as to how or when the FR or MR should estimate the household's income. IA believes that such documentation is particularly vital since Nielsen records indicate that as of March 24th, 2005, 11 of the 389 Washington DC LPM households (2.8%) have their income estimated by field personnel. Nielsen IA believes this situation to be noncompliant with *MRC Minimum Standard A.4* and *MRC Minimum Standard A.13*. Nielsen should consider adding a section to the sample procedures manual covering those demographics that are eligible for estimation as well as systematic, logical and empirically justifiable guidelines on how to estimate them.

The issues noted above have been identified in previous internal audits of the Los Angeles LPM, the New York LPM, the Chicago LPM, the San Francisco LPM, the Philadelphia LPM and the internal audit of another unaccredited service. As such, Nielsen Methodological Research is identifying measures to address the issues noted above.

Occupation of Owner/Renter

Nielsen collects the occupation of each household's owner/renter. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, NTI NAD, the TVS DVD or Navigator, Occupation of owner/renter is used as a market break for audience estimates reported in the NTI NAD MIT. Occupation of owner/renter information is not used as a weighting variable or priority maintenance characteristic. No differences were noted during the testing.

Personal Computer and Internet Access

Nielsen collects information from each household regarding its ownership of a personal computer as well as access that the home has to the Internet. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, Navigator or the NTI NAD, computer information is used as a market break for audience estimates provided in the NTI NAD MIT. Computer Information is not used as a weighting variable or priority maintenance characteristic. Of the thirty households interviewed, one (3.3%) indicated that they did not have access to the Internet, when Nielsen's records indicated that they did. This difference impacts the Internet access market break in the NTI NAD MIT.

Pets

Nielsen collects information for each household's ownership of dogs and cats. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, Navigator or the NTI NAD, pets are used as a market break for audience estimates provided in the NTI NAD MIT. Presence of pets is not used as a weighting variable or priority maintenance characteristic.



Among the thirty households tested, one had a discrepancy related to the presence of dogs. Nielsen's records indicated that no dogs were present in the household, whereas the audit indicated that a dog was acquired approximately one week prior the date of the audit. This difference impacts reported estimates for dog ownership for NTI NAD MIT.

SAP/PIP

Nielsen verifies the presence of Secondary Audio Programming (SAP) for each TV and VCR in the sample as well as the presence of Picture-in-Picture (PIP) for each TV in the sample. The SAP feature allows a TV station to broadcast additional information to the viewer through the audio receive system. That additional information could be the same program audio in another language (e.g. Spanish), or something completely different, such as weather information or Descriptive Video Services for the visually impaired. PIP allows users to view multiple channels at one time.

Nielsen collects SAP information from its sample households and maintains the data for the purposes of generating custom analysis should they be client requested, however, SAP information is not a reportable market break in any Nielsen report nor is it used in any priority maintenance or weighting capacity. PIP information is collected to ensure that this capability is appropriately metered. The PIP function of a tuning device for which Nielsen is unaware is analogous to an unmetered device in the household. Similarly to SAP, however, PIP information is not a reportable market break in any Nielsen report nor is it used in any priority maintenance or weighting capacity.



Nielsen observed the SAP and PIP capabilities for each set encountered during field visits. The results of this testing is as follows:

SAP/PIP Testing		
Households Tested	30	
Households with PIP discrepancies	0	0.0%
- Nielsen records indicate no PIP, but PIP was present	0	0.0%
- Nielsen records indicate PIP, but no PIP was present	0	0.0%
- Nielsen records indicate no PIP, but PIP was present on one or more sets and Nielsen records indicated PIP, but no PIP was present on one or more sets	0	0.0%
Households with SAP discrepancies	11	36.7%
- Nielsen records indicate no SAP, but SAP was present	7	23.3%
- Nielsen records indicate SAP, but no SAP was present	5	16.7%
- Nielsen records indicate no SAP, but SAP was present on one or more sets and Nielsen records indicated SAP, but no SAP was present on one or more sets	0	0.0%
Devices Tested for PIP	48	
Devices With PIP Discrepancy	0	0.0%
- Nielsen records indicated no PIP, but PIP was present	0	0.0%
- Nielsen records indicated PIP, but no PIP was present	0	0.0%
Devices Tested for SAP	82	
Devices With SAP Discrepancy	11	13.4%
- Nielsen records indicated no SAP, but SAP was present	7	8.5%
- Nielsen records indicated SAP, but no SAP was present	5	6.1%

Although the table above shows significant discrepancy rates relating to SAP information, Nielsen does not actively use this data in any capacity. Nevertheless, past attention has been given to the topic to improve the accuracy of collecting this information. Nielsen included a section on SAP data collection in its Quarter 2, 2003 quarterly training session for field personnel.



Vehicles

Nielsen collects the vehicle information for each household. Although this information is not used in the presentation of audience estimates in the Washington DC LPM ViP, the TVS DVD, Navigator or the NTI NAD, vehicle information is used as a market break for audience estimates provided in the NTI NAD MIT. Vehicle information is not used as a weighting variable or priority maintenance characteristic. The results of this testing are as follows:

Vehicles		
Households Tested	30	
Vehicle information differed between Nielsen records and HH response.	3	10.0%
Vehicles Tested	44	
Vehicle information differed between Nielsen records and HH response.	3	6.8%
Vehicle discrepancy resulted in NTI NAD MIT reporting impact.	2	4.5%
Vehicle discrepancy did not result in NTI NAD MIT reporting impact.	1	2.3%

Nielsen has made efforts to improve the quality of data collected in this area. In October 2001, Nielsen developed a report to assist in identifying changes to vehicles by flagging households that had a person older than sixteen years of age added or removed from the household but had no vehicle change. Additionally, the update of Vehicle information was added as an item to the Interim Call.

Nielsen IA considered the above results against *MRC Minimum Standard A.2*, particularly those indicating that 10.0% of households had different vehicle information than that contained in Nielsen's records. Additionally, two of the discrepancies encountered had an impact on the reported NTI NAD MIT market breaks. Because of the nature of the question, in which there is a greater possibility for true change, Nielsen IA believes that the overall error rate standing alone is not necessarily indicative of noncompliance. However, due to the discrepancy rate of 10.0% and the fact that two of the discrepancies noted resulted in an impact to the NTI NAD MIT, Nielsen IA believes that the results noted above indicate noncompliance with *MRC Minimum Standard A.2*.

**Appendix 1 –
Market and Demographic Breaks**

Washington DC LPM Demographic/Market Breaks

Persons 2+
Persons 18+
Persons 12-24
Persons 12-34
Persons 18-34
Persons 18-49
Persons 21-49
Persons 25-54
Persons 35+
Persons 35-64
Persons 50+

Women 18+
Women 12-24
Women 18-34
Women 18-49
Women 21-49
Women 25-49
Women 50+
Women 25-54
Women 25-64
Working Women

Men 18+
Men 18-34
Men 18-49
Men 21-49
Men 25-49
Men 25-54
Men 25-64

Teens 12-17
Teen Girls

Children 2-11
Children 6-11

Navigator Demographic/Market Breaks

Persons 2+	Women 18+	Men 18+
Persons 18+	Women 12-24	Men 18-34
Persons 12-24	Women 18-34	Men 18-49
Persons 12-34	Women 18-49	Men 21-49
Persons 18-34	Women 21-49	Men 25-49
Persons 18-49	Women 25-49	Men 25-54
Persons 21-49	Women 50+	Men 25-64
Persons 25-54	Women 55+	Men 55+
Persons 35-54	Women 25-54	
Persons 35+	Women 35-54	Teens 12-17
Persons 35-64	Women 25-64	Teen Girls
Persons 50+	Working Women	
Persons 55+		Children 2-11
Persons 65+		Children 6-11

Priority Maintenance Characteristics

Cable Status:

Yes
No

Cable Plus Status:

Yes
No

ADS Status:

Yes
No

Number of Sets

1
2+

Geography

Fairfax
Remainder DMA
Remainder Metro
Montgomery
Prince George
District of Columbia

Age of Owner/Renter:

< 35
35 – 54
55+

Race of HOH:

Asian
Black
Others

Household Size:

1 – 2
3 – 4
5+

Origin of Owner/Renter

Non-Hispanic
Hispanic

Presence of Non-Adults:

None < 18
Any < 18

Household Weighting Variables

Cable Status:

Yes
No

ADS Status:

Yes
No

Presence of Non-Adults:

None < 18
Only 0-11
Any 12-17

Origin of Owner/Renter

Non-Hispanic
Hispanic

Age of Owner/Renter:

< 35
35 – 54
55+

Race of Owner/Renter:

Black
Non-Black
Asian
Non-Asian

Household Size:

1
2
3-4
5+

Demographic Building Blocks

Children 2-5

Children 6-11

Working Women

Males 12-17

Males 18-20

Males 21-24

Males 25-34

Males 35-49

Males 50-54

Males 55-64

Males 65+

Females 12-17

Females 18-20

Females 21-24

Females 25-34

Females 35-49

Females 50-54

Females 55-64

Females 65+

NTI NAD MIT Market Breaks

Territory	Number of TVs	Occupation of HOH
Northeast	Single TV Set	White Collar
East Central	2 TV Sets	Blue Collar
West Central	3 TV Sets	Not in Labor Force
Southeast	4 or more TV Sets	Household Income
Southwest	Household Size	Under \$20,000
Pacific	1 Person	\$20-\$29,999
County Size	2 Person	\$30-\$39,999
County Size A	3 Person	\$40-\$49,999
County Size B	4 or more persons	\$50-\$59,999
County Size C&D	Age of Head of House	\$60,000+
Time Zone	HOH < 25	\$60,000-\$74,999
Eastern	HOH 25-34	\$75,000+
Central	HOH 35-54	Upper Demos
Mountain Pacific	HOH 55-64	Income \$40k+ w/ Children
Viewing Options	HOH 65+	Income \$50k w/ Children
Pay Cable	Age of HOH w/ HH Size	Income \$40k+, HOH Prof/Mgr
Basic Cable	1-2 Person, HOH < 50	Income \$50k, HOH Prof/Mgr
No Cable	1-2 Person, HOH 50+	Income \$40k+, HOH w/ 1+ Yrs College
Presence of VCR	Education of HOH	Income \$50k, HOH w/ 1+ Yrs College
Remote Control	<8 Yrs of School	Income \$40k+, Dual Income HH
Presence of Remote	1-3 Yrs, of High School	Income \$50k, Dual Income HH
Race	High School Graduate	Presence of Non-Adults
Black	1-3 Yrs of College	Any Under 18
White	College Graduate	Any Under 12
Car Ownership	Truck Ownership	Any Under 6
Car Owner	Truck Owner	Any Under 3
Single Car Owner	Truck and Car	Any 6-11
2 or More Cars	2 or More Trucks	Any 12-17
New Car Prospect	New Truck Prospect	Personal Computer/Internet Access
	Pet Ownership	PC Owner
	Dog Owner	PC Non-Owner
	Cat Owner	PC Owner w/ Internet Access
		PC Owner w/o Internet Access

NTI NAD MIT Demo Breaks

Female Children 2-5	Women 18-20	Working Women 18-20
Female Children 6-8	Women 21-24	Working Women 21-24
Female Children 9-11	Women 25-29	Working Women 25-34
Female Children 6-11	Women 30-34	Working Women 35-44
	Women 35-39	Working Women 45-49
Male Children 2-5	Women 40-44	Working Women 50-54
Male Children 6-8	Women 45-49	Working Women 55+
Male Children 9-11	Women 50-54	Working Women 18-49
Male Children 6-11	Women 55-64	Working Women 50+
	Women 65+	
Female Teens 12-14		Part-Time WW 18-49
Female Teens 15-17	Men 18-20	Part-Time WW 50+
Female Teens 12-17	Men 21-24	
	Men 25-29	Lady of House 18-24
Male Teens 12-14	Men 30-34	Lady of House 18-49
Male Teens 15-17	Men 35-39	Lady of House 25-34
Male Teens 12-17	Men 40-44	Lady of House 35-44
	Men 45-49	Lady of House 45-49
	Men 50-54	Lady of House 50+
	Men 55-64	Lady of House 50-54
	Men 65+	Lady of House 55+
		Lady of House w/ Child < 3

NTI NAD Market Breaks

Territory

Northeast
East Central
West Central
Southeast
Southwest
Pacific

County Size

County Size A
County Size B
County Size C&D

Viewing Options

Cable Plus ADS
Cable Plus w/ Pay
Broadcast Only
Presence of VCR

Upper Demos

Income \$50k w/ Children
Income \$50k, HOH Prof/Mgr
Income \$50k, HOH w/ 1+ Yrs College
Income \$50k, Dual Income HH

Race

Black

Presence of Non-Adults

Any Under 18
Any Under 12
Any Under 6
Any 6-11
Any 12-17

Household Size

1 Person
2 Person
3 Person
4 or more persons

Education of HOH

No College
4+ Years College

Household Income

\$30-\$39,999
\$40-\$59,999
\$60-\$74,999
\$75,000+

NTI NAD Demo Breaks

Female Children 2-11	Women 18+	Men 18+
Female Children 6-11	Women 18-34	Men 18-34
	Women 18-49	Men 18-49
Teens 12-14	Women 25-54	Men 25-54
Female Teens 12-17	Women 35-64	Men 35-64
	Women 55+	Men 55+
Working Women 18+		

TVS DVD Demographic Breaks

Children 2-5	Women 18-20	Men 18-20
Children 6-11	Women 21-24	Men 21-24
	Women 25-34	Men 25-34
Male Teens 12-17	Women 35-49	Men 35-49
Female Teens 12-17	Women 50-54	Men 50-54
	Women 55-64	Men 55-64
Working Women	Women 65+	Men 65+

**Appendix 2 –
Individual Household Error Rates**

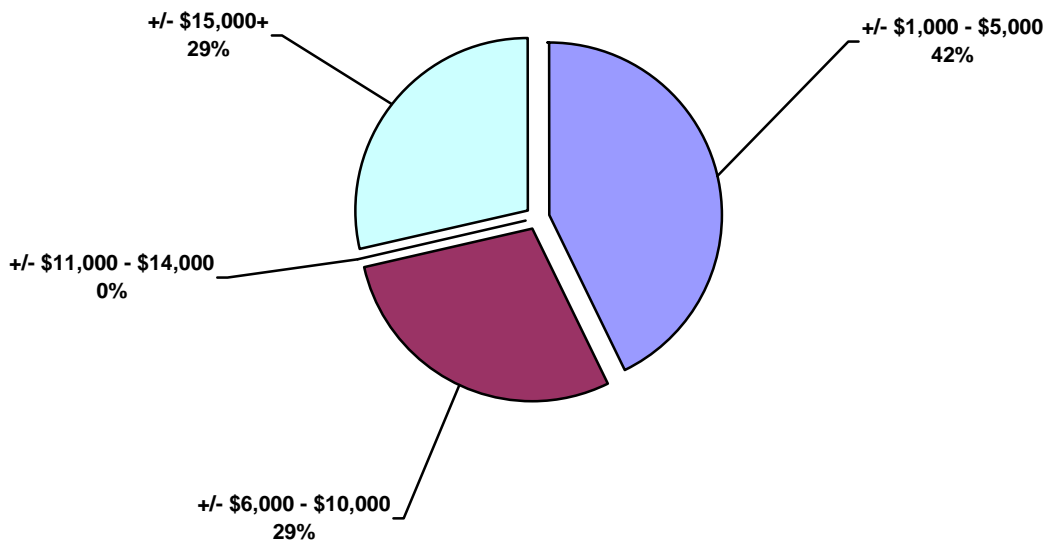


Individual Household Error Rate				
Household Number	Total Codes Tested	Total UV's	Total AC's	Error Rate
6070800	62	1	0	1.6%
6090140	208	16	0	7.7%
437500	26	0	0	0.0%
6070000	274	0	1	0.4%
6072471	93	0	0	0.0%
6070030	184	13	0	7.1%
417360	44	0	0	0.0%
6071040	27	1	1	7.4%
6073150	172	0	0	0.0%
6072960	145	1	0	0.7%
216280	187	3	0	1.6%
6071600	30	0	0	0.0%
6070920	77	0	0	0.0%
6072390	279	11	0	3.9%
6072710	224	3	0	1.3%
6070020	394	7	0	1.8%
6071460	332	2	30	9.6%
6072350	656	16	4	3.0%
6072650	359	7	2	2.5%
6072380	260	1	0	0.4%
6073140	79	0	0	0.0%
6072171	483	18	0	3.7%
6071730	255	4	1	2.0%
6073030	127	0	0	0.0%
205816	305	13	0	4.3%
222110	302	162	0	53.6%
437463	221	8	0	3.6%
209936	452	10	0	2.2%
221400	398	0	0	0.0%
221380	392	13	3	4.1%

**Appendix 3 –
Income Discrepancies**



Audited Income Source	Income Per Nielsen	Income Per Household	Difference	NTI NAD Impact?	NTI NAD MIT Impact?
Owner/Renter	\$80,000	\$83,000	\$3,000	No	No
Owner/Renter	\$51,000	\$52,000	\$1,000	No	No
Other	\$110,000	\$95,000	(\$15,000)	No	No
Owner/Renter	\$75,000	DK	--	--	--
Spouse	\$34,000	\$30,000	(\$4,000)	No	No
Owner/Renter	\$45,000	REF	--	--	--
Owner/Renter	\$100,000	\$200,000	\$100,000	No	No
Owner/Renter	\$80,000	\$100,000	\$20,000	No	No
Owner/Renter	\$300,000	**	--	--	--
Owner/Renter	\$21,000	\$30,000	\$9,000	Yes	Yes
Roommate	\$120,000	DK	--	--	--
Owner/Renter	\$89,000	\$91,000	\$2,000	No	No
HOH	\$81,000	\$100,000	\$19,000	No	No
Owner/Renter	\$50,000	\$53,000	\$3,000	No	No
Owner/Renter	\$23,000	\$17,000	(\$6,000)	No	Yes
Owner/Renter	\$84,000	\$75,000	(\$9,000)	No	No
Owner/Renter	\$78,000	\$82,000	\$4,000	No	No
Owner/Renter	\$76,000	\$83,000	\$7,000	No	No





Appendix 4 – Glossary



Alternate Delivery Source (ADS) – The technologies included in alternate delivery sources are satellite (C-Band), DBS (KU-Band), SMATV (Master Antennae) and MMDS (includes multi-channel multi-point and multi-channel distribution service).

Designated Market Area (DMA) – A term used to identify an exclusive geographic area of counties in which the home market television stations hold a dominance of total hours viewed. There are 210 DMA's in the United States.

National Audience Demographics Report (NAD) – One of the most comprehensive reports on television viewing behavior produced by Nielsen Media Research. This report, available to customers in both published and electronic editions, provides a multi-dimensional picture of the television audience. It is updated monthly. The NAD report covers broadcast network and syndicated programming. The CNAD report provides similar information for cable network television.

Nielsen Homevideo Index (NHI) – Established in 1980, NHI provides television audience measurement of cable, pay cable, VCR and other homevideo television sources.

Nielsen Syndication Service (NSS) – Formed in 1981, NSS serves the syndicated programming market by providing audience measurement of nationally syndicated programming on both a national and local basis.

Nielsen Station Index (NSI) – Provides local market television audience measurement for more than 1,000 local television stations in 210 local television markets. In nearly 48 markets, NSI provides metered services which include audience estimates every day.

Nielsen Television Index (NTI) – Established in 1950, NTI provides audience estimates for all national broadcast network television programs. In 1987, this service began collecting data on nationwide television viewing on a daily basis using the People Meter.

Viewers in Profile (ViP) – The local television ratings book from Nielsen Media Research, issued 3-7 times a year for each of the 210 television markets in the US.