

**Philadelphia Local People Meter
2004**



A Super-Q Audit Process



Nielsen
Media Research

Philadelphia Local People Meter

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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



Service Description

The Philadelphia Local People Meter (LPM) service is a local, meter-based, television ratings service that reports audience estimates, including demographic information, for the Philadelphia DMA. The Philadelphia DMA follows Boston, Los Angeles, New York, Chicago, and San Francisco as the sixth NSI market to convert to the LPM service. Like Boston, Los Angeles, New York, Chicago, and San Francisco, Philadelphia will ultimately be integrated with the NPM service, allowing all homes in the Philadelphia 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 Philadelphia 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 Philadelphia LPM homes will also ultimately be included in the integrated NPM products.

The Philadelphia LPM sample consists of a panel of approximately 800 metered television households, and is dispersed throughout the Philadelphia DMA to be representative of the entire market. The housing units that comprise the Philadelphia 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 Philadelphia 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 Philadelphia 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 Philadelphia Local People Meter households during October 2004. 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 Philadelphia LPM households and evaluated these criteria through observation and through an interview with a responsible member of each household.

Sample Selection

The selection of the 30 homes included both Philadelphia LPM homes and NPM homes. The NPM homes are those that will become LPM Combo homes in the future and were included in the selection. The NPM homes are expected to become LPM Combo homes by July 2005. Nielsen selected 21 Philadelphia LPM households and 9 NPM households to produce a representative sample of installed Philadelphia LPM households. As of the date of the sample selection, the Philadelphia LPM installed households numbered approximately 379 and the NPM households used for this selection numbered approximately 161. Therefore, the field visit sample comprised approximately 5.6% of all installed Philadelphia LPM homes and NPM homes included in the selection.

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 6,540 tuning codes and 93 non-tuning codes across 54 televisions, 38 VCRs, and 20 cable converters. Tuning devices that had no receivable channels were not included in the above counts.

Three instances were encountered where access to all sets within the household was restricted by a household member. Two instances were encountered where no devices were tested due to equipment problems. Additionally, two instances were encountered where not all devices in the household were tested due to scheduling restrictions.



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	2,939	6	0.2%	12	0.4%	18	0.6%
LPM Only	DBS/Digital	2,362	21	0.9%	30	1.3%	51	2.2%
LPM Only	Non Cable	40	0	0.0%	1	2.5%	1	2.5%
		5,341	27	0.5%	43	0.8%	70	1.3%
Future Combo	Cable	630	17	2.7%	6	1.0%	23	3.7%
Future Combo	DBS/Digital	519	16	3.1%	7	1.3%	23	4.4%
Future Combo	Non Cable	50	0	0.0%	6	12.0%	6	12.0%
		1,199	33	2.8%	19	1.6%	52	4.3%
Total Tuning Codes		6,540	60	0.9%	62	0.9%	122	1.9%
Total Non-Tuning Codes		93	0	0.0%	0	0.0%	0	0.0%
Total Codes		6,633	60	0.9%	62	0.9%	122	1.8%
Households:								
LPM Only	Cable	13	3	23.1%	6	46.2%	6	46.2%
LPM Only	DBS/Digital	7	3	42.9%	7	100%	7	100%
LPM Only	Non Cable	1	0	0.0%	1	100%	1	100%
		21	6	28.6%	14	66.7%	14	66.7%
Future Combo	Cable	5	4	80.0%	2	40.0%	4	80.0%
Future Combo	DBS/Digital	3	2	66.7%	1	33.3%	2	66.7%
Future Combo	Non Cable	1	0	0.0%	1	100%	1	100%
		9	6	66.7%	4	44.4%	7	77.8%
Total Households		30	12	40.0%	18	60.0%	21	70.0%



The figures presented in the table above include the results of three households that contributed significantly to the codes observed in error. In one household, metering problems were noted resulting in 25.0% of all miscrediting errors noted and 11.3% of all unidentified viewing errors noted.

In the second household, a mixture of unlisted channels and metering problems resulted in 18 ACs and 3 UVs, accounting for 30.0% of all miscrediting errors noted.

In the third instance, metering problems resulted in 11 ACs and 3 UVs, accounting for 18.3% 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 Philadelphia 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	52	86.7%	13	21.0%
Uncalibrated Code	--	--	1	1.6%
Missing Off-Air Channel	--	--	13	21.0%
Missing Cable Channel	--	--	35	56.4%
Cable Change	8	13.3%	--	--
Different Share Times	--	--	--	--
Total	60	100%	62	100%
Total Codes Tested	6,633	--	6,633	--



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 Philadelphia LPM service in one or more of the following ways:

- Standard Reported Estimates: These are audience estimates that are reported in the Philadelphia LPM 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.

Demographic information could not be verified for all the households due to a household member who could not understand the questions asked by the field auditor.

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 Philadelphia 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 Philadelphia 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 Philadelphia 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. The results of this testing are as follows:

Household Size		
Households Tested	29	
Nielsen records indicate incorrect household size information.	1	3.4%
- Incorrect household size information impacted the “Presence of Non-Adults” variable	0	0.0%
- Incorrect household size information did not impact the “Presence of Non-Adults” variable	1	3.4%
Status of Differences:		
Incorrect household size resulted in NTI NAD control impact:	0	0.0%
Incorrect household size did not result in NTI NAD control impact:	1	3.4%
Incorrect household size resulted in NTI NAD MIT control impact:	0	0.0%
Incorrect birthday did not result in NTI NAD MIT control impact:	1	3.4%
Incorrect household size resulted in priority maintenance impact:	1	3.4%
Incorrect household size did not result in priority maintenance impact:	0	0.0%
Incorrect household size resulted in weighting impact:	1	3.4%
Incorrect birthday did not result in weighting impact:	0	0.0%

The difference noted consisted of the owner/renter’s son, who is twenty-one years old, moving out of the household in September 2004. This difference changed the household size from 5 to 4 persons.



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 nine 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. Two of the twenty-nine households tested (6.9%) were a different dwelling type than the one listed in Nielsen’s records. Both households were listed in Nielsen’s records as single-family dwellings when in fact they were multi-family dwellings.

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. Two of the twenty-nine households tested (6.9%) had an incorrect move-in date.

Identification of Owner/Renter

One person in each Nielsen home is designated as the owner/renter. Although the Philadelphia 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 twenty-nine 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 Philadelphia 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 Philadelphia LPM.

Education of Owner/Renter		
Households Tested	29	
O/R education differed between Nielsen records and HH response.	10	34.5%
Incorrect education level had a NTI NAD impact.	1	3.4%
Incorrect education level did not have a NTI NAD impact.	9	31.0%
Incorrect education level had a NTI NAD MIT impact.	2	6.9%
Incorrect education level did not have a NTI NAD MIT	8	27.6%

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.

Nielsen IA considered the above results against *MRC Minimum Standard A.2*, particularly those indicating that 34.5% of households had different education of Owner/Renter information than that contained in Nielsen’s records. Nielsen IA believes that due to the nature of the information, where social sensitivity of the response, as well as the greater possibility for true change may come into play, the overall error rate standing alone is not necessarily indicative of noncompliance. However, although only two of the ten discrepancies noted resulted in an impact to the NTI NAD MIT and one of them had an impact on the category used for NTI NAD, the high discrepancy rate of 34.5% leads Nielsen IA to believe that the results noted above indicate noncompliance with *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 Philadelphia LPM ViP, the TVS DVD, Navigator, NTI NAD and NTI NAD MIT. Gender information is not used as a 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 twenty-nine of the 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 Philadelphia 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 Philadelphia 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 Philadelphia LPM ViP, the TVS DVD, or Navigator, it is used as a market break for the NTI NAD and NTI NAD MIT. 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. No exceptions were noted.



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 Philadelphia 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 seven unmetered devices across seven households discovered during the Philadelphia LPM Field Visits. In one instance, the device was already in use at the time of the visit. In the remaining instances, the household had a television or VCR that was stored away and was not connected to any metered devices. One of the unmetered devices encountered was a portable TV, larger than five inches, which the household uses for activities outside of the premises of the house. 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 Standard A.2*, particularly those indicating that 24.1% of households had additional devices not contained in Nielsen's records. Additionally, one of these devices was already being used by the household, which results in under-reporting of the household's viewing. Nielsen IA believes that the results noted above 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 Philadelphia 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. The results of this testing are as follows:



Working Women		
Females age 18+ tested	26	
Working women information differed between Nielsen records and HH response.	2	7.7%
Status of Differences:		
Incorrect working woman information impacted Local reporting.	1	3.8%
Incorrect working woman information did not impact Local reporting.	1	3.8%
Incorrect working woman information impacted National reporting.	1	3.8%
Incorrect working woman information did not impact National reporting.	1	3.8%

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 Philadelphia 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-seven out of the thirty households visited, as one household could not understand the questions asked, the respondent for another household was not feeling well and did not want to verify the household income information, and the spouse at another household did not know the household income information. The results of this testing are as follows:

Household Income		
Households where income was verified	27	
Household income information differed between Nielsen records and HH response.	21	77.7%
Incorrect Income information resulted in NTI NAD reporting impact.	7	25.9%
Incorrect Income information did not result in NTI NAD reporting impact.	14	51.9%
Incorrect Income information resulted in NTI NAD MIT reporting impact.	8	29.6%
Incorrect Income information did not result in NTI NAD MIT reporting impact.	13	48.1%

See Appendix 4 for each of the individual discrepancies as well as a distribution of the amount of the differences, which indicate that 47.6% of the differences were within \$5,000 of Nielsen's records while 19.0% 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 77.7% of homes tested had a Household Income discrepancy, 25.9% of homes tested had a Household Income discrepancy that impacts the reporting of audience estimates in the NTI NAD and 29.6% of homes tested had a Household Income discrepancy that impacts reporting of audience estimates in the NTI NAD MIT. 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 December 28, 2004, 17 of the 400 Philadelphia LPM households (4.3%) 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, 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 Philadelphia LPM ViP, the TVS DVD or Navigator, Occupation of Owner/Renter is used as a market break for audience estimates reported in the NTI NAD and NTI NAD MIT. Occupation of Owner/Renter information is not used as a weighting variable or priority maintenance characteristic. The results of this testing are as follows:

Occupation of Owner/Renter		
Households Tested	29	
O/R occupation differed between Nielsen records and HH response.	2	6.9%
Incorrect Occupation information resulted in NTI NAD reporting impact.	0	0.0%
Incorrect Occupation information did not result in NTI NAD reporting impact.	2	6.9%
Incorrect Occupation information resulted in NTI NAD MIT reporting impact.	0	0.0%
Incorrect Occupation information did not result in NTI NAD MIT reporting impact.	2	6.9%



In all instances, the Owner/Renter indicated that he was in a different occupation than noted in Nielsen's records; however, the discrepancies did not result in a change of occupation classification.

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 Philadelphia 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. Twenty-nine of the thirty households visited were tested for personal computers and Internet access. No differences were noted.

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 Philadelphia 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 twenty-nine households tested, one had a discrepancy related to the presence of cats. Nielsen's records indicated that no cats were present in the household, whereas the audit indicated that a cat was acquired approximately one month prior the date of the audit. This difference impacts reported estimates for cat ownership for NTI NAD MIT. Another household had a discrepancy related to the presence of dogs, whereas the audit indicated that the dog passed away approximately four months 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.

Due to incomplete data, the results of this testing have not been included on this report.

Vehicles

Nielsen collects the vehicle information for each household. Although this information is not used in the presentation of audience estimates in the Philadelphia 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	29	
Vehicle information differed between Nielsen records and HH response.	5	17.2%
Vehicles Tested	51	
Vehicle information differed between Nielsen records and HH response.	7	13.7%
Vehicle discrepancy resulted in NTI NAD MIT reporting impact.	2	3.9%
Vehicle discrepancy did not result in NTI NAD MIT reporting impact.	5	9.8%

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 17.2% 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, primarily due to the high discrepancy rate of 17.2% 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**

Philadelphia LPM ViP 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 25-54	
Persons 35+	Women 25-64	Teens 12-17
Persons 35-64	Working Women	Teen Girls
Persons 50+		
		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

Philadelphia
Montgomery
Remainder DMA
Remainder Metro

Age of Owner/Renter:

< 35
35 – 54
55+

Race of HOH:

Black
Non-Black

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

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	Men 18-20	Part-Time WW 18-49
Female Teens 15-17	Men 21-24	Part-Time WW 50+
Female Teens 12-17	Men 25-29	
	Men 30-34	Lady of House 18-24
Male Teens 12-14	Men 35-39	Lady of House 18-49
Male Teens 15-17	Men 40-44	Lady of House 25-34
Male Teens 12-17	Men 45-49	Lady of House 35-44
	Men 50-54	Lady of House 45-49
	Men 55-64	Lady of House 50+
	Men 65+	Lady of House 50-54
		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**

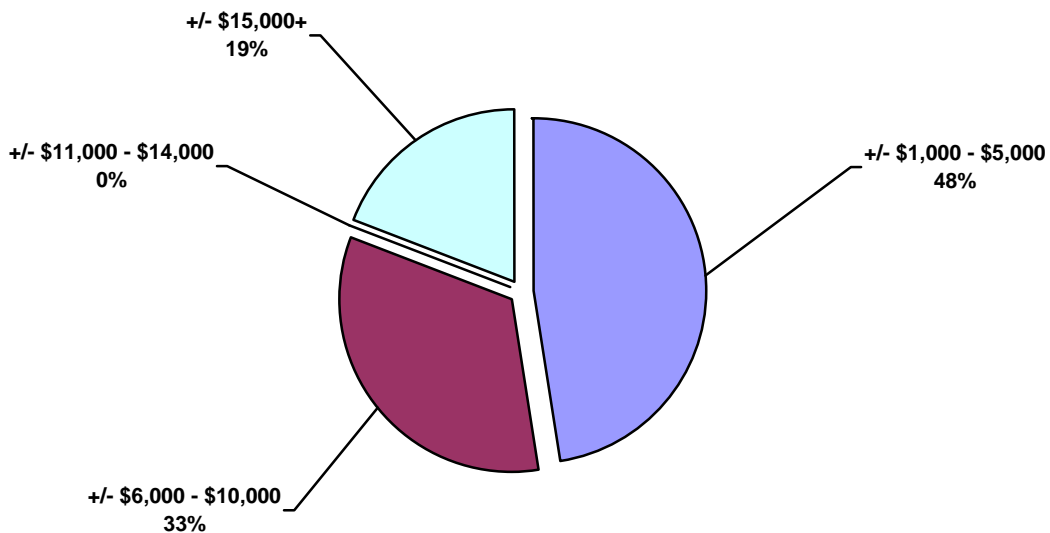


Individual Household Error Rate				
Household Number	Total Codes Tested	Total UVs	Total ACs	Error Rate
6060040	312	5	0	1.6%
6050380	235	6	1	3.0%
6051890	296	0	0	0.0%
6051660	258	8	0	3.1%
6051200	212	1	1	0.9%
6050970	85	1	0	1.2%
6050610	175	0	0	0.0%
6054490	43	1	0	2.3%
6054500	119	2	0	1.7%
6053390	190	0	0	0.0%
6053150	189	0	0	0.0%
6051790	219	0	0	0.0%
6053260	225	0	0	0.0%
6052580	597	1	4	0.8%
6051860	359	2	0	0.6%
6054630	417	3	18	5.0%
6054710	547	7	1	1.5%
420363	162	3	11	8.6%
213260	235	7	15	9.4%
214059	107	0	3	2.8%
203566	153	0	2	1.3%
216200	52	6	0	11.5%
207634	0	0	0	0.0%
420927	0	0	0	0.0%
6051460	298	1	0	0.3%
420918	217	3	1	1.8%
6053190	270	2	2	1.5%
6054390	223	3	0	1.3%
6053510	145	0	0	0.0%
205387	293	0	1	0.3%

**Appendix 3 –
Income Discrepancies**



Household Number	Income Information Source	Audited Income Source	Income Per Nielsen	Income Per Household	Difference
6060040	Owner/Renter	Owner/Renter	\$61,000	\$65,000	<\$4,000>
6050380	Owner/Renter	Owner/Renter	\$25,000	\$40,000	<\$15,000>
6051890	Owner/Renter	Owner/Renter	\$55,000	\$49,000	\$6,000
6051660	Owner/Renter	Owner/Renter	\$70,000	\$65,000	\$5,000
6050610	Owner/Renter	Owner/Renter	\$20,000	\$12,000	\$8,000
6054490	Owner/Renter	Owner/Renter	\$50,000	\$45,000	\$5,000
6053390	Spouse	Spouse	\$60,000	\$64,000	<\$4,000>
6053150	Owner/Renter	Owner/Renter	\$11,000	\$10,000	\$1,000
6053260	Owner/Renter	Owner/Renter	\$75,000	\$74,000	\$1,000
6052580	Owner/Renter	Owner/Renter	\$90,000	\$91,000	<\$1,000>
6051860	Spouse	Spouse	\$80,000	\$90,000	<\$10,000>
420363	Spouse	Spouse	\$61,000	\$55,000	\$6,000
213260	Owner/Renter	Owner/Renter	\$53,000	\$57,000	<\$4,000>
203566	Owner/Renter	Owner/Renter	\$40,000	\$30,000	\$10,000
216200	Owner/Renter	Owner/Renter	\$17,000	\$15,000	\$2,000
420927	Spouse	Spouse	\$120,000	\$200,000	<\$80,000>
6051460	Owner/Renter	Owner/Renter	\$35,000	\$30,000	\$5,000
420918	Spouse	Spouse	\$105,000	\$170,000	<\$65,000>
6054390	Owner/Renter	Owner/Renter	\$20,000	\$40,000	<\$20,000>
6053510	Owner/Renter	Owner/Renter	\$56,000	\$50,000	\$6,000
205387	Owner/Renter	Owner/Renter	\$95,000	\$102,000	<\$7,000>





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.