

National Human Exposure Assessment Survey (NHEXAS)

Region 5 Study

Quality Systems and Implementation Plan for Human Exposure Assessment

Research Triangle Institute
Research Triangle Park, NC 27079
Cooperative Agreement CR 821902

Field Operations Protocol

RTI/ACS-AP-209-080

Title: NHEXAS Pilot Field Study Scripting and Logistics

Source: Research Triangle Institute

U.S. Environmental Protection Agency
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**FIELD
OPERATIONS
PROTOCOL**

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NHEXAS PILOT FIELD STUDY SCRIPTING AND LOGISTICS

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1.0 SCOPE AND APPLICATION

It is the goal of the RTI/EOHSI NHEXAS Pilot Study to assess human exposure to selected target chemicals in selected media. The study is designed to test a future program that is envisioned to be National in scope, with a major emphasis on collecting samples from a study population in a way that is representative of the general population in terms of demographic, temporal, and spatial distributions. To accomplish this goal, the Pilot Study design has incorporated a target sample of 300 persons, selected from 35 counties randomly selected from the six states that make up EPA Region V (Ohio, Indiana, Michigan, Illinois, Wisconsin, and Minnesota). From a scheduling and logistical standpoint, it will be very challenging to complete one-week monitoring periods at the widely scattered homes (both on a state and county level), particularly when temporal and spatial distribution are important facets of the study design.

The purpose of this protocol is to provide the reader with a general overview of the planned schedule, scripting, and logistics for the NHEXAS Phase 1 Pilot Study. By its nature, this protocol must remain general since the actual schedule will change due to outside circumstances, and the scripting and logistical procedures will evolve as experience is gained during this pilot study. As such, this protocol is not intended to provide written guidelines that must be followed under all circumstances. Rather, it is a tool to allow readers to gain a general understanding of the logistical aspects of the RTI/EOHSI NHEXAS Pilot Study.

2.0* OVERALL SUMMARY AND RESPONSIBILITIES

Approximately 300 individuals will be selected by RTI to participate in the metals/VOCs module of the NHEXAS Pilot Study. They will be selected from the population of 35 counties in the six-state region. Nine people will be identified and recruited by a Field Interviewer from each county during a period of approximately one month before monitoring begins at their homes. Demographic and Baseline Questionnaires will be administered by the Field Interviewer. A team of RTI field technicians will travel to the county with mobile laboratory and support facilities. After a brief setup period, they will

spend approximately nine or ten days making visits to the participant homes to collect personal, environmental, and biological samples from the nine participants. Three visits will be made to each home over the course of a seven-day period (with an effective sampling time of approximately 144 hours, or six consecutive days). Monitoring will be initiated at the homes in a staggered fashion, with three homes started the first day, three the next day, and three on the next day. When monitoring has been completed for the nine participants in the county, the field technicians will ship samples to the appropriate analysis laboratories and will then travel on to the next county.

Logistical support must be provided to the ongoing field effort by the consortium and Federal laboratories. Sample collection materials, shipping materials, general materials, and information must be supplied to the field staff members. RTI, EOSHI, and CDC will prepare the sample collection materials and equipment. RTI will organize the materials and equipment and ship them to the field. RTI, EOHHSI, CDC, FDA, and the EPA contract laboratories must return sample shipping materials to RTI. RTI will provide general materials to the field team (unless special materials or chemicals are needed for a specific sample collection or processing procedure, where these will be provided by the laboratory sponsoring the procedure). RTI will collate participant information provided by the Field Interviewer, and transmit the information to the field technicians, except in those cases where there is insufficient time to route the information through RTI and it must be transmitted by the interviewer directly to the field staff.

3.0 OVERALL STUDY SCHEDULE

3.1* Schedule Outline

3.1.1	First rehearsal (with experienced staff)	August, 1994
3.1.2	Hire permanent field staff	March 1995
3.1.3	Train permanent field staff	March-May 1995
3.1.4	Second rehearsal	May 1995
3.1.5	Begin full-time Region V sampling (300-person metals/VOCs module)	July 1995
3.1.7	Complete full-time Region V sampling	July 1997

4.0 COUNTY COLLECTION SCHEDULE AND FIELD ACTIVITIES

4.1 Detailed Study Schedule

The county visit order is described in Table 1. A regional map showing the relative positions of the selected counties is presented in Figure 1. This schedule describes the proposed dates for work to be conducted within each county. It accounts for holiday periods when sample collection activities will be suspended, estimated time needed to travel between counties, and the days needed to conduct sampling and shipping activities. This tentative schedule is subject to change.

4.2* Field Interviewer Activities

Field Interviewers will begin their work in a county approximately three weeks before the first monitoring visits are scheduled. The following outline describes their work and responsibilities.

- 4.2.1 RTI survey operations personnel will send count/list and sample selection materials to the Field Interviewer, approximately 3 weeks before monitoring.
- 4.2.2 The Field Interviewer will make local contacts as necessary. This may include identifying or contacting phlebotomists with scheduling information, assessing mobile lab sites, and contacting local law enforcement or public health officials.
- 4.2.3 The Field Interviewer visits the selected homes and administers the demographic questionnaire to the selected households, approximately 2-3 weeks before monitoring. Participants are selected and recruited for the monitoring study. The Field Interviewer administers the Baseline Questionnaire. The Field Interviewer trains the participant to use the Time Diary and Activity Questionnaire.
- 4.2.4 The Field Interviewer completes information on the Participant Enrollment Form (Figure 2), based on the participant recruitment responses and the questionnaire responses, and FAXes the form to the RTI Survey Operations Supervisor (if recruitment is completed more than one week before monitoring begins).
- 4.2.5 The RTI Survey Operations Supervisor copies the Participant Enrollment Form to the RTI Field Supervisor.

- 4.2.6 The Field Interviewer continues recruitment activities as necessary up to the scheduled monitoring start days. If recruitment is not achieved until the last week, then the Participant Enrollment Form is delivered directly to the field technicians with a copy FAXed to the RTI supervisors.
- 4.2.7 The Field Interviewer makes reminder calls to the participants approximately 2 to 4 days before their first scheduled appointment.
- 4.2.8 The Field Interviewer hand-delivers the completed Demographic and Baseline Questionnaires to the field staff one or two days before monitoring activities are to begin. Information about the participants and county schedule will be exchanged during this visit.
- 4.2.9 The Field Interviewer will work to replace participants that drop out of the study after initial recruitment through the first three days of home visits.

4.3 Laboratory Support Activities

The preparation of the sample collection materials and information shells (including the sample collection electronic records) will follow a two-tiered approach. When possible, the materials needed to collect samples for each participant will be prepared at RTI with the materials shipped ready-to-use to the field staff prior to use. This will require one to two weeks of lead time during which participant information can be received at RTI. For those participants not recruited with sufficient lead time, the field staff will be responsible for preparing data collection files and organizing the collection materials.

- 4.3.1 RTI, EOHHSI, and CDC laboratories will prepare and send all sample collection devices and materials to the RTI Field Supervisor, at RTI, at least three weeks before monitoring begins in the county that the materials are intended for. Whenever possible, these collection devices and materials should be delivered to the Field Supervisor earlier than three weeks ahead of time. In some cases (i.e., some QC samples) the holding times will require delivery less than three weeks prior to beginning the work, and may require delivery directly to the field site.
- 4.3.2 The RTI Field Supervisor or his designee will prepare information shell files (including the sample collection/custody records) for each participant using information from the Participant Enrollment Form.

- 4.3.3 The RTI Field Supervisor or his designee will prepare a sample collection package for each participant scheduled for monitoring in the upcoming county. The package will include all of the sample devices or containers (except the bulky food bottles), labels, and paperwork needed to perform monitoring and questionnaire activities for each participant according to the participant's level of participation. The level of participation will be determined from the Enrollment Form. If a Participant Enrollment Form is not received at RTI with sufficient time to prepare and deliver a prepared participant package, a generic package will be prepared for all possible collection activities, with the field staff using the materials that are needed based on their receipt of the Participant Enrollment Form.
- 4.3.4 The RTI Field Supervisor or his designee will ship the participant packages, dietary sample collection containers, and electronic information shell files to the field staff. Shipment may be either to their site in the previous or current county.

4.4 Field Staff Activities

4.4.1 Travel

- 4.4.1.1 The field staff will drive the field staging/laboratory vehicles to the county.
- 4.4.1.2 The vehicles will be set up for operation, or the appropriate materials and equipment will be transferred to a motel room if there is not a suitable place (power or location) to set up the vehicles.
- 4.4.1.3 Water, gasoline, and propane will be added to the vehicles at the most convenient time.

4.4.2 Set Up

- 4.4.2.1* Field staff will begin to set up equipment and materials, usually one to two days before the first monitoring appointments are scheduled.
- 4.4.2.2 Equipment, supplies, and materials will be prepared for all nine participants in the county.
- 4.4.2.3 The field staff will meet with the Field Interviewer to receive the consent forms, Demographic and Baseline Questionnaires, and to get more information about the participants.

- 4.4.2.4 The field staff will prepare sample collection and data files for those participants recruited too late for the preparation to be performed at RTI.
- 4.4.2.5 Sample storage refrigerators and freezers will be turned on at least a day before the first samples are returned for storage. Temperatures will be monitored on a daily basis while samples are present.
- 4.4.3 Sample Collection Visits
- 4.4.3.1 Nine participants will be recruited for monitoring in each county.
- 4.4.3.2* The optimal schedule for performing the monitoring visits is presented in Table 2. Initial visits will be made to three homes on each of the first three days. Second visits will be made to each home three days later. Final visits will be made to each home three days after the second visit. This schedule will allow one field team (two field staff members) to perform all of the monitoring activities on each day. Ideally, three field staff members should be available to provide days off, shipping, and logistical support.
- 4.4.3.3 The proposed monitoring visit schedule for each type of home is presented in Table 3. Completion times for each activity are only estimated; actual times will depend on many individual participant and home characteristics as well as other factors including driving distance, traffic, and weather conditions. Two field staff members will be required to perform the work within the total estimated times presented in Table 3.
- 4.4.3.4 Field staff will prepare the appropriate materials and equipment needed for the three homes to be monitored each day. These materials will be prepared at the field staging area or mobile lab prior to driving to the homes.
- 4.4.3.5 The field staff will then visit the participants at their homes. Ideally, the three visits each day will be made during one block of time. However, in some cases the visits may be made at separate times during the day.

4.4.3.6 After the visits are completed, samples, documents, and materials will be returned to the field staging area or mobile lab. Samples will be placed under the appropriate storage conditions. Equipment will be stowed. Equipment with problems will be investigated, repaired, or tagged for return to RTI or EOHHSI. Documents will be organized and filed. Computer files will be checked and backed up.

4.4.3.7 The field team will communicate with the Field Supervisor on a regular basis to discuss status and problems; and more often as needed.

4.4.4 Return of Samples, Questionnaires, and Data

4.4.4.1 The field staff will ship all collected samples to the appropriate laboratories. Samples may be shipped as soon as they are collected, or held in one or more batches with similar samples from the county. Usually, all samples will be shipped from a county before the field team travels to the next county. In some cases, the team may need to travel before samples can be shipped. In these cases, the samples must be secured for travel.

4.4.4.2 Paper custody records will be shipped with each sample.

4.4.4.3 All questionnaires will shipped to the RTI Field Supervisor at the completion of monitoring visits in the county. The Field Supervisor will transfer the questionnaires to the survey operations manager.

4.4.4.4 All sample collection and custody data files will be copied to two Bernoulli disks. One disk will be retained at the field laboratory, and the other will be shipped to the RTI Field Supervisor. The Field Supervisor will perform a scan edit of the data, then forward the data to the database manager.

5.0 LABORATORY SUPPORT ACTIVITIES

5.1 Sample and Data Collection Materials

5.1.1 RTI Responsibilities

5.1.1.1 RTI will preweigh the aerosol filters and assemble the filters in filter holders. The assembled sampling heads will be labelled and sent to the Field Supervisor for insertion into the individual participant packages.

- 5.1.1.2 RTI will place the VOC charcoal badges and badge caps in the participant packages. Labels will be included in the package for the VOC badges.
- 5.1.1.3 RTI will label and pack the water collection bottles and vials in the participant packages.
- 5.1.1.4 RTI will label and pack the hair collection bags in the participant packages.
- 5.1.1.5 RTI will put food collection bags into the participant packages.
- 5.1.1.6 RTI will label and package the food collection bottles for shipment.
- 5.1.1.7 RTI will organize, label, and package the biological (blood and urine) collection containers received from CDC in the participant packages.
- 5.1.1.8 RTI will organize, label as necessary, and package dust and soil collection supplies and containers received from EOHHSI in the participant packages.
- 5.1.1.9 RTI will prepare, to the extent possible, the sample collection and custody data shell files for each participant. These files will be copied to a Bernoulli disk and will be included with the participant packages.
- 5.1.1.10 RTI will prepare and include in the participant packages the dietary questionnaire, followup questionnaire, technician questionnaire, and any other documents or labels that will be needed by the field staff for each participant.
- 5.1.1.11 RTI will ship the participant packages, data disk, and other materials to the field staff in time to perform the monitoring at the next county.
- 5.1.1.12 RTI will, on an as-needed basis, prepare and ship general supplies, materials, and equipment needed to support the RTI-sponsored protocols.
- 5.1.1.13 RTI will prepare and ship to EOHHSI the labels needed for dust and soil sample collection devices or containers.
- 5.1.1.14 RTI will, on an as-needed basis, perform equipment repairs on nonfunctional equipment returned from the field site.
- 5.1.2* EOHHSI Responsibilities
- 5.1.2.1 EOHHSI will preweigh and label the LWW dust collection filters. LWW sample collection devices will be cleaned and assembled.
- 5.1.2.2 EOHHSI will prepare the dust collection plates.
- 5.1.2.3 EOHHSI will prepare the carpets.
- 5.1.2.4 EOHHSI will prepare the soil collection containers.

5.1.2.5 EOHSI will ship the materials and containers described in 5.1.2.1 to 5.1.2.4 to RTI three weeks or more before the scheduled start of the next county.

5.1.2.6 EOHSI will, on an as-needed basis, prepare and ship general supplies, materials, and equipment needed to support EOHSI-sponsored protocols.

5.1.3 CDC Responsibilities

5.1.3.1 CDC will prepare the blood vacutainers.

5.1.3.2 CDC will prepare the urine containers.

5.1.3.3 CDC will ship the vacutainers and urine containers to RTI three weeks or more before the scheduled start of the next county.

5.1.3.4 CDC will, on an as-needed basis, prepare and ship general supplies, materials, and equipment needed to support CDC-derived collection protocols for blood and urine.

5.1.3.5 CDC will return to RTI (or to the field site if directed), at least once a month, the shippers and shipping materials that the field team uses to ship samples to CDC.

5.1.4 FDA Responsibilities

5.1.4.1 FDA will return to RTI (or to the field site if so directed), at least once a month, the shippers and shipping materials that the field team uses to ship samples to FDA.

5.1.5 EPA Responsibilities

5.1.5.1 EPA will direct their contract laboratory(ies) to return to RTI (or to the field site if so directed), at least once a month, the shippers and shipping materials that the field team uses to ship samples to the EPA-contract lab.

TABLE 1*. TENTATIVE SCHEDULE FOR NHEXAS COUNTY VISITS

County	State	Projected Month	Projected Year
1 Oakland	MI	JULY	1995
2 Mason	MI	AUGUST	1995
3 Cook_North	IL	AUGUST	1995
4 Bayfield	WI	SEPTEMBER	1995
5 Hennepin	MN	SEPTEMBER	1995
6 Kane	IL	OCTOBER	1995
7 Macon	IL	OCTOBER	1995
8 Johnson	IN	NOVEMBER	1995
9 Franklin	OH	DECEMBER	1995
10 Cuyahoga	OH	APRIL	1996
11 Eaton	MI	APRIL	1996
12 Cook_South	IL	MAY	1996
13 Walworth	WI	JUNE	1996
14 Ramsey	MN	JUNE	1996
15 Knox	IL	JULY	1996
16 Marion	IN	JULY	1996
17 Lucas	OH	AUGUST	1996
18 Muskingum	OH	AUGUST	1996
19 Mahoning	OH	SEPTEMBER	1996
20 Wayne_North	MI	SEPTEMBER	1996
21 Ingham	MI	OCTOBER	1996
22 Manitowoc	WI	OCTOBER	1996
23 Pennington	MN	NOVEMBER	1996
24 Kane	IL	NOVEMBER	1996
25 Sangamon	IL	DECEMBER	1996
26 Clark	IN	FEBRUARY	1997
27 Cook_South	IL	MARCH	1997
28 Lee	IL	MARCH	1997
29 Olmstead	MN	APRIL	1997
30 Cook_North	IL	APRIL	1997
31 Eaton	MI	MAY	1997
32 Oakland	MI	MAY	1997
33 Lucas	IN	JUNE	1997
34 Marion	IN	JUNE	1997
35 Licking	OH	JULY	1997

TABLE 2*. EXAMPLE VISIT SCHEDULE FOR NINE PARTICIPANTS IN A COUNTY

	Mobile Lab Set-Up	Participant Set-up	Sample Collection									Ship Samples	Day Off	Travel
Participant	Day: 1	2	3	4	5	6	7	8	9	10	11	12	13	14
1			V1 ^a			V2			V3					
2			V1			V2			V3					
3			V1			V2			V3					
4				V1			V2			V3				
5				V1			V2			V3				
6				V1			V2			V3				
7					V1			V2			V3			
8					V1			V2			V3			
9					V1			V2			V3			

a V - designates a visit by the project staff to the participant home.

TABLE 3. NHEXAS - VISIT 1
ESTIMATED SAMPLE COLLECTION TIME
AT THE 3 TYPES OF HOMES

(Assumes 3 visits over a six day collection period two technicians working at each visit)

Home Type 1 = Core (Air VOC, Water VOC + Metals, Blood VOC and Metals, Urine Metals)

Home Type 2 = Core + Dust + Aerosol or Dietary

Home Type 3 = Core + Dust + Aerosol and Dietary

Staff Member	Visit and Activity	Est. Time Per Activity (min)	Percentage of Time Activity Performed at Each Type Home		
			Type 1 (n=22)	Type 2 (n=58)	Type 3 (n=220)
S1, S2	Drive to home	30	100	100	100
S1	Talk to participant(s), schedule	15	100	100	100
S1	Check daily activity log	8	100	100	100
S1	Train to collect standing water sample	5	100	100	100
S1	Train to collect urine and set up	10	85	85	85
S1	Train to wear workplace VOC monitor	5	16	16	16
S1	Train to collect food and set up	25	0	66	100
S1	Train for food diary	8	0	66	100
S1	Train to wear aerosol monitor (IOM)	5	0	33	100
S2	Deploy indoor VOC monitor	5	100	100	100
S2	Deploy outdoor VOC monitor	8	33	33	33
S2	Deploy personal VOC monitor	5	100	100	100
S2	Deploy workplace VOC monitor	5	17	17	17
S2	Deploy personal aerosol monitor (IOM)	10	0	33	100
S2	Deploy indoor aerosol monitor (IOM)	12	0	33	100
S2	Deploy outdoor aerosol monitor (IOM)	12	0	14	42
S2	Deploy indoor aerosol monitor (PM ₁₀)	10	0	5	15
S2	Deploy outdoor aerosol monitor (PM ₁₀)	10	0	5	15
S2	Problem solving time	10	100	100	100
Estimated Visit Time (min) MIN:			70	90	100
MAX:			80	120	140

TABLE 3. NHEXAS - VISIT 2 (continued)
ESTIMATED SAMPLE COLLECTION TIME
AT THE 3 TYPES OF HOMES

Staff Member	Visit and Activity	Est. Time Per Activity (min)	Percentage of Time Activity Performed at Each Type Home		
			Type 1 (n=22)	Type 2 (n=58)	Type 3 (n=220)
S1, S2	Drive to home	30	100	100	100
S1	Talk to participant(s)	10	100	100	100
S1	Time/activity log check	5	100	100	100
S1	Collect urine	5	93	93	93
S1	Pick up standing water sample	4	100	100	100
S1	Collect diet samples	15	0	66	100
S1	Food diary followup	10	0	66	100
S1	Diet questionnaires	5	0	66	100
S1 or S2	Technician quest/log	15	100	100	100
S2	Collect metals flush water sample	10	100	100	100
S2	Collect VOC water samples	8	100	100	100
S2	Collect LWW dust at 2 locations	25	0	33	100
S2	Collect WWT dust at 2 locations	20	0	9	25
S2	Collect soil	15	0	18	18
S2	Problem solving time	10	100	100	100
Estimated Visit Time (min) MIN:			70	85	110
MAX:			80	120	145

TABLE 3. NHEXAS - VISIT 3 (continued)
ESTIMATED SAMPLE COLLECTION TIME
AT THE 3 TYPES OF HOMES

Staff Member	Visit and Activity	Est. Time Per Activity (min)	Percentage of Time Activity Performed at Each Type Home		
			Type 1 (n=22)	Type 2 (n=58)	Type 3 (n=220)
S1, S2	Drive to home	30	100	100	100
S1	Talk to participant(s)	5	100	100	100
S1	Time/activity log check	5	100	100	100
S1	Collect urine	5	93	93	93
S1	Collect blood	15	93	93	93
S1	Collect diet sample	15	0	66	100
S1	Food diary followup	10	0	66	100
S1	Diet questionnaires	10	0	66	100
S1	Collect hair	5	93	93	93
S1	Followup questionnaire	25	100	100	100
S1	Longitudinal sampling activities	20	50	50	50
S2	Collect indoor VOC monitor	5	100	100	100
S2	Collect outdoor VOC monitor	5	33	33	33
S2	Collect personal VOC monitor	5	100	100	100
S1, S2	Collect workplace VOC monitor	5	16	16	16
S2	Collect indoor aerosol monitor (IOM)	10	0	33	100
S2	Collect outdoor aerosol monitor (IOM)	12	0	14	42
S2	Collect personal aerosol monitor (IOM)	10	0	33	100
S2	Collect indoor aerosol monitor (PM ₁₀)	10	0	5	15
S2	Collect outdoor aerosol monitor (PM ₁₀)	10	0	5	15
S2	Problem solving time	5	100	100	100
S1, S2	Pack equipment	10	100	100	100
Estimated Visit Time (min) MIN:			70	85	100
MAX:			115	130	150



NHEXAS COUNTY LIST AND VISIT ORDER

County	State	County	State
1 Oakland	MI	19 Mahoning	OH
2 Mason	MI	20 Wayne_North	MI
3 Cook_North	IL	21 Ingham	MI
4 Bayfield	WI	22 Manitowoc	WI
5 Hennepin	MN	23 Pennington	MN
6 Kane	IL	24 Kane	IL
7 Macon	IL	25 Sangamon	IL
8 Johnson	IN	26 Clark	IN
9 Franklin	OH	27 Cook_South	IL
10 Cuyahoga	OH	28 Lee	IL
11 Eaton	MI	29 Olmstead	MN
12 Cook_South	IL	30 Cook_North	IL
13 Walworth	WI	31 Eaton	MI
14 Ramsey	MN	32 Oakland	MI
15 Knox	IL	33 Lucas	OH
16 Marion	IN	34 Marion	IN
17 Lucas	OH	35 Licking	OH
18 Muskingum	OH		

Figure 1. NHEXAS selected county map.

NHEXAS PARTICIPANT ENROLLMENT FORM

PAGE 1

SURVEY ID (FI): _____ **CHEMISTRY ID (FS):** _____

S1 (FS): _____ **SAMPLE CODE (FS):** _____

A) SAMPLES TO BE COLLECTED (FI) (check each agreed to by participant)

VOCs

- | | | |
|--|-------|------|
| a) Personal air (wears badge for 6 days) | _____ | \$15 |
| Includes indoor/outdoor air, water, dust, soil | | |
| b) Workplace (wears 2nd badge for 6 days) | _____ | \$0 |
| Participant should work >30 hours/week; | | |
| 2 participants per county needed. | | |

METALS

- | | | |
|--|-------|---------------|
| a) Personal air (wears pack for 6 days) | _____ | \$40 |
| Includes indoor/outdoor air | | |
| b) Foods and beverages (duplicate of all | _____ | \$75 (4 days) |
| foods and beverages, 4 or 3 days) | _____ | \$60 (3 days) |

BIOLOGICAL

- | | | |
|---|-------|------|
| a) Urine (mornings of 2 days) | _____ | \$5 |
| b) Blood (3-4 small tubes at one time) | _____ | \$20 |
| c) Hair (small amount, using thinning shears) | _____ | \$0 |

B) LONGITUDINAL

- | | | |
|---|-------|--------|
| a) Is the participant selected? (FI) | _____ | |
| b) Is the participant selected for outdoor VOC? (FI) | _____ | |
| c) What are the selected time intervals? (FI) | _____ | months |
| | _____ | months |
| d) What samples does the participant agree to collect? (FS) (\$15 first; \$20 second) | | |
| 1. VOCs in Air (personal, indoor, outdoor) | _____ | |
| 2. Water (standing, tap) | _____ | |
| 3. Dust Plate | _____ | |
| 4. Dust Carpet | _____ | |

C) PARTICIPANT INFORMATION (FI)

- | | | |
|--|------------|-----------|
| Participant Age (in years): | _____ | years old |
| Does participant smoke? | Yes: _____ | No: _____ |
| Do any other people in the home smoke? | Yes: _____ | No: _____ |
| Is the participant employed full time? | Yes: _____ | No: _____ |
| Does the participant speak English? | Yes: _____ | No: _____ |
| Dwelling Structure (check one): | | |
| Single Family, detached | _____ | |
| Multiple Family, participant family has first floor living space | _____ | |
| Multiple Family, participant family completely on upper floor | _____ | |

Figure 2. Enrollment Form.

Survey ID (FI): _____ Chemistry ID (FS): _____

Participant Name (FI): _____

(FI Confirm spelling of first and last names)

Responsible Parent/Guardian Name (If participant is under 18):

Address:

(FS Confirm mailing and FedEx shipping addresses, initial here) _____

Telephone: _____

Appointment Times:

	Date	Day	Time	AM/PM
First Monitoring Visit	_____	_____	_____	_____
Second Monitoring Visit	_____	_____	_____	_____
Third Monitoring Visit	_____	_____	_____	_____

Specific Directions: (Please print directions with enough detail so that someone unfamiliar with the area could find the house or apartment, even at night. Include as appropriate: landmarks, nearest intersection, mileage, distinguishing features like house color or style, apartment floor and location, missing house or apartment numbers, best parking if apartments, identification problems, neighborhood safety information, presence of dogs, etc.)

Figure 2. (Continued)

EXPLANATION OF REVISIONS

Revisions Made 4/96; Denoted by *

Field Interviewers

RTI has hired full-time field interviewers to move from county to county. Sections 2.0 and 4.2 were revised based on this change.

Sections 2 and 4.4.3.2

Revised to reflect that a fourth visit will not be made to homes of participants collecting dietary samples.

Section 3.1

Schedule revised to reflect actual schedule.

Section 4.4.2.1 and Table 2

Revised to indicate that setup will sometimes require more than one day.

Section 5.1.2.7

This section, which called for EOHSI to return shipping materials to RTI, was deleted since disposable shippers are used.

Table 1

Table 1 was revised to reflect the current proposed schedule.

Participant Enrollment Form (Figure 2)

The current version of this form, revised 3/4/96, was included in this revision.