

NCS Overview of Environmental Questionnaire Items by Contact (For the Same Home)
June 20, 2007 – Version 1.3

	Prepregnancy				Pregnancy						Birth				Postnatal											
	P1 home	Materials left behind and picked up after P1	P 1 month* (phone)	P 2 month* (phone)	P 4 month* (phone)	T1-1st (home)	T-prior (home)	Materials left behind and picked up after T1	16-17 weeks* (phone)	T2* (clinic)	T3 (clinic)	Materials left behind and picked up after T3*	36 weeks (phone)	B1 delivery (hospital)	B2 Pre-discharge (hospital)	Materials left behind and picked up after B2	1 month visit if needed (home)	3 months (phone)	6 month visit (home)	Materials left behind and picked up after 6 mo. visit	9 months (phone)	12 month visit (home)	Materials left behind and picked up after 12 mo. visit	18 months (phone)	24 months (phone)	
Interview																										
HOUSING CHARACTERISTICS																										
Main heating fuel source						X	X												U							
Heat source this week	X					X	X		X			X							X				X			X
Heating/Cooling months						X	X																			
Age of home						X	X																			
Renovations/additions						X	X		U			U							U		U	U			U	
Outdoor additions																			X		U	U			U	
A/C						X	X		U			U							U		U	U			U	
House air filtration						X	X																			
Electrostatic, O ₃ generators, LaserJet's	X		U			X	X		X										U (Trigger)			X (Trigger)				
Windows open	X					X	X		X										X			X				X
Stove						X	X		X			X						X	X	X	X	X				
Clothes dryer						X	X												U			U				
Vaporizer	X					X	X												U			U			U	
Garage location	X					X	X																			
Vehicle parked, warm up	X					X	U					X							U			U			U	
Gasoline storage	X					X	X																			
Pumped gas	X		X			X	X		X			X														
Drinking and cooking water source						X	X					X							X		X	X		X	X	X
Tap water source	X (Trigger)					X (Trigger)																				
Vacuum cleaner						X													U			U			U	
Noise and dust																			U		U	U			U	
# water problems in last 6 mo																									X	
Mildew																									X	
Dehumidifier																									X	
Humidifier																									X	
Treatment of water used for to make formula or baby food																			X		X					
Allergy proofing																			X		U	U		U	U	
PETS AND PESTICIDES																										
Insecticides, such as Raid...	X		X	X	X	X	X		X			X			X		X		X		X	X		X	X	X
Specific products in past 3-mo	X					X	X												U			X				
Method	X		X	X	X	X	X		X			X			X		X		X		X	X		X	X	
Where, who, how often applied	X					X	X												X			X				
PPE	X					X	X																			
Pets	X					X	X		U			U							U			U			U	
Flea control - including treatment of pets / flea collars	X		U	U	U	X	X		U			U							U			U			U	
OCCUPATIONAL/HOBBY																										
Number of jobs	X					X	U		U			U							U BF							
Describe job	X					X	U		U			U							U BF							
Describe hobbies	X					X	U		U			U														
Hobbies and work-at-home	X																		X			U		U		
How long Mother continued to work															X		X									
Occupational take-home exposures (short form, e.g., any household members wear dirty clothes, boots, etc home?)																			X				U		U	

KEY X = Core topic questions U = Update questions BF = Core questions if mother is breast feeding U BF = Update questions if mother is breast feeding Trigger = Question answers determine environmental sampling
 *Address information updated. If participant moved, visit home and ask additional housing questions.

NCS Overview of Environmental Questionnaire Items by Contact (For the Same Home) (continued)
June 20, 2007 – Version 1.3

	Prepregnancy				Pregnancy							Birth				Postnatal										
	P1 home	Materials left behind and picked up after P1	P 1 month* (phone)	P 2 month* (phone)	P 4 month* (phone)	T1-1st (home)	T-prior (home)	Materials left behind and picked up after T1	16-17 weeks* (phone)	T2* (clinic)	T3 (clinic)	Materials left behind and picked up after T3*	36 weeks (phone)	B1 delivery (hospital)	B2 Pre-discharge (hospital)	Materials left behind and picked up after B2	1 month visit if needed (home)	3 months (phone)	6 month visit (home)	Materials left behind and picked up after 6 mo. visit	9 months (phone)	12 month visit (home)	Materials left behind and picked up after 12 mo. visit	18 months (phone)	24 months (phone)	
TIME-ACTIVITY																										
Time & activity (Mother)	X		X			X	U			X		X														
Time & activity (Child)																			X		X	X			X	X
Commuting						X	U		X			X														
Transportation of child																			X		X	X			X	X
Seatbelt/carseat use	X					X	U		X			X							X		X	X			X	X
Teething and pacifier use																			X		X	X				X
Mouthing of hands and objects																			X		X	X			X	X
Swimming and other child recreational activities - location, frequency (since last contact)																			X			X				X
PRODUCT USE																						X				X
Mother use of lotions, creams, gels							X					X														
Tanning lotions, creams and gels	X						X					X														
Mother use of shampoos and soaps							X					X														
Mother use of products to wash clothes, towels, other laundry							X					X														
Products used to wash child's clothes																										
Bleach, dry clean	X						X					X														
Mother use of household cleaning products	X						X					X														
Mother use of other products in the home (special cleaners, varnish, paint mothballs)	X						X					X														
Use of air fresheners, candles, incense (household use)	X						X					X														
Sum of disinfectants	X						X					X														
Sum of aerosols	X						X					X														
Mother's pica behavior	X						X					X														
Lice/scabies treatment	X		X	X	X		X		X			X														
Lice/scabies Products	X						X					X														
Use of lotions, creams, gels, powders on child																										
Use of shampoos and soaps on child (incl. 'no tears')																										
Type of diapers																										
Baby wipes with fragrance																										
Environmental Sample Collection and Visual Assessment (see "Summary of Environmental Samples by Visit" Table for details)	X					X	X												X			X				
Environmental Equipment (pick-up)		X						X												X			X			
Environmental Samples (mail-in)								X				X														X

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 *Address information updated. If participant moved, visit home and ask additional housing questions.

NCS Protocol Summary of Environmental Samples by Contact (for the same home) (continued)
June 20, 2007 – Version 1.3

	Method	% Homes	Prepregnancy		Pregnancy				Birth	Postnatal			
			P1 home	Materials left behind and picked up after P1	T1-1st (Home)	T1 - prior (Home)	Materials left behind and picked up after T1	T3 (Clinic)	Materials left behind and picked up after T3	Birth visit (Hospital)	6 month visit (Home)	12 month visit (Home)	24 months (Phone)
Indoor Air													
PM ₁₀ - metals (Pb, Cd, Mn); elemental carbon ⁵	pump	100	X	PU	X	X	PU				X, PU	X, PU	
VOCs	badge	100	X	PU	X	X	PU	X ⁸	Return		X, PU	X, PU	X ⁸ , return
Aldehydes and ketones	badge	100						X ⁸	Return		X, PU	X, PU	X ⁸ , return
NO ₂ , NOx	badge	100			X	X	PU	X ⁸	Return		X, PU	X, PU	X ⁸ , return
O ₃	badge	25 ⁴									X, PU	X, PU	
CO	logger	100			X	X					X	X	
House Dust													
Allergens, endotoxin (+ temperature and RH)	vacuum	100						X ⁸	Return		X	X	X ⁸ , return
Mold	vacuum	100									X	X	
Metals - Pb, Mn, As	wipe	100			X (As, Pb)	X (As, Pb)					X		
Metals ³	dust mat	100						X ⁸	Return				
Pesticides: OPs, carbamates	wipe	100	X		X	X		X ⁸	Return		X		
Pesticides: OCs	wipe	100						X ⁸	Return		X		
Pesticides: Pyrethroids	wipe	100	X		X	X		X ⁸	Return		X	X	X ⁸ , return
Bulk dust sample for archive (potential for future analyses)	vacuum	100			X	X					X	X	
Drinking Water⁵													
Disinfection byproducts (DBPs) - HAA9	water	88 ¹			X	X						X	COMMUNITY
VOCs (includes THMs)	water	88 ¹			X	X					X	X	COMMUNITY
Metals - Pb, Cd, As (six-month holding time)	water	100			X	X					X		COMMUNITY
Coliforms (24-hour holding time)	water	12 ²									X		
Nitrate (24-hour holding time)	water	12 ²	X		X	X							
Perchlorate (28-d holding time)	water	12 ²	X		X								COMMUNITY
Pesticides: OPs, carbamates, atrazine	water	<12 ²	X		X	X					X	X	COMMUNITY
Pesticides: Pyrethroids	water	<12 ²	X		X	X					X	X	COMMUNITY
Soil													
Perimeter: Metals - Pb, Cd, Mn, As	soil	100									X		
Mid-yard: Metals - Pb, Cd, Mn, As	soil	100									X	X	
Mid-yard: Pesticides - OPs, carbamates, pyrethroids	soil	>10 ⁷			X	X					X	X	
Near CCA treated wood - Cr+6 (as total), As	soil	70										X	
Visual Assessment - Housing, Neighborhood - Indoor and Outdoor⁶			X		X	X					X	X	X
Noise Survey - Indoor and Outdoor												X	

Notes:

X = Sample will be collected at contact. PU = Pick up sample (pump and badge samples will be left in place for six-seven days). SLM = sound level meter.

¹ Houses served by CWS only

² All private wells, rural communities, and/or if CWS report presence of contaminant (might limit to samples in spring/fall for pesticides and where other data indicate usage[e.g., GIS data])

³ Deploy mat at T3 contact (self collection) and mail back at one month

⁴ If electrostatic filter, ozonator, or laser printer present, plus subsample for seasonal infiltration

⁵ PAH will be assessed by O_x; metals by XRF. Sample stored for possible future analyses (perhaps allergens)

⁶ Some observational data will be gathered by neighborhood drive-arounds/database extraction

⁷ Rural areas only

⁸ Self-collected samples - Activity is initiated at in-person visit or is mailed to the participant and requires participant action (e.g., collect and mail in VOC badge). Time frame for completion varies and is specific to each activity.