Preliminary Sheet

Where measurements are being made after the main interview, complete this sheet where possible before visiting the house. The information can be obtained from the main questionnaire.

MONTH OF INTEREST

This is the first February before (pseudo)diagnosis. For example:

Date of (pseudo) diagnosis **12/05/93**, month of interest **February 1993**
" **12/01/93** " **February 1992**

If the date of (pseudo)diagnosis is in February, then the previous February is the "Month of Interest".

For example:

Date of (pseudo) diagnosis **12/02/93**, month of interest **February 1992**

If the child was not yet born in the first February before diagnosis:
The month of interest becomes the first full month after the child was born. For exmple:
Date of (pseudo) diagnosis **14/12/93**, date of birth **21/06/93**, month of interest **July 1993**

If the child's (pseudo)diagnosis is at a few weeks old, and their lifetime spans over two calendar months, then the month of interest is the month in which the child has been alive for the greatest period of time (up to (pesudo)diagnosis). For example:

Date of (pseudo) diagnosis **06/03/93**, date of birth **15/02/93**, month of interest **February 1993**
" **22/03/93** " **21/02/93** " **March 1993**

The month of interest should never be later that the month of (pseudo)diagnosis.

The month of interest should *always* be the first February before (pseudo)diagnosis, *unless* the child was not yet born in that month.

Q1
When transferring data from the main questionnaire, please ensure that the rooms referred to are in the *current* residence.

Q2
See Section IV page 14 for a definition of this October to March period.

Section I Residential Room Identification

See Preliminary Sheet for month containing year of interest, and age of child at that date. Please fill these in prior to interview if possible.

Spot measurements of three minutes will be made in the centre of the child's usual sleeping room, on the centre of the child's bed, and on the centre of the child's pillow. A 90 minute extended measurement will then be made in the family room, after which all spot measurements will be repeated.

Family Room

This is the "main living area" as defined in the main questionnaire. If the measurements are being made after the main interview, it might be necessary to recall that:
"The main living area is the room in which most of the family activity takes place, rather than the living room as such. Often the answer will refer to the kitchen."

Q1

Establish with the respondent which was the child's usual sleeping room, i.e. the room in which the child spent the majority of the night time, during the month of interest.

This might not be the child's own room - for example a small child who slept in his/her parents' bedroom.

Also, it might not be the room in which the child is currently sleeping, if the child has changed sleeping room since the month of interest. If this is the case, and a bed no longer exists in the identified position, improvise as far as reasonably possible with a chair or a pile of books etc., and attempt to reproduce the sleeping position for the two bed measurements, recording appliances as usual for bed measurements. Please note in the comments section of the measurement sheet that the bed measurement positions were reproduced.

Section II Residential Appliance Questionnaire

Section II Residential Appliance Questionnaire (Continued)

Please complete the following questions when making measurements in the child's sleeping room.

Q8
If there is a night storage heater (NSH) **which is either in the 'usual' sleeping room or on the other side of a wall against which the child's bed was located** then, where at all possible (making measurements in the child's usual sleeping room where necessary) make a note of:

- The setting on the heater control dials.
- The distance from centre of NSH face to a position 20cm below the pillow, on the midline.
- The thickness of the NSH casing (from front to back).
- Whether the heater is charging during measurements - usually the heater will only charge during night-time, but occasionally short periods of daytime charging are seen where THE SWITCH TO WHICH THE HEATER IS ATTACHED HAS A LITTLE RED LIGHT ILLUMINATED - the light being on indicates that the heater is charging.
- The make and model of the heater.

Please Note:

Usually, night storage heaters are permanently wired in, i.e. there are no plugs removable from sockets, only a switch. Only a few older models will have a plug. If a heating appliance is plugged in to a socket, it is probably not a night storage heater.

If you are in doubt about an appliance attached to a plug, please note in the "Make and Model" section that there was a plug.

ın III Residential Measurement Record

ıntial Measurement Sequence: For each measurement note: room code and description against start/stop no., whether fluorescent tube lights are in the room and on or off, appliances walls < 1m from measurement position and any comments . Main lights should be switched on during measurements, where possible.

main menu options are given in "**CAPITALS**", sub-menus in "**lower case**".

tery Attach an alkaline 9V battery, switch ON and check the battery status. If it is less than 50%, a new battery is needed.

ck Box Check Measurement: At home, or in the regional centre, please do the following:

ıure the display is on "**resultant**" - to see the black box measure (no need if switching ON as "**resultant**" is the default). [Go to "**DISPLAY**" on the main menu with (+) or (-); press EVENT ıon; go round display menu with (+) and (-) until "**resultant**" displayed; press EVENT button to return to main menu.]

tch on Black Box - at mains and at the back of the box. A red light should come on at the rear.

ke Black Box Instrument Check Measurement [Go to "**RUN**" on the main menu with (+) or (-); insert Emdex partially into black box; press EVENT button once; insert fully into black box; t 3 minutes; check that the reading is around 50 (if it is not 45-56, after checking possible reasons, inform your supervisor); stop with (+) and (-) buttons held down together then EVENT ton once; note reading in mG and b.b. serial no. in appropriate boxes; note "ch" as measurement code against start/stop no., and "black box check" as measurement description.]

ange display to "battery" - so no results seen (might be easier at home). [Go to "DISPLAY" on the main menu with (+) or (-); press EVENT button; go round display menu with (+) or (-) attery" displayed; press EVENT button to return to main menu; goto "STANDBY" on main menu with (+) or (-).]

ke a spot measurement at the centre of the child's usual sleeping room [Go to "RUN" on the main menu with (+) or (-); place instrument in stand; place stand near centre of room at m from any walls or operating appliances; press EVENT button (should see "**start n**" and then battery status flicker every 1.5s); wait 3 minutes; stop instrument with (+) and (-) buttons own together then EVENT button once (should see "**stop n**" , then "**STANDBY**"); note code and measurement description against start/stop number, and ANY APPLIANCES ON OR S< 1M FROM MEASUREMENT POSITION.]

ke the first bed spot measurement, on child's pillow This is with the Emdex on the centre of the pillow, with display pointing towards the headboard. SWITCH ON/OFF MAINS ANCES < 1M FROM EMDEX USUALLY ON/OFF AT NIGHT (this includes immersion heaters). ELECTRIC BLANKETS MUST BE OFF DURING BED MEASUREMENTS. [Go to "**RUN**" main menu with (+) or (-); place instrument on centre of pillow; press EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held down together then EVENT button once; ode and measurement description against start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

ke the second bed spot measurement, on centre of child's bed This is with the Emdex on the centre of the bed (halfway down from top to bottom, & left to right), with display pointing pillow. SWITCH ON/OFF MAINS APPLIANCES < 1M FROM EMDEX USUALLY ON/OFF AT NIGHT (this includes immersion heaters). ELECTRIC BLANKETS MUST BE OFF DURING EASUREMENTS. [Go to "**RUN**" on the main menu with (+) or (-); place instrument on centre of bed; press EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held ogether then EVENT button once; note code and measurement description against start/stop no. and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

ke any bed, NSH or electric blanket checks needed in child's bedroom. These are described in questions 7) to 9) in Section II (page 9).

ke an extended measurement in the Family Room - NO OPERATING VACUUM OR HAIRDRYER IN ROOM [Go to "**RUN**" on the main menu with (+) or (-); place instrument in stand; tand near centre of Family Room at least 1m from any walls or operating appliances; press EVENT button; wait at least 90 minutes; stop instrument with (+) and (-) buttons held down r then EVENT button once; note code and measurement description against start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM EMDEX.]

Repeat Spot Measurement Scheme 9) repeat 4); 10) Repeat 5); 11) Repeat 6).

peat Black Box Check Measurement [2) above]. If you are assessing more than 1 site per instrument and downloading data on-site then two instrument checks may be impractical; in se one check before and one check at the end of the day will be sufficient.

N.B. DO NOT SWITCH OFF EMDEX UNTIL DATA DOWNLOADED TO FLOPPY AND VERIFIED.

Section III Residential Measurement Record (Continued)

Q2

Ascertain whether any large electrical appliances were operating anywhere in the house during the course of the interview, i.e. within the last two hours. (If in doubt about whether an appliance should be classified as "large", please record the relevant information anyway).

Indicate the room(s) the appliances were in, and the time of operation using the 24 hour clock.

Section IV Non-Residential Establishment Identification

PERIOD OF INTEREST

We are interested in the October to March period immediately preceding (pseudo)diagnosis. For example:

Date of (pseudo) diagnosis **12/05/93**, period of interest **October 1992 to March 1993**
12/09/92 **October 1991 to March 1992**

If the date of (pseudo)diagnosis is in October, November, December, January, February or March, then the period of interest is the ***previous*** October to March. For example:

Date of (pseudo) diagnosis **12/11/93**, period of interest **October 1992 to March 1993**
12/02/93 **October 1991 to March 1992**

Q2

Please note any establishment(s) the child attended for a minimum of 15 hours per week on average, during the period of interest.

The 15 hours per week could consist of, for example:

15 hours per week over 6 months;
18 hours per week over 5 months;
23 hours per week over 4 months;
30 hours per week over 3 months;
45 hours per week over 2 months;

Q3

Please record the full name, postal address (with telephone number if possible) of the main school or pre-school. This means a day nursery, play group, nursery school or school in an established purpose-built building. It does **NOT** include **residential** establishments such as a childminder or relative.

If more than one school or pre-school was attended for at least 15 hours/week, "**main**" school or pre-school means the one at which the longest time was spent, i.e. the highest total number of hours were spent there during the period of interest.

Please record time in attendance using 24-hour clock.

Section V Permission to Reapproach

Q3
Please ***do not*** specifically ask if the participants if they would like the results of the measurements. However, ***do*** note if they request the results without being prompted.

Section VI Residential Neighbouring Power Sources

Information in this section should be collected by observation alone, and not from answers given by the respondents.

Q1 & Q3
If there is any doubt about the 150 metres distance, please indicate YES, and still add the estimate of distance.

Q1
See training manual for a description of insulator pots (segments). If the insulator is neither 'short' nor 'long', please include the number of pots (segments) in the 'other' description.

The label plate should have information of the form:

Company who owns/owned the line e.g. CEGB
Voltage at which line is being operated e.g. 275 000 Volts

and most importantly,
Line identification number e.g. ZP 49 or PTH 98

Section VII Non-Residential Questionnaire

Q3
Ascertain from the Head/Deputy/relevant administrator, how long the child has been attending the establishment.

Q4
Ascertain for the October to March period relevant to this establishment how many rooms the child used during a normal school week.

If the child used more than one room for the majority of the time, then enter up to 5 rooms where the child spent most time on average during a normal school week.

Identify the rooms by name, number or teacher's name, whichever is appropriate in helping you locate the rooms.

Q7
Please ***do not*** specifically ask if the participants if they would like the results of the measurements. However, ***do*** note if they request the results without being prompted.

n VIII Non-Residential Measurement Record

esidential Measurement Sequence: For each measurement, note code and description against start/stop no., and any comments. Also, for each non-residential measurement:

main lights in the room should be *switched on.*

ns operated *appliances which are normally on* should be *switched on* e.g. computers and audio/visual equipment.

measurement should be taken in an instrument stand *at least 1 metre away* from any mains operating appliances (e.g. computers and audio/visual equipment). Beware of hidden liances such as battery chargers and motors in fish tanks.

main menu options are given in "**CAPITALS**", sub-menus in "**lower case**".

tery Attach an alkaline 9V battery, switch ON and check the battery status. If it is less than 50%, a new battery is needed.

ck Box Check Measurement: At home, or in the regional centre, please do the following:

ure the display is on "resultant" - to see the black box measure (no need if switching ON as "**resultant**" is the default). [Go to "**DISPLAY**" on the main menu with (+) or (-); press ENT button; go round display menu with (+) and (-) until "**resultant**" displayed; press EVENT button to return to main menu.]

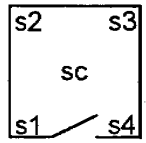
tch on Black Box - at mains and at the back of the box. A red light should come on at the rear.

ke Black Box Instrument Check Measurement [Go to "**RUN**" on the main menu with (+) or (-); insert Emdex partially into black box; press EVENT button once; insert fully into black box; t 3 minutes; check that the reading is around 50 (if it is not 45-56, after checking possible reasons, inform your supervisor); stop with (+) and (-) buttons held down together then EVENT ton once; note reading in mG and b.b. serial no. in appropriate boxes; note *"ch"* as measurement code against start/stop no., and *"black box check"* as measurement description.]

ange display to "battery" - so no results seen (might be easier at home). [Go to "DISPLAY" on the main menu with (+) or (-); press EVENT button; go round display menu with (+) or (-) attery" displayed; press EVENT button to return to main menu; goto "**STANDBY**" on main menu with (+) or (-).]

ngle Room Measurements:

Make 2 minute spot measurements at the centre of the room and towards the four corners *If it is possible, please start on the left-hand side of the main door he classroom, and move around in a clockwise direction when measuring the corners, as shown in the diagram.* [Go to "**RUN**" on the main menu with (+) or (-); ce instrument in stand; place stand near each corner and then the centre of the room, AT LEAST 1 METRE FROM OPERATING APPLIANCES E.G. CASSETTE CORDERS AND BATTERY CHARGERS ; press EVENT button (should see "**start n**" and then battery status flicker every 1.5s); wait 2 minutes; stop instrument n (+) and (-) buttons held down together then EVENT button once (should see "**stop n**", then "**STANDBY**"); note code and measurement description against t/stop number. Enter any relevant comments on the measurement sheet.]



the measurement sheet, and when downloading the measurements, please enter a code of *"sc"* for the centre of the room, *"s1"* for the first corner, ... , and *"s4"* for the fourth, and a cription of each measurement.

ltiple Room Measurements:

Make spot measurements at the centre of each of the most used classrooms *At least 10 minutes worth of measurements should be made in each school.*
s means that if 5 rooms have been named, spot measurements of around 2 mins. should be made in each room.
4 " " 3 "
3 " " 4 "
2 " " 5 "

to "**RUN**" on the main menu with (+) or (-); place instrument in stand; place stand at centre of the room, AT LEAST 1 METRE FROM OPERATING APPLIANCES E.G. CASSETTE CORDERS AND BATTERY CHARGERS ; press EVENT button (should see "**start n**" and then battery status flicker every 1.5s); wait appropriate time; stop instrument with (+) and (-) ons held down together then EVENT button once (should see "**stop n**", then "**STANDBY**"); note code and measurement description against start/stop number. Enter any relevant nments on the measurement sheet.]

the measurement sheet, and when downloading the measurements, please enter code of *"c1"* for room labelled c1 on p. 21, ... , *"c5"* for room labelled c5, and a description of each room.

eat Black Box Check Measurement [2) above]. If you are assessing more than 1 site per instrument and downloading data on-site then two instrument checks may be impractical; in se one check before and one check at the end of the day will be sufficient.

N.B. DO NOT SWITCH OFF EMDEX UNTIL DATA DOWNLOADED TO FLOPPY AND VERIFIED.

Section IX Non-Residential Neighbouring Power Sources

Information in this section should be collected by observation alone, and not from answers given by the respondents.

Q1 & Q3
If there is any doubt about the 150 metres distance, please indicate YES, and still add the estimate of distance.

Q1
See training manual for a description of insulator pots (segments). If the insulator is neither 'short' nor 'long', please include the number of pots (segments) in the 'other' description.

The label plate should have information of the form:

Company who owns/owned the line e.g. CEGB
Voltage at which line is being operated e.g. 275 000 Volts

and most importantly,
Line identification number e.g. ZP 49 or PTH 98

ɔn A Residential Measurement Record

ential Measurement Sequence: For each measurement note: room code and description against start/stop no., whether fluorescent tube lights are in the room and on or off, appliances walls < 1m from measurement position and any comments . Main lights should be switched on during measurements, where possible.

‹ main menu options are given in "CAPITALS", sub-menus in "lower case".

ttery Attach an alkaline 9V battery, switch ON and check the battery status. If it is less than 50%, a new battery is needed.

ack Box Check Measurement: At home, or in the regional centre, please do the following:

sure the display is on "resultant" - to see the black box measure (no need if switching ON as "resultant" is the default). [Go to "DISPLAY" on the main menu with (+) or (-); press 'ENT button; go round display menu with (+) and (-) until "resultant" displayed; press EVENT button to return to main menu.]

/itch on Black Box - at mains and at the back of the box. A red light should come on at the rear.

ake Black Box Instrument Check Measurement [Go to "RUN" on the main menu with (+) or (-); insert Emdex partially into black box; press EVENT button once; insert fully into black box; iit 3 minutes; check that the reading is around 50 (if it is not 45-56, after checking possible reasons, inform your supervisor); stop with (+) and (-) buttons held down together then EVENT tton once; note reading in mG and b.b. serial no. in appropriate boxes; note "ch" as measurement code against start/stop no., and "black box check" as measurement description.]

ange display to "battery" - so no results seen (might be easier at home). [Go to "DISPLAY" on the main menu with (+) or (-); press EVENT button; go round display menu with (+) or (-) battery" displayed; press EVENT button to return to main menu; goto "STANDBY" on main menu with (+) or (-).]

ake a spot measurement at the centre of the child's usual sleeping room This is the room mentioned in question 1), page 5 of the first questionnaire. [Go to "RUN" on the main menu +) or (-); place instrument in stand; place stand near centre of room at least 1m from any walls or operating appliances; press EVENT button (should see "start n" and then battery status every 1.5s); wait 3 minutes; stop instrument with (+) and (-) buttons held down together then EVENT button once (should see "stop n" , then "STANDBY"); note code and measurement ption against start/stop number, and ANY APPLIANCES ON OR WALLS< 1M FROM MEASUREMENT POSITION.]

ake the first bed spot measurement, on child's pillow This is with the Emdex on the centre of the pillow, with display pointing towards the headboard. SWITCH ON/OFF MAINS IANCES < 1M FROM EMDEX USUALLY ON/OFF AT NIGHT (this includes immersion heaters). ELECTRIC BLANKETS MUST BE OFF DURING BED MEASUREMENTS. [Go to "RUN" ; main menu with (+) or (-); place instrument on centre of pillow; press EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held down together then EVENT button once; ;ode and measurement description against start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

ake the second bed spot measurement, on centre of child's bed This is with the Emdex on the centre of the bed (halfway down from top to bottom, & left to right), with display pointing d pillow. SWITCH ON/OFF MAINS APPLIANCES < 1M FROM EMDEX USUALLY ON/OFF AT NIGHT (this includes immersion heaters). ELECTRIC BLANKETS MUST BE OFF DURING MEASUREMENTS. [Go to "RUN" on the main menu with (+) or (-); place instrument on centre of bed; press EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held together then EVENT button once; note code and measurement description against start/stop no. and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

is NOT necessary to repeat the bed, NSH and electric blanket checks in child's bedroom, described in questions 7) to 9) in Section II (page 9), of the first questionnaire.

ake an extended measurement in the Family Room - NO OPERATING VACUUM OR HAIRDRYER IN ROOM [Go to "RUN" on the main menu with (+) or (-); place instrument in stand; stand near centre of Family Room at least 1m from any walls or operating appliances; press EVENT button; wait at least 90 minutes; stop instrument with (+) and (-) buttons held down ıer then EVENT button once; note code and measurement description against start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM EMDEX.]

1) Repeat Spot Measurement Scheme 9) repeat 4); 10) Repeat 5); 11) Repeat 6).

Repeat Black Box Check Measurement [2) above]. If you are assessing more than 1 site per instrument and downloading data on-site then two instrument checks may be impractical; in ase one check before and one check at the end of the day will be sufficient.

N.B. DO NOT SWITCH OFF EMDEX UNTIL DATA DOWNLOADED TO FLOPPY AND VERIFIED.

Section A Residential Measurement Record (Continued)

Q2

Ascertain whether any large electrical appliances were operating anywhere in the house during the course of the interview, i.e. within the last two hours. (If in doubt about whether an appliance should be classified as "large", please record the relevant information anyway).

Indicate the room(s) the appliances were in, and the time of operation using the 24 hour clock.

Section B Permission to Reapproach

Q3
Please ***do not*** specifically ask if the participants if they would like the results of the measurements. However, *do* note if they request the results without being prompted.

Section I Appliances in Sleeping Room

Q1 & Q2
Please fill in questions 1 and 2 from the Phase I questionnaire, before visiting the house for Phase II measurements.

Q1
This is the room identified in question 1, page 5 of the EMF Phase I questionnaire, in Section I, "Residential Room Identification".

Q2
The questions about appliances *in the sleeping room* are questions 7 to 9 on page 9 of the Phase I questionnaire, in Section II, "Residential Appliance Questionnaire".

Q5, 6 & 7
If one of these appliances *was* used in the month of interest, please contact the family *before* the Phase II visit, and ask them if the appliance is still present, and if it can be on during Phase II measurements (NSH or underfloot heating) or sent away for testing (electric blanket).

Section I Appliances in Sleeping Room (cont.)

I II Residential Measurement Record

PHASE II: Measurement Sequence *(continued on p.8)*

h measurement note: room code and description against start/stop no., whether fluorescent tube lights are in the room and on or off, appliances ON or walls < 1m from ement position and any comments . For all of the measurements, please use a 1m Emdex pole.
main menu options are given in "**CAPITALS**", sub-menus in "**lower case**".

tery Attach an alkaline 9V battery, switch ON and check the battery status. If it is less than **95%** (switching on/off an few times if not), then a new battery is needed.

ck Box Check Measurement: At home, or in the regional centre, please do the following:

sure the display is set to "**resultant**" - to see the black box measure (no need if switching ON as **"resultant**" is the default). **[Go to "DISPLAY"** on the main menu with (+) -); press EVENT button; go round display menu with (+) and (-) until **"resultant"** displayed; press EVENT button to return to main menu.]

itch on Black Box - at mains and at the back of the box. A red light should come on at the rear.

ke Black Box Instrument Check Measurement [Go to "**RUN**" on the main menu with (+) or (-); insert Emdex partially into black box; press EVENT button once; insert fully o black box; insert fully into black box; wait 3 minutes; check that the reading is around 50 (if it is not 45-56, after checking possible reasons, inform your supervisor); stop trument with (+) and (-) buttons held down together and single push of EVENT button; note reading in mG and b.b. serial no. in appropriate boxes; note "ch" as asurement code against start/stop no., and "black box check" as measurement description.]

ange display to "battery" - so no results seen (might be easier at home). [Go to "**DISPLAY**" on the main menu with (+) or (-); press EVENT button; go round display with (+) or (-) until **"battery"** displayed; press EVENT button to return to main menu; go to "**STANDBY**" or "**RUN**", whichever appropriate, on main menu with (+) or (-).]

ke a spot measurement at the centre of the family room - 1 metre high stand [Go to "**RUN**" on the main menu with (+) or (-); place instrument in stand; place nent in 1m stand at centre of family room; press EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held down together and single push of EVENT ; note code and measurement description against start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM EMDEX.]

ntify the position for bedside 48 hour measurement. [bedside 48 hour measurement position is at bedside on side towards the centre of the room, as close as possible way down the bed; identify any appliance(s) normally operating overnight; (e.g. night storage heater; clock-radio; other etc.); record distance from the Emdex in this 48-hour rement position to the appliance by the start/stop no. (as usual); additionally, for this measurement only, please record the distance from the appliance to the BMP [the n 20cm footwards below the pillow on the midline of the bed] on the line provided at the bottom of the page.

nulate overnight setup for spot measurements SWITCH ON/OFF MAINS APPLIANCES < 1M FROM EMDEX USUALLY ON/OFF AT NIGHT (this includes immersion s). **ELECTRIC BLANKETS MUST BE OFF DURING BED MEASUREMENTS.**

ke a spot measurement at the 48 hour measurement position - 1 metre high stand. [Go to "**RUN**" on the main menu with (+) or (-) ;place instrument in 1m stand; EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held down together and single push of EVENT button; note code and measurement description t start/stop number and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

ı II Residential Measurement Record

PHASE II: Measurement Sequence (cont.): Instructions for *previous* page

ke a spot measurement on centre of child's pillow This is with the Emdex on the centre of the pillow, with display pointing towards the headboard. **ELECTRIC ;ETS MUST BE OFF DURING BED MEASUREMENTS.** [Go to "**RUN**" on the main menu with (+) or (-); place instrument on centre of pillow; press EVENT button; wait 3 s; stop instrument with (+) and (-) buttons held down together and single push of EVENT button; note code and measurement description against start/stop number and PPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

ke a spot measurement on centre of child's bed This is with the Emdex on the centre of the bed (halfway down from top to bottom, & left to right), with display pointing l pillow. **ELECTRIC BLANKETS MUST BE OFF DURING BED MEASUREMENTS.** [Go to "**RUN**" on the main menu with (+) or (-); place instrument on centre of bed; EVENT button; wait 3 minutes; stop instrument with (+) and (-) buttons held down together and single push of EVENT button; note code and measurement description : start/stop no. and ANY APPLIANCES ON OR WALLS< 1m FROM MEASUREMENT POSITION.]

-adjust the ON/OFF status of appliances which have been changed to simulate overnight.

JUST INSTRUMENT SAMPLING RATE TO 10 SECONDS [Go to "**RATE**" on main menu with (+) or (-); press EVENT button; go round "rate" menu with (+) or (-) until :" displayed; press EVENT button to return to main menu; go to "**RUN**" on main menu with (+) or (-)]

ke the continuous 48 hour bedside measurement - 1m metre high stand [Put stand in position chosen in 5). Go to "**RUN**" ; partially insert Emdex into stand; press T button to start instrument sampling; put Emdex into the stand head; secure lid of the stand head with a key; leave the Emdex sampling for a minimum of 48 hours; *ask the not to come near the stand with electrical appliances such as vacuum cleaners, hair dryers, computer games* etc.; stop instrument with (+) and (-) buttons held down er and single push of EVENT button; note code (ET) and measurement description against start/stop no. and ANY APPLIANCES ON OR WALLS < 1M FROM UREMENT POSITION.]

JUST INSTRUMENT SAMPLING RATE BACK TO 1.5 SECONDS [Go to "**RATE**" on main menu with (+) or (-); press EVENT button; go round "rate" menu with (+) or l "**1.5 sec**" displayed; press EVENT button to return to main menu; go to "**RUN**" on main menu with (+) or (-)]

Repeat Spot Measurement Scheme In precisely the following order, make the following 3 minute spot measurements:

14) Simulate overnight situation in bedroom i.e. repeat (6)
15) Centre of bed spot measurement, i.e.repeat (9).
16) Pillow spot measurement, i.e. repeat (8).
17) Bedside 48 hour measurement position spot i.e. repeat (7);
18) Re-adjust on/off status of appliances i.e. repeat (10);
19) Family room spot measurement, i.e. repeat (4);

peat Black Box Check Measurement [2) above]. Do **NOT** make any more measurements, e.g. a school measurement or another house measurement until:

A: This repeat black box check measurement is made.
B: The Phase II measurements have been downloaded (to filename "coded study no"+".mdx" e.g. "01123a.mdx") and verified.

N.B. DO NOT SWITCH OFF EMDEX UNTIL DATA DOWNLOADED TO FLOPPY AND VERIFIED.

Identifying Number Region Case No. ☐☐ ☐☐☐ A / B

II To be completed by the REC: Details of External Sources

REC Contact: _____

This section is used to determine:

- Whether there were any external sources (substations, underground cables, overhead lines or three phase distribution circuits) of interest near the address.
- If so, whether they were operating typically at Phase I measurement and during the year of interest.

Unless otherwise stated, all distances are to the centre of the home / school. BUT, for single classroom school measurements with sketch map attached (see p1), please measure distances to the centre of that classroom.

Typicality: Is there anything unusual about the local network, which might have made Phase I measurements unrepresentative? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes, please describe: _____

Substations: During Phase I measurement, was there an operating substation within **20m** of the location? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes to substation:

Was the substation operating typically throughout the year of interest? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Distance (metres) from nearest point of substation to the centre of home / school / classroom: ☐☐

Primary Voltage (kV) ☐☐ Circuits: Underground / Overhead *(Please circle)*

Secondary Voltage (kV) ☐☐ Circuits: Underground / Overhead *(Please circle)*

Separated Phase Underground Cables (33 kV and above):

Most underground cables have conductors bundled together. We want only those with separated phases.

During Phase I measurement *or* at any time during the year of interest, were there any separated-phase REC cables of ≥ 33 kV within **20m** of the centre of the home / school (multiple) / classroom (single)? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes, please complete for each circuit:

Please note that all measured distances are of closest horizontal approach to centre-line of cable route.

Cable Circuit 1 Voltage (kV): 33 / 66 / 132	Distance from residence (m) ☐☐	*Cable outage at Phase I date & time? ☐ Yes ☐ No ☐ NK	Estimate of **total outage** (in weeks) over year of interest if ≥ 4 weeks (within 4 wks) ☐☐
	Date if cable was added during the year of interest: ☐☐☐☐☐☐		Date if cable permanently disconnected in year of interest: ☐☐☐☐☐☐
Cable Circuit 2 Voltage (kV): 33 / 66 / 132	Distance from residence (m) ☐☐	*Cable outage at Phase I date & time? ☐ Yes ☐ No ☐ NK	Estimate of total outage (in weeks) over year of interest if ≥ 4 weeks (within 4 wks) ☐☐
	Date if cable was added during the year of interest: ☐☐☐☐☐☐		Date if cable permanently disconnected in year of interest: ☐☐☐☐☐☐

If there is more than one cable circuit present, Circuit 1 is the one closer to the address

Identifying Number Region Case No. ☐☐☐☐☐ A / B

II To be completed by the REC: Details of External Sources (cont.)

Additional Information (cont.): _____

_____

_____

_____

_____

_____

Low Voltage Three Phase Distribution Circuits, ***household addresses only:***

Is there a 3 phase LV distribution circuit within **2m** of the home exterior walls? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes:

Is the above circuit overhead phase separated (open wire)? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Is the above circuit a mural (undereaves) attachment to the residence? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Is the above circuit feeding other houses on Economy 7/White Meter regimes? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Is there any obvious reason (apart from E7/White Meter regimes) for the circuit to have a much higher average load during the night compared to day? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes, please describe: _____

_____

_____

NGC Lines and Cables: Are there any National Grid lines of > 132 kV within 400m of the home/school, or 132 kV lines within 200 m, or cables within 20m? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes:

Please note that all measured distances are of closest horizontal approach to centre of lines.

	Voltage *(circle as appropriate)*	Distance From Residence *(in metres)*
Line / Cable	132 kV / 275 kV / 400 kV / Other: _____	☐☐☐
Line / Cable	132 kV / 275 kV / 400 kV / Other: _____	☐☐☐
Line / Cable	132 kV / 275 kV / 400 kV / Other: _____	☐☐☐

Identifying Number Region Case No. A / B

III To be completed by the REC: Line Load Data (cont.)

Load Data Decision

To determine whether load data are required please indicate, using the information marked with a "⇒" on the previous page, whether the following statements are true:

Is the operating voltage less than 66 kV? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

An underground cable which does not have separated phases? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

An overhead line, which is transposed, and the horizontal distance is more than 60m (for rating <600 A); 80m (for 600-1200 A); 120m (for >1200 A) *Please tick:* ☐ Yes ☐ No ☐ Don't Know

An overhead line, phasing not transposed, and the horizontal distance is more than 100m (for rating <600 A); 140m (for 600-1200 A); 200m (for >1200 A) *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If you have answered "Yes" to any of the above, line load data are ***not*** required for the line / cable.

Are line load data required? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

If yes to load data required:

Are line/cable load data available for the Phase I measurement date and time? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Are line/cable load data available for the year of interest? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

Are line/cable load data available for the most recent year*? *Please tick:* ☐ Yes ☐ No ☐ Don't Know

* Note: Load data for the year of interest are preferred, but it is accepted that data for the most recent year might be all that are available. This is adequate.

If yes to load data available:

Two files of data are needed: one for the time of Phase I measurement, and the other containing one year's data (either the year of interest or the most recent year). If possible, please supply them as follows:

- As an ASCII file on a floppy disk.
- Disks to be labelled with REC name & the Identifying No. (on top RH corner of this form).
- Half hourly measurement intervals are sufficient.
- One file line per measurement interval, each line being identified by the date and time.
- If the load currents in the circuit(s) are available, then no other quantity is needed.
- If the current is *not* available, then MW is required, and, if possible, MVar and Voltage.

Phase I: File name: _____ Line no. for first line of d

Description of each field on a line of data: _____

_____

One year's data: File name: _____ Line n

Description of each field on a line of data: _____