

**EMF Measurements Database
Metadata for Data Set # 4
DOE EMF RAPID Engineering Project 3:
"Environmental Surveys"**

EMF Measurements Database
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1. Dataset Information

1.1 Dataset Identification

DATASET-TITLE: DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

DATASET-NUMBER: 4

DATASET-VERSION: 19990618

DATASET-STATUS: Complete

1.2 Dataset Description

DATASET-ABSTRACT: This data set results from a project of the EMF Research and Public Information Dissemination Program (RAPID), one of several engineering research projects in the area of exposure assessment and source characterization. RAPID engineering project 3: "Environmental Field Surveys" was performed to obtain information on the levels and characteristics of different environments, for which only limited data were available, especially in comparison to magnetic field data for the residential environment and for electric utility facilities, such as power lines and substations. This project was also to provide information on the contribution of various field sources in the surveyed environments.

Magnetic field surveys were performed at four sites for each of five environments: schools, hospitals, office buildings, machine shops, and grocery stores. Of the twenty sites surveyed, 11 were located in the San Francisco Bay Area and 9 in Massachusetts. The surveys used a protocol based on magnetic field measurements and observation of activity patterns, designed to provide estimates of magnetic field exposure by type of people and by type of sources. The magnetic field surveys conducted by this project produced a large amount of data.

Field and exposure data were obtained separately for area exposure and at exposure points. An exposure point is a location where persons engage in fixed, site-specific activities near a local source that creates a significant increase in the area field. The area field is produced by area sources, whose location and field distribution is in general not related to the location of people in the area.

Exposure at exposure points was characterized by defining a zone of activity (range of distances from a source), an exposure duration (person-minutes), and by determining through measurements the field at different distances from the source.

TIME-PERIOD: Measurements were made between September 26, 1995 and April 4, 1996

GEOGRAPHIC-LOCATION: Measurements were all made in the United States. Approximately half of the measurements were made on the east coast, the other half being made on the west coast. The west coast measurements consist of 4 hospitals, 3 machine shops, 2 office buildings, 2 schools, and 1 grocery store. The east coast measurements include 3 grocery stores, 2 office buildings, 2 schools, and 1 machine shop.

DATASET-PURPOSE: The goal of this engineering project is to provide data for the assessment of exposure in different environments by type of people and by type of source.

ASSOCIATED-PROJECT:

PROJECT-NAME: DOE EMF Rapid Engineering Project 3: "Environmental Field Surveys"

SPONSORSHIP:

US Department of Energy through contract with Lockheed Martin

1.3 Measurement Design

1.3.1 Sample

SAMPLE-TARGET: Sites

SAMPLE-SELECTION: Qualified sites for each of five environments (Hospitals, Schools, Grocery Stores, Office Building, and Machine Shops) were selected based on their willingness to participate.

SAMPLE-SIZE: Four sites for each environment.

MEASURED-PARAMETER: RMS magnetic field in the frequency range from 40 Hz to 800Hz measured along three orthogonal axes and combined to give a resultant value. Amplitude and phase angle of the individual frequency components at 60 Hz and its harmonics. Amplitude of DC magnetic field. Peak to Peak value of magnetic field transients.

METHODOLOGY: Measurements were performed according to the protocol described in the Final Report of DOE Rapid Engineering Project 3: "Environmental Field Surveys". The basic components of the protocol of a site are: mapping of the magnetic field in the areas of the site, area activity questionnaire, exposure point activity questionnaire, point source characterization, simultaneous AC waveshape and DC field measurements, 24-hour field recordings, magnetic field transient recordings.

INSTRUMENT-NAME: EMDEX II

INSTRUMENT-NAME: EMDEX Snap

INSTRUMENT-NAME: Wavecorder

INSTRUMENT-NAME: DC Meter

SAMPLING-INTERVAL: For area measurements, an EMDEX II is used taking samples every 1.5 seconds. For source measurements, a Wavecorder is used to capture 2 60Hz cycles with a sampling rate of 15.4 kHz. 24 hour recorders take samples every 3 seconds.

SAMPLING-DURATION: Area measurements with the EMDEX II last 30 seconds to 3 minutes gathering data at a rate of 1 sample every 1.5 seconds. Exposure points measurements were either 3 spot measurements, or a single EMDEX Snap measurement. 24 Hour recorders gathered data at a rate of 1 measurement every 3 seconds and usually lasted 24 hours. Transient Measurements typically lasted 24 hours for each site.

1.4 Instrumentation

1.4.1 EMDEX II

MANUFACTURER:

Enertech Consultants

300 Orchard City Drive, Suite #132 Campbell, California 95008

INSTRUMENT-VERSION: Version 2.1

ASSOCIATED-SOFTWARE: Emcalc95 was used download and process the data. In cases where the EMDEX II was used in conjunction with the LINDA wheel, Emcalc95 was used to initialize the instrument.

FREQUENCY-RESPONSE: 40Hz - 800Hz

DYNAMIC-RANGE: Magnetic Field, .1mG - 3 Gauss in each of three orthogonal directions.

DISCUSSION: The EMDEX II was used to capture the area fields in all surveyed areas as well as being used as a temporal recorder.

1.4.2 EMDEX Snap

MANUFACTURER:

Enertech Consultants

300 Orchard City Drive, Suite #132 Campbell, California 95008

INSTRUMENT-VERSION: None

ASSOCIATED-SOFTWARE: None

FREQUENCY-RESPONSE: 40Hz - 1 kHz

DYNAMIC-RANGE: Magnetic Field, .1mG - 700mG in each of three orthogonal directions.

DISCUSSION: Hand held instrument with digital display refreshed every .5 seconds

1.4.3 Wavecorder

MANUFACTURER:

Enertech Consultants
300 Orchard City Drive, Suite #132 Campbell, California 95008

INSTRUMENT-VERSION: 1.2

ASSOCIATED-SOFTWARE: Windows Wavecorder software is used to download and manipulate the data from the Wavecorder.

FREQUENCY-RESPONSE: 30Hz - 3000Hz

DYNAMIC-RANGE: .3mG - 25.6G

DISCUSSION: For each significant source, the waveshape of the magnetic field was captured using the EMDEX Wavecorder. DC Field Measurements were made by attaching a DC probe to the Wavecorder. (This measurement system gives the magnitude of the DC field and the magnitude of the AC field components parallel and perpendicular to the DC Field)

1.4.4 DC Meter

MANUFACTURER:

Bartington

INSTRUMENT-VERSION: N/A

ASSOCIATED-SOFTWARE:

FREQUENCY-RESPONSE: N/A

DYNAMIC-RANGE: 1 to 10000 mG

DISCUSSION: Single Axis DC Meter with digital readout.

1.5 Revision History

1.5.1 DATE: 19960430

CONTACT:

Enertech Consultants
Luciano Zaffanella
Main Street Lee, MA 01238
413-243-2800 (voice)
413-243-4620 (fax)
etceast@bcn.net

REVISION-DESCRIPTION: Data set received from the original researchers.

1.5.2 DATE: 19990728

CONTACT:

Russell Senior
EMF Measurements Database
T. Dan Bracken, Inc., 5415 S.E. Milwaukie Avenue, Suite 4, Portland, Oregon
97202
503-233-2181 (voice)
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REVISION-DESCRIPTION: Completed reformatting and integration of the data and metadata from the original researchers into the Database.

2. Data Model

2.1 ENTITY: Site

ENTITY-DESCRIPTION: A complete architectural structure and associated area that serves the purpose of the environment (e.g., a school building, not just a classroom).

2.1.1 ATTRIBUTE: Environment

ATTRIBUTE-DESCRIPTION: A type of place where activities of specific groups of people occur and which may be a source of characteristic exposure to EMF, by virtue of the type of electrical facilities and equipment typical of that place.

CODESET-DOMAIN:

- 1 Grocery store
- 2 Hospital
- 3 Machine shop or metal fabrication shop where welding equipment is used.
- 4 Office building
- 5 School

2.1.2 ATTRIBUTE: Site number

ATTRIBUTE-DESCRIPTION: An identifier of a particular site, unique within the environment.

SIMPLE-DOMAIN: A positive integer, from 1 to 4

2.1.3 ATTRIBUTE: Number of floors

ATTRIBUTE-DESCRIPTION: Indicates the number of floors in the architectural structure.

SIMPLE-DOMAIN: A positive integer, from 1 to 12

2.1.4 ATTRIBUTE: Building material

ATTRIBUTE-DESCRIPTION: Indicates the principal building material in the architectural structure.

CODESET-DOMAIN:

- 1 Brick and steel
- 2 Sheet metal
- 3 Steel
- 4 Steel and concrete
- 5 Stucco
- 6 Stucco and steel

2.1.5 ATTRIBUTE: Unperturbed geomagnetic field

ATTRIBUTE-DESCRIPTION: Represents the unperturbed geomagnetic field for a particular site. These measurements were made using a DC magnetic field probe with the Wavecorder instrument outside of the site's building.

SIMPLE-DOMAIN: A positive real number, from 467 to 556 mG

2.2 ENTITY: Area

ENTITY-DESCRIPTION: Each environment site is divided into different areas. As area is defined on the basis that the people that occupy that area are a well-defined group, or the activities that take place in that area are well-defined. If the field characteristics vary significantly with an area, it may be useful to subdivide the area into smaller areas.

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Each area was mapped using an EMDEX II and Linda wheel and the magnetic field values from those data are summarized in this entity as well.

2.2.1 **ATTRIBUTE: Area number**

ATTRIBUTE-DESCRIPTION: Uniquely identifies an area within a site.

SIMPLE-DOMAIN: A positive integer, from 1 to 224

2.2.2 **ATTRIBUTE: Area type**

ATTRIBUTE-DESCRIPTION: Characterizes the function of an area.

CODESET-DOMAIN:

- | | |
|----|------------------------------|
| 1 | Customer Access Area |
| 2 | Butchers/Clerk/Staff Area |
| 3 | Office Staff Area |
| 4 | Patient Room |
| 5 | Examination Room |
| 6 | Nurse's Station/Staff Area |
| 7 | Public Facility |
| 8 | Administration Office |
| 9 | Laboratory |
| 10 | Machining |
| 11 | Administration |
| 12 | Shipping |
| 13 | Engineering |
| 14 | Production/Assembly |
| 15 | Lobby or other Public Area |
| 16 | General Staff Area |
| 17 | Private Office |
| 18 | Classroom |
| 19 | Cafeteria/Kitchen/Auditorium |
| 20 | Main Office (Student Area) |
| 21 | Administration (Staff Area) |
| 22 | Library/Learning Center |

2.2.3 **ATTRIBUTE: Area name**

ATTRIBUTE-DESCRIPTION: Describes the type of area by assigning a name to each surveyed area.

CODESET-DOMAIN:

- | | |
|---|-------------------------|
| 1 | 1st grade room #111/113 |
| 2 | 2nd grade room #202/204 |
| 3 | 3rd grade room #201/203 |
| 4 | 4th grade room #211/213 |
| 5 | 5th grade room #208/210 |

6	6th grade room #212/214
7	a.f. cubicle
8	a.h. cubicle
9	a.i. office
10	a.l. cubicle
11	a.v.m. office
12	admin. assistant's office
13	administration office room #305
14	administration office room #308
15	administration office room #323
16	administration trailer
17	ambulatory surgery procedure room #541/543
18	ambulatory surgery waiting area
19	ambulatory treatment nurses station - b136
20	ambulatory treatment nurses station - g136
21	architect's office #57c
22	art
23	art room
24	artificial kidney unit procedure room #720
25	artificial kidney unit waiting area
26	auditorium
27	b.b. office
28	b.d. cubicle
29	back storage room
30	bacteriology laboratory #1211w
31	baking supplies
32	band
33	biomedical engineering
34	birch room (assembly room)
35	blood draw waiting room #1229
36	blood gas test lab #517
37	blood gas testing room
38	bread / chips
39	break room
40	break/copy area (near library)
41	bronchoscopy exam room #507
42	bsa office

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43	burn center nursing station
44	butcher area
45	c.a. cubicle
46	c.c.cubicle
47	c.g. cubicle
48	c.m. cubicle
49	cafe
50	cafeteria
51	cafeteria dining room #15c
52	cafeteria dining room area
53	cafeteria kitchen area
54	cafeteria serving area
55	cakes
56	cancer care room #5320
57	cancer care room #5410
58	cancer care waiting room - h0266
59	candy
60	canned goods
61	cardiac care nurse's station
62	cardiac ultrasound room #507
63	cardiology diagnostic area
64	cardiology office
65	cardiology patient room #514
66	cardiology reading room
67	cardiology/echo test #503
68	cardiology/echo test #505
69	carpenter's shop
70	ccu patient room #625
71	ccu patient room #626
72	ccu patient room #630
73	cereal
74	cereal / drinks
75	cereal/ cookies
76	chaplain services
77	chart room (medical records storage) #23e
78	checkout area
79	checkout/cashier area

80	chemistry & special chemistry lab
81	chemistry laboratory
82	chest clinic patient exam room - 3117
83	chest clinic patient exam room - 3120
84	chest clinic waiting room - 3109
85	chief radiologist's office
86	chips / soda
87	cicu patient room #2109
88	cicu patient room #2115
89	classroom
90	classroom 10
91	classroom 11
92	classroom 12
93	classroom 13
94	classroom 14
95	classroom 15
96	classroom 16
97	classroom 17
98	classroom 18
99	classroom 19
100	classroom 20
101	classroom 23
102	classroom 26
103	classroom 3
104	classroom 4
105	classroom 5
106	classroom 6
107	classroom 7
108	classroom 8
109	classroom 9
110	classroom a
111	classroom b
112	cleanup room
113	clinical engineering offices - f006
114	clinical laboratories - 1501
115	clinical labs
116	cmm room

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117	coffee / bar
118	coffee / tea / magazines
119	compr. in-patient rehabilitation nurses station - c136
120	comprehensive medical hallway
121	comprehensive medical nurses station - g227
122	comprehensive medical patient room - g204
123	comprehensive medical patient room - g214
124	comprehensive medical waiting area - h221
125	compromised host nurses station - d152
126	compromised host nurses station - e152
127	compromised host nurses station - f137
128	compromised host nurses station - f152
129	compromised host patient room - e134
130	compromised host patient room - e141
131	compromised host patient room - f144
132	computer lab
133	computer room
134	computer room #206
135	computer training room - hc005
136	conference
137	conference room
138	conference room #10e
139	conference room #11e
140	conference room #14e
141	conference room - admin. area
142	conference/tutor room #102
143	consultation room #a2-21
144	contractor's break area # 52c
145	copy center
146	copy center #58c
147	copy room
148	corridor
149	cosmetics
150	counter
151	counter area
152	credit union waiting area
153	critical care unit area

154	critical care unit patient room #2317
155	ct scan exam room #4
156	ct scan operator room
157	customer deli
158	customer service
159	d.b. office
160	d.b.l. office
161	d.d. cubicle
162	d.h. office
163	d.p. office
164	dairy products
165	day care
166	deli cooking area
167	deli customer area
168	deli working area
169	design & construction staff offices - g020
170	detergents
171	diapers / baby food
172	diapers / dog food
173	doctor's advise room #363w
174	doctor's office
175	doctor's office #1175w
176	doctor's office #23w
177	doctor's office #28w
178	doctor's office #313c
179	doctor's office #322c
180	doctor's office #323c
181	doctor's office #323e
182	doctor's office #324c
183	doctor's office #329e
184	doctor's office #331w
185	doctor's office #346w
186	doctor's office #363e
187	doctor's office #405w
188	doctor's office #408c
189	doctor's office #413c
190	doctor's office #429e

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191	doctor's office #42c
192	doctor's office #51w
193	doctor's office #94w
194	doctor's sleep room #515
195	doctors sleep room #764
196	dog and cat food
197	e.b. office
198	ecg/holter area - 2150
199	ecg/holter doctors office - 2154
200	ecg/holter exam room - 2150c
201	ecg/holter hallway/waiting area
202	ecg/holter lab area - 2150b
203	ecg/holter staff office - 2160/2162
204	echo reading room
205	echo testing room
206	eeg lab room #3 (703)
207	ekg exam room #421w
208	ekg exam room
209	ekg holter room
210	elevator lobby
211	emergency exam room #21
212	emergency exam room #5
213	emergency patient room
214	emergency room nurse's station
215	emergency room reception area
216	emergency room waiting area
217	emergency waiting area/admissions
218	emg/evp exam room
219	employee health infection control
220	employee health services
221	empty nurse's station at 5320
222	endoscope treatment room - h1120i
223	endoscopy treatment rm#431w
224	environmental health & safety office - h002
225	epilepsy day room - f338
226	exam room #1189w
227	exam room #134w

228	exam room #135w
229	exam room #17w
230	exam room #19w
231	exam room #20w
232	exam room #29w
233	exam room #307w
234	exam room #318c
235	exam room #31w
236	exam room #324e
237	exam room #331c
238	exam room #333w
239	exam room #342e
240	exam room #343w
241	exam room #344w
242	exam room #345e
243	exam room #347e
244	exam room #347w
245	exam room #355w
246	exam room #360w
247	exam room #362e
248	exam room #367c
249	exam room #368c
250	exam room #373c
251	exam room #374c
252	exam room #37w
253	exam room #386c
254	exam room #390c
255	exam room #406e
256	exam room #407e
257	exam room #40w
258	exam room #412w
259	exam room #415c
260	exam room #416c
261	exam room #430e
262	exam room #440w
263	exam room #446e
264	exam room #447e

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265	exam room #451e
266	exam room #456e
267	exam room #459c
268	exam room #460w
269	exam room #472c
270	exam room #473c
271	exam room #474c
272	exam room #475c
273	exam room #70w
274	exam room #72w
275	exam room #86w
276	exam room #87w
277	exam room #90w
278	exam room #92w
279	exam room #93w
280	exam room #97w
281	exam room#453w
282	f.w. cubicle
283	family waiting area
284	feg lab
285	fellowship hall
286	fellowship hall kitchen area
287	file room #01
288	file room #02
289	file room #03
290	file room #04
291	file room #05
292	file/storage room - h0233
293	foreman's area (gary)
294	foreman's office
295	frozen food
296	frozen foods
297	frozen foods/stock section
298	frozen meat
299	fruit / veg / cold cuts
300	g.h. cubicle
301	g.w. office

302	gastro-intestinal procedure room #1
303	general
304	general clinical research nurses station - h136
305	general clinical research patient room - h110
306	general manager's office
307	general nursing nurses station - d350
308	general nursing nurses station - e357
309	general office area
310	gift shop
311	green house
312	grinder room
313	group session meeting room #5223
314	guidance office
315	gym
316	gym/physical therapy #50w
317	h.c. cubicle
318	h.w. cubicle
319	hallway
320	hallway / corridor
321	hematology lab
322	histology lab
323	home ec.
324	hospital library
325	housekeeping administration - hc002
326	hydro-therapy room #53w
327	ice cream / beer
328	icu nurse's station #2226
329	icu nurses station - d251a
330	icu nurses station - d256a
331	icu patient room #2201
332	icu patient room #2202
333	icu patient room #2203
334	icu patient room #2204
335	icu patient room #2205
336	icu patient room - d234
337	icu patient room - e235
338	icu patient room- 2406

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339	imc - main area
340	imc - storage 21
341	imc - storage 22
342	indoor storage area
343	intermediate cardiac care nurses station - b236
344	intermediate cardiac care patient room - b207
345	intermediate cardiac care patient room - b217
346	j.b. office
347	j.d. cubicle
348	j.d. office
349	j.g. office
350	j.l. office
351	j.r. office
352	juice
353	k.f. cubicle
354	k.r. office
355	k.s. office
356	k.t. cubicle
357	kindergarten room #101/103
358	kindergarten room #104/106
359	kitchen
360	kitchen / bakery
361	kitchen area
362	kitchen copy room
363	kitchen serving area
364	kitchen staff office room #10
365	l.h. office
366	l.p. office
367	l.u. office
368	labor nurse's station
369	labor room #2
370	labor room #6
371	labor room #9
372	labor room public waiting area
373	labor/delivery patient room #342
374	lathe machine area
375	laundry supplies

376	layout dept.
377	learning center
378	library
379	library (lights on)
380	library workstation
381	loading area # 1
382	loading area # 2
383	lobby
384	lobby area
385	loft / break area
386	lower garage
387	lunch room
388	m.d. cubicle
389	m.f. office
390	m.g. office
391	m.j. cubicle
392	m.l. cubicle
393	m.l. office
394	m.o. office
395	m.p. office
396	m.t. cubicle
397	machine room #1
398	machine room #2
399	machine room #3 and storage
400	machining area
401	mail room
402	maill room
403	main lobby
404	main lobby - 1101/02/03
405	main machine shop
406	main office
407	main office area
408	main offices
409	maint. room
410	manager's office #355e
411	manuf. & assembly-1
412	manuf. & assembly-2

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413	maternity room #551
414	maternity room #561
415	maternity room #562
416	maternity room #568
417	meat
418	meat (customer section)
419	meat counter area
420	meat cutting area
421	meat storage
422	medical 10 waiting room
423	medical 7 waiting area
424	medical icu nurse's station
425	medical icu patient room #2121
426	medical transcription #56e
427	meeting room
428	micro-biology labs area #1
429	micro-biology labs area #2
430	milk
431	milling machine area
432	mother-infant child care nurse's station
433	mother-infant child care patient room # 3101
434	mother-infant child care patient room # 3109
435	mother-infant child care patient room # 3118
436	mri patient holding room - d001b
437	music
438	music room #114
439	na1 cubicle
440	na2 cubicle
441	na3 cubicle
442	neo-natal icu room #3421
443	neuro-surgical nurse's station
444	non-ferrous fab.
445	nuclear exam room #1218w
446	nuclear exam room #1220w
447	nuclear medicine exam room
448	nuclear medicine waiting area #1210w
449	nurse

450	nurse station
451	nurse's lounge #544
452	nurse's office
453	nurse's station #126w
454	nurse's station #362c
455	nurse's station #36w
456	nurse's station #376c
457	nurse's station #437e
458	nurse's station at 2110
459	nurse's station at 2121
460	nurse's station at 2211
461	nurse's station at 2221
462	nurse's station at 2231
463	nurse's station at 3111
464	nurse's station at 3131
465	nurse's station at 3211
466	nurse's station at 3212 or 3231?
467	nurse's station at 3221
468	nurse's station at 4111
469	nurse's station at 4211
470	nurse's station at 4332b
471	nurse's station at 5123
472	nurse's station at 5223
473	nurse's station at 5410
474	nurses office #102w
475	nurses office #105w
476	nurses station #7209
477	nursing administration - h0105
478	nursing area
479	nursing station #5322
480	nursing supervisor's office
481	o.r. conference room - 3523
482	o.r. locker room (mens) - 3511
483	oak room (assembly room)
484	ob-gyn conference room
485	ob-gyn doctor's call room
486	ob/gyn waiting room #1

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487	occupational therapy supervisor's office
488	office
489	office #1
490	office #2
491	office hallway
492	old ambulatory surgery staff office - 2236/2236a
493	or waiting room #a2-20
494	orthopedic surgery learning center
495	orthopedic waiting room
496	orthopedics cast room - c345
497	orthopedics patient room - c305
498	orthopedics staff office - c330
499	outdoor storage area
500	outdoor yard area
501	outside fab.
502	packaging & shop offices
503	parents sleep room #762
504	parts prep. & fab.
505	pasta aisle
506	pathology general offices #40c
507	patient admitting services (staff area) - 1105
508	patient room #173 (scic)
509	patient room #2211
510	patient room #274 (rehab)
511	patient room #278 (rehab)
512	patient room #3212
513	patient room #368 (rehab)
514	patient room #376 (rehab)
515	patient room #4111 in med-surgical
516	patient room #4210
517	patient room #4332b
518	patient room #476 (rehab)
519	patient room #512
520	patient room #5123
521	patient room #660
522	patient room #665
523	patient room #669

524 patient room #679
525 patient room #711
526 patient room #716
527 patient room #763
528 pcu patient room #617
529 pcu patient room #620
530 pediatrics advise nurse's area #123w
531 pediatrics icu patient room #769
532 pediatrics icu patient room #775
533 pediatrics icu unit
534 pediatrics lobby area #0113
535 pediatrics patient room #328
536 pediatrics pharmacy waiting area #0112
537 pediatrics waiting area #1
538 pediatrics waiting area #2 & 3
539 pediatrics waiting area #4
540 pharmacy (general) - 0302
541 pharmacy (sterile solutions) - 0303
542 physical therapy room (scic)
543 physical therapy room - c115
544 physicians office - 306
545 physicians office reception area - 302
546 planning room
547 plastic surgeon nurse's station #1187
548 platform stage
549 pre-labor triage
550 pre-op patient room #576
551 preschool classroom #11
552 preschool classroom #12/13
553 preschool classroom #14/15
554 preschool classroom #16/17
555 preschool classroom #8/9
556 president's office
557 principal's office
558 private office in foreman's area
559 produce
560 produce / cheese

DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

561	produce freezer
562	produce receiving area
563	produce section
564	produce storage
565	produce storage area
566	production control
567	production room
568	pulmonary function room
569	qc office
570	r.e. cubicle
571	r.n. office - 3562
572	r.s. cubicle
573	radiation treatment exam room
574	radiation treatment room #0115
575	radiology nurse's station
576	radiology waiting room
577	reading lab
578	receiving & chemical storage
579	receiving area
580	receiving offices
581	reception area
582	refrigerator access area
583	rehab #2 nurse's station
584	rehab #3 nurse's station
585	rehab #4 nurse's station
586	rehab conference room
587	rehab. day room
588	rehab. therapy room #2
589	rehab. therapy room #3
590	resource room
591	respiratory care staff break area - c022f
592	respite room #6711
593	room 1215c
594	room 1220
595	room 1223
596	room 1224
597	room 1228

598	room 1232
599	room 1235
600	room 1236
601	room 1238
602	room 1240
603	room 1243
604	room 1246
605	room 1248
606	room 1252
607	room 1254
608	room 1258
609	room 1262
610	room 1266
611	room 1270
612	room 1274
613	room 2-101
614	room 2-102
615	room 2-102a
616	room 2-103
617	room 2-104
618	room 2-108
619	room 2-108b
620	room 2-109
621	room 2-112
622	room 2-114
623	room 2-116
624	room 2-117
625	room 2-118
626	room 2-119
627	room 2-120
628	room 2-122
629	room 2-123
630	room 2-124a
631	room 2-126
632	room 2-128
633	room 2-129
634	room 2-130

DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

635	room 2-131a
636	room 2-131b
637	room 2-131c
638	room 2-133 (conference)
639	room 2-134
640	room 2-135
641	room 2-137 (copy)
642	room 2-141 (camera)
643	room 2-141a (dark rm.)
644	room 2-143 (photo lab)
645	room 2-148
646	room 2-150
647	room 2-151a
648	room 2-151c
649	room 2-201
650	room 2-202
651	room 2-205
652	room 2-206
653	room 2-207
654	room 2-208
655	room 2-210
656	room 2-212
657	room 2-213
658	room 2-213a
659	room 2-216
660	room 2-217
661	room 2-219
662	room 2-219a
663	room 2-220
664	room 2-221
665	room 2-222
666	room 2-223
667	room 2-226
668	room 2-226a
669	room 2-227
670	room 2-230
671	room 2-235 (file storage)

672	room 2-238 (conference)
673	room 2-239
674	room 2-242 (copy)
675	room 2-247
676	room 2-249
677	room 2-250
678	room 2-252 (conference)
679	room 2-253
680	room 2-255
681	room 2-256
682	room 2-257
683	room 3-101
684	room 3-102
685	room 3-103
686	room 3-106
687	room 3-107
688	room 3-108
689	room 3-109
690	room 3-110
691	room 3-111
692	room 3-113
693	room 3-114
694	room 3-115
695	room 3-116
696	room 3-116a
697	room 3-117
698	room 3-118
699	room 3-119
700	room 3-122
701	room 3-123
702	room 3-125
703	room 3-126
704	room 3-128
705	room 3-129
706	room 3-130
707	room 3-132
708	room 3-135 (coffee)

DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

709	room 3-136 (copy)
710	room 3-137a
711	room 3-137b
712	room 3-137c
713	room 3-138 (video conferencing)
714	room 3-139
715	room 3-139a
716	room 3-143
717	room 3-144
718	room 3-145
719	room 3-146
720	room 3-147
721	room 3-148 (resting)
722	room 3-148a (security)
723	room 3-201
724	room 3-203
725	room 3-204
726	room 3-205
727	room 3-206
728	room 3-208
729	room 3-209
730	room 3-211
731	room 3-212
732	room 3-213
733	room 3-213a
734	room 3-214
735	room 3-216
736	room 3-217
737	room 3-220
738	room 3-221
739	room 3-223
740	room 3-224
741	room 3-225
742	room 3-227
743	room 3-228
744	room 3-230
745	room 3-232

746	room 3-233
747	room 3-234
748	room 3-235
749	room 3-236 (conference)
750	room 3-237
751	room 3-240 (coffee)
752	room 3-241 (copy)
753	room 3-242
754	room 3-243
755	room 3-245
756	room 3-250
757	room 3-253 (work)
758	room 3-254 (conference)
759	room 320
760	room 322
761	room 324
762	room 327
763	room 330
764	room 331
765	room 336
766	room 342
767	room 343
768	room 345b
769	room 347
770	room 349
771	room 350
772	room 355
773	room 356a
774	room 359
775	room 362
776	room 364
777	room 367
778	room 368
779	room 372
780	room 373
781	room 388
782	room 4-101

DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

783	room 4-102
784	room 4-103
785	room 4-104
786	room 4-106
787	room 4-107
788	room 4-108
789	room 4-109
790	room 4-112
791	room 4-113
792	room 4-113a
793	room 4-114
794	room 4-115
795	room 4-116b
796	room 4-117
797	room 4-120
798	room 4-122
799	room 4-124
800	room 4-126
801	room 4-127
802	room 4-128
803	room 4-133 (conference)
804	room 4-134
805	room 4-135
806	room 4-139
807	room 4-140
808	room 4-141
809	room 4-145
810	room 4-148 (copy)
811	room 4-149 (file)
812	room 4-200
813	room 4-201
814	room 4-202
815	room 4-203
816	room 4-204
817	room 4-205
818	room 4-206
819	room 4-207

820	room 4-208
821	room 4-209
822	room 4-210
823	room 4-211
824	room 4-212
825	room 4-213
826	room 4-215
827	room 4-216
828	room 4-217
829	room 4-219
830	room 4-220
831	room 4-221
832	room 4-224
833	room 4-225
834	room 4-226
835	room 4-227
836	room 4-228
837	room 4-229
838	room 4-230
839	room 4-231
840	room 4-232
841	room 4-233
842	room 4-239
843	room 4-240 (conference)
844	room 4-243
845	room 4-244
846	room 4-246
847	room 4-247
848	room 4-249
849	room 4-251 (general work)
850	room 4-252
851	room 4-253
852	room 4-254
853	room 4-255
854	room 4-258 (coffee)
855	room 4-259
856	room 4-260

DOE EMF RAPID Engineering Project 3: "Environmental Surveys"

857	room 4-261
858	room 4-262
859	room 919
860	room 919d
861	room 920
862	room 922
863	room 924
864	room 927
865	room 929
866	room 930
867	room 932a
868	room 933
869	room 935
870	room 936a
871	room 939
872	room 940
873	room 943
874	room 944
875	room 946
876	room 951
877	room 956
878	room 958
879	room2-246
880	s.b. cubicle
881	s.g. cubicle
882	s.g. office
883	s.l. office
884	s.s.f. cubicle
885	s.w. cubicle
886	saucers
887	saws room
888	scicr day room #1104-2
889	secretaries area - admin. area
890	security office
891	shampoo
892	shipping / receiving
893	shipping area

894	shop
895	sicu patient room #2102
896	skilled nursing nurses station - c236
897	skilled nursing patient room - c217
898	skilled nursing staff work room - c235
899	small clinical engineering office - 2521
900	small kitchen
901	small parts machine shop
902	soda / candy
903	soft drinks / pet food
904	space planning staff offices - g001
905	spare office
906	special education
907	speech
908	spinal cord injury center - main lobby
909	spinal cord injury center nurse's station
910	staff break area - h0141
911	staff copy room - 311
912	staff lounge #745
913	staff utility/storage room
914	staffing office
915	stage
916	stock room
917	storage area
918	storage room
919	student lounge
920	supplies area
921	supply/storage room (in cardiology)
922	supply/work room #112
923	surg. recovery patient room #204
924	surg. recovery patient room #215
925	surgery waiting room - 2504
926	surgical icu nurse's station
927	t.m. office
928	t.p. cubicle
929	tcu patient room #613
930	teacher lounge

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931	teacher resource center/equip. storage
932	teacher's room
933	test & inspection room
934	third floor waiting room
935	tool crib
936	transitional care patient room #4109
937	transitional care patient room #4125
938	trauma exam room #7
939	treadmill room
940	treatment room #337w
941	treatment room #339w
942	treatment room #435w
943	treatment room #45w
944	ultrasound lab "b" #309c
945	ultrasound lab "c" #307c
946	ultrasound room #2
947	unassigned #1 cubicle
948	unassigned #2 cubicle
949	upper garage
950	v.f. office
951	vending machine
952	vending machine area
953	vice-principal's office
954	waiting area
955	waiting area in pediatrics
956	waiting room #571
957	walk-in freezer
958	welding
959	welding area
960	work room - copy room
961	work room - storage room
962	work room - work room
963	wound care center nurse's station
964	wound care center room #2-3
965	wound care center room #4
966	x-ray exam #6 controls room
967	x-ray exam room #10

968	x-ray exam room #5
969	x-ray exam room #6
970	x-ray exam room #9
971	x-ray office
972	x-ray processing room
973	x-ray room #10
974	x-ray room #5
975	x-ray room #7
976	x-ray room #8
977	x-ray room #9
978	x-ray specialist's room
979	x-ray staff work area
980	x-ray viewing room

2.2.4 **ATTRIBUTE: Floor number**

ATTRIBUTE-DESCRIPTION: Indicates the floor of the site building where the area is located.

Note that this value is not always consistent with the equivalent value associated with the AC/DC measurements. The floor numbers disagree in about half the cases where the value is available for the same area from both sources. It is not clear which is the more reliable value.

SIMPLE-DOMAIN: An integer, from -2 to 12

2.2.5 **ATTRIBUTE: Area surface**

ATTRIBUTE-DESCRIPTION: Indicates the approximate size of the area in square feet.

SIMPLE-DOMAIN: A positive real number, from 35 to 31200

2.2.6 **ATTRIBUTE: Main area source type**

ATTRIBUTE-DESCRIPTION: The type of source of magnetic field that is judged most responsible for the magnetic field in the area when the local sources are neglected.

CODESET-DOMAIN:

- 1 Transmission Line
- 2 Distribution Line
- 3 Power Supply Cable to Building
- 4 Main Distribution Panel
- 5 Net Current in Electrical Conduits
- 6 Electrical Panel
- 7 Air Conditioners
- 8 Fluorescent Lights
- 9 Multiple Way Switch
- 10 Transformer
- 11 Office Equipment

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- 12 Power Cable Trays
- 13 Source Unknown (Low Field)
- 14 Source Unknown
- 15 Underground Distribution
- 16 Appliances
- 17 Source Unknown (Background Field)
- 18 X-Ray or Lab Equipment
- 19 Headwall Panel
- 20 Area source unknown (Masked by Point Sources)
- 21 Vending Machines
- 22 Power Cable Shaft
- 23 Control Panel
- 24 Power Supply Cables
- 25 Merchandising Equipment
- 26 Milling Equipment (Lathe, Mill, Drill press, Etc..)
- 27 Welding Equipment and Cables

2.2.7 ATTRIBUTE: Percent of area surveyed

ATTRIBUTE-DESCRIPTION: Indicates the percentage of the area that was accessible to the Linda wheel, and that was measured by it.

SIMPLE-DOMAIN: A positive real number, from 62.5 to 100

2.2.8 ATTRIBUTE: Number of measurements

ATTRIBUTE-DESCRIPTION: Indicates the number of magnetic field measurement made in the time series.

SIMPLE-DOMAIN: A positive integer, from 6 to 874 (also one unexplained anomalous value of 0.9)

2.2.9 ATTRIBUTE: Mean

ATTRIBUTE-DESCRIPTION: The arithmetic average of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 99.93 mG

2.2.10 ATTRIBUTE: Standard deviation

ATTRIBUTE-DESCRIPTION: The standard deviation of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 388.64 mG

2.2.11 ATTRIBUTE: Geometric Mean

ATTRIBUTE-DESCRIPTION: The geometric mean of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.008 to 14.162 mG

2.2.12 ATTRIBUTE: Geometric standard deviation

ATTRIBUTE-DESCRIPTION: The geometric standard deviation of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.1468 to 23.443 mG

2.2.13 ATTRIBUTE: Minimum

ATTRIBUTE-DESCRIPTION: The minimum of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 6.86 mG

2.2.14 ATTRIBUTE: 1st percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 1 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 6.856 mG

2.2.15 ATTRIBUTE: 5th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 5 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 7.031 mG

2.2.16 ATTRIBUTE: 10th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 10 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 7.556 mG

2.2.17 ATTRIBUTE: 25th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 25 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 8.894 mG

2.2.18 ATTRIBUTE: 50th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 50 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 12.831 mG

2.2.19 ATTRIBUTE: 75th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 75 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 20.494 mG

2.2.20 ATTRIBUTE: 90th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 90 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.006 to 65.9 mG

2.2.21 ATTRIBUTE: 95th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 95 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.106 to 616 mG

2.2.22 ATTRIBUTE: 99th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 99 percent of the measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.1056 to 1928 mG

2.2.23 ATTRIBUTE: Maximum

ATTRIBUTE-DESCRIPTION: The maximum of the resultant magnetic field measurements in the area mapping measurements.

SIMPLE-DOMAIN: A positive real number, from 0.11 to 2228.8 mG

2.3 RELATIONSHIP: Site-Area

RELATIONSHIP-DESCRIPTION: Relates the Site and Area entities. Each site is associated with several areas.

RELATIONSHIP-FROM: Site

RELATIONSHIP-TO: Area

CARDINALITY: One to many

2.4 ENTITY: Temporal measurements

ENTITY-DESCRIPTION: In some areas, an EMDEX II meter was placed in a secure location away from exposure points. The meter recorded a time-series of resultant rms magnetic field at a sampling interval of 3 seconds for an extended period of time. This entity summarizes the magnetic field during the period of deployment.

2.4.1 ATTRIBUTE: Days

ATTRIBUTE-DESCRIPTION: Indicates whether the EMDEX II was deployed overnight for the temporal measurements

CODESET-DOMAIN:

- 1 The EMDEX II was retrieved on the same calendar day that it was deployed.
- 2 The EMDEX II was retrieved on the calendar day following the day it was deployed.

2.4.2 ATTRIBUTE: Start time

ATTRIBUTE-DESCRIPTION: Indicates the time of day that the instrument was deployed.

SIMPLE-DOMAIN: a positive integer, equal to (hour-of-day * 100) + minute-of-hour (i.e., HHMM format)

2.4.3 ATTRIBUTE: Stop time

ATTRIBUTE-DESCRIPTION: Indicates the time of day that the instrument was retrieved.

SIMPLE-DOMAIN: a positive integer, equal to (hour-of-day * 100) + minute-of-hour (i.e., HHMM format)

2.4.4 ATTRIBUTE: Number of measurements

ATTRIBUTE-DESCRIPTION: Indicates the number of magnetic field measurement made in the time series.

SIMPLE-DOMAIN: A positive integer, from 3690 to 36390

2.4.5 ATTRIBUTE: Mean

ATTRIBUTE-DESCRIPTION: The arithmetic average of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.23 to 32.43 mG

2.4.6 ATTRIBUTE: Standard deviation

ATTRIBUTE-DESCRIPTION: The standard deviation of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 4.11 mG

2.4.7 ATTRIBUTE: Geometric Mean

ATTRIBUTE-DESCRIPTION: The geometric mean of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.226 to 32.425 mG

2.4.8 ATTRIBUTE: Geometric standard deviation

ATTRIBUTE-DESCRIPTION: The geometric standard deviation of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.1166 to 2.608 mG

2.4.9 ATTRIBUTE: Minimum

ATTRIBUTE-DESCRIPTION: The minimum of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 29.5 mG

2.4.10 ATTRIBUTE: 1st percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 1 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.106 to 31.1 mG

2.4.11 ATTRIBUTE: 5th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 5 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.144 to 31.5 mG

2.4.12 ATTRIBUTE: 10th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 10 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.144 to 31.7 mG

2.4.13 ATTRIBUTE: 25th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 25 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.181 to 31.9 mG

2.4.14 ATTRIBUTE: 50th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 50 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.231 to 32.5 mG

2.4.15 ATTRIBUTE: 75th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 75 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.231 to 32.7 mG

2.4.16 ATTRIBUTE: 90th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 90 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.231 to 33.1 mG

2.4.17 ATTRIBUTE: 95th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 95 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.231 to 33.5 mG

2.4.18 ATTRIBUTE: 99th percentile

ATTRIBUTE-DESCRIPTION: The resultant magnetic field level not exceeded by 99 percent of the measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.231 to 33.9 mG

2.4.19 ATTRIBUTE: Maximum

ATTRIBUTE-DESCRIPTION: The maximum of the resultant magnetic field measurements in the time-series.

SIMPLE-DOMAIN: A positive real number, from 0.23 to 83.7 mG

2.5 RELATIONSHIP: Area-Temporal

RELATIONSHIP-DESCRIPTION: Relates the Area and Temporal measurements entities. In various selected areas, temporal measurements were made. On occasion, two temporal measurements were made in the same area.

RELATIONSHIP-FROM: Area

RELATIONSHIP-TO: Temporal measurement

CARDINALITY: One to many

2.6 ENTITY: AC/DC measurements

ENTITY-DESCRIPTION: A combined AC and DC magnetic field wave capture measurement was made at up to five different points per area. The magnetic fields were measured using a Wavecoder instrument.

The entity contains attributes which characterize the magnetic field relative to an orthogonal spatial coordinate system. In that system, the x-axis is parallel to the DC magnetic field, while the y and z axes are perpendicular to the DC magnetic field.

2.6.1 ATTRIBUTE: Record number

ATTRIBUTE-DESCRIPTION: An identifier, unique within the site.

SIMPLE-DOMAIN: A positive integer, from 1 to 581

2.6.2 ATTRIBUTE: Floor number

ATTRIBUTE-DESCRIPTION: Indicates the floor number associated with the area of the measurement.

Note that the floor numbers associated with the AC/DC measurements are not always consistent with the floor numbers which originate with the area mapping measurements (see the Area entity). The floor numbers disagree in about half the cases where the value is available for the same area from both sources. It is not clear which is the more reliable value.

SIMPLE-DOMAIN: An integer, from 0 to 7

2.6.3 ATTRIBUTE: DC magnetic field

ATTRIBUTE-DESCRIPTION: The measured DC magnetic field

SIMPLE-DOMAIN: A positive real number, from 11 to 869 mG

2.6.4 ATTRIBUTE: AC 60 Hz x-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 60 Hz field component along the x-axis.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 13.05 mG

2.6.5 ATTRIBUTE: AC 60 Hz x-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 60 Hz field component along the x-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.6 ATTRIBUTE: AC 60 Hz y-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 60 Hz field component along the y-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 10.64 mG

2.6.7 ATTRIBUTE: AC 60 Hz y-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 60 Hz field component along the y-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.8 ATTRIBUTE: AC 60 Hz z-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 60 Hz field component along the z-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 12.53 mG

2.6.9 ATTRIBUTE: AC 60 Hz z-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 60 Hz field component along the z-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.10 ATTRIBUTE: AC 60 Hz maximum magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 60 Hz field component along the direction of the major axis of the field ellipse.

SIMPLE-DOMAIN: A positive real number, from 0.02 to 15.08 mG

2.6.11 ATTRIBUTE: AC 60 Hz maximum angle

ATTRIBUTE-DESCRIPTION: Indicates the spatial angle between the major axis of the 60 Hz field ellipse and the direction of the DC field.

SIMPLE-DOMAIN: A positive real number, from 1.4 to 90 degrees

2.6.12 ATTRIBUTE: AC 60 Hz perpendicular magnitude

ATTRIBUTE-DESCRIPTION: Indicates the maximum AC 60 Hz field component perpendicular to the DC field.

SIMPLE-DOMAIN: A positive real value, from 0.01 to 13.33 mG

2.6.13 ATTRIBUTE: AC 60 Hz polarization

ATTRIBUTE-DESCRIPTION: Indicates the ratio between the semi-minor and semi-major axes of the AC 60 Hz field ellipse.

SIMPLE-DOMAIN: A positive real number, from 0.41 to 98.41 percent

2.6.14 ATTRIBUTE: AC 180 Hz x-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 180 Hz field component along the x-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 3.08 mG

2.6.15 ATTRIBUTE: AC 180 Hz x-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 180 Hz field component along the x-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.16 ATTRIBUTE: AC 180 Hz y-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 180 Hz field component along the y-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 4.32 mG

2.6.17 ATTRIBUTE: AC 180 Hz y-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 180 Hz field component along the y-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.18 ATTRIBUTE: AC 180 Hz z-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 180 Hz field component along the z-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 5.1 mG

2.6.19 ATTRIBUTE: AC 180 Hz z-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 180 Hz field component along the z-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.20 ATTRIBUTE: AC 180 Hz maximum magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 180 Hz field component along the direction of the major axis of the field ellipse.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 6.6 mG

2.6.21 ATTRIBUTE: AC 180 Hz maximum angle

ATTRIBUTE-DESCRIPTION: Indicates the spatial angle between the major axis of the 180 Hz field ellipse and the direction of the DC field.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 90 degrees

2.6.22 ATTRIBUTE: AC 180 Hz perpendicular magnitude

ATTRIBUTE-DESCRIPTION: Indicates the maximum AC 180 Hz field component perpendicular to the DC field.

SIMPLE-DOMAIN: A non-negative real value, from 0 to 5.85 mG

2.6.23 ATTRIBUTE: AC 180 Hz polarization

ATTRIBUTE-DESCRIPTION: Indicates the ratio between the semi-minor and semi-major axes of the AC 180 Hz field ellipse.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 94.38 percent

2.6.24 ATTRIBUTE: AC 300 Hz x-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 300 Hz field component along the x-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 0.8 mG

2.6.25 ATTRIBUTE: AC 300 Hz x-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 300 Hz field component along the x-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.26 ATTRIBUTE: AC 300 Hz y-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 300 Hz field component along the y-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 1.26 mG

2.6.27 ATTRIBUTE: AC 300 Hz y-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 300 Hz field component along the y-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.28 ATTRIBUTE: AC 300 Hz z-axis magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 300 Hz field component along the z-axis.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 0.71 mG

2.6.29 ATTRIBUTE: AC 300 Hz z-axis phase angle

ATTRIBUTE-DESCRIPTION: Indicates the phase angle of the AC 300 Hz field component along the z-axis. The reference for this angle is the instant when the instrument is triggered.

SIMPLE-DOMAIN: A real number, from -180 to 180 degrees

2.6.30 ATTRIBUTE: AC 300 Hz maximum magnitude

ATTRIBUTE-DESCRIPTION: Indicates the rms value of the AC 300 Hz field component along the direction of the major axis of the field ellipse.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 1.61 mG

2.6.31 ATTRIBUTE: AC 300 Hz maximum angle

ATTRIBUTE-DESCRIPTION: Indicates the spatial angle between the major axis of the 300 Hz field ellipse and the direction of the DC field.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 90 degrees

2.6.32 ATTRIBUTE: AC 300 Hz perpendicular magnitude

ATTRIBUTE-DESCRIPTION: Indicates the maximum AC 300 Hz field component perpendicular to the DC field.

SIMPLE-DOMAIN: A non-negative real value, from 0 to 1.43 mG

2.6.33 ATTRIBUTE: AC 300 Hz polarization

ATTRIBUTE-DESCRIPTION: Indicates the ratio between the semi-minor and semi-major axes of the AC 300 Hz field ellipse.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 97.48 percent

2.6.34 ATTRIBUTE: Total harmonic distortion

ATTRIBUTE-DESCRIPTION: Indicates the total harmonic distortion for the waveform.

SIMPLE-DOMAIN: A positive real number, from 0.02 to 36.33 percent

2.6.35 ATTRIBUTE: Largest other harmonic, frequency

ATTRIBUTE-DESCRIPTION: Indicates the frequency of the harmonic with the greatest magnitude, other than 180 and 300 Hz, if greater than 0.05 mG.

SIMPLE-DOMAIN: A positive real number, from 360 to 2820 Hz

2.6.36 ATTRIBUTE: Largest other harmonic, magnitude

ATTRIBUTE-DESCRIPTION: Indicates the magnitude of the harmonic with the greatest magnitude, other than 180 and 300 Hz, if greater than 0.05 mG.

SIMPLE-DOMAIN: A positive real number, from 0.05 to 28.94 mG

2.6.37 ATTRIBUTE: Ratio of 30 and 60 Hz magnitudes

ATTRIBUTE-DESCRIPTION: Indicates the ratio between the rms magnetic field magnitudes at the 30 Hz and 60 Hz frequencies.

SIMPLE-DOMAIN: A positive real number, from 0.01 to 2.11

2.7 RELATIONSHIP: Area-AC/DC

RELATIONSHIP-DESCRIPTION: Relates the Area and AC/DC measurements entities. In various selected areas, AC/DC measurements were made. Up to five AC/DC measurements were made in the same area.

RELATIONSHIP-FROM: Area

RELATIONSHIP-TO: AC/DC measurements

CARDINALITY: One to many

2.8 ENTITY: Area activity

ENTITY-DESCRIPTION: This entity contains information about people and their mobility within an area.

2.8.1 ATTRIBUTE: Person type

ATTRIBUTE-DESCRIPTION: Indicates the type of person who typically occupies the area.

CODESET-DOMAIN:

- 1 Clerk / Cashier
- 2 Butcher / Assistant
- 3 Office Staff
- 4 Customer
- 5 Patient
- 6 Staff
- 7 Visitor
- 8 Maintenance Staff
- 9 Machinist / Fitter
- 10 Welder
- 11 Engineer / Inspector
- 12 Assembler / Shipper / Maintenance Staff
- 13 Office Staff
- 14 General Staff / Secretary / Support Staff
- 15 Professionals (Engineers, Managers, etc..)
- 16 Maintenance Staff
- 17 Visitors
- 18 Teacher
- 19 Student
- 20 Custodian
- 21 Administrative Staff
- 22 Volunteer Parent

2.8.2 ATTRIBUTE: Minimum number of people

ATTRIBUTE-DESCRIPTION: Describes the minimum number of people with the indicated person type who typically occupy the area.

SIMPLE-DOMAIN: A non-negative integer, from 0 to 1000

2.8.3 ATTRIBUTE: Maximum number of people

ATTRIBUTE-DESCRIPTION: Describes the maximum number of people with the indicated person type who typically occupy the area.

SIMPLE-DOMAIN: A positive integer, from 1 to 1500

2.8.4 **ATTRIBUTE: Minimum time**

ATTRIBUTE-DESCRIPTION: Describes the minimum amount of time spent by a person of the indicated type in the area during a day.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 1440 minutes

2.8.5 **ATTRIBUTE: Maximum time**

ATTRIBUTE-DESCRIPTION: Describes the maximum amount of time spent by a person of the indicated type in the area during a day. Note that some of these values exceed the length of a 24-hour day.

SIMPLE-DOMAIN: A positive real number, from 0.2 to 3600 minutes

2.8.6 **ATTRIBUTE: Minimum mobility**

ATTRIBUTE-DESCRIPTION: Describes the minimum percentage of time in the area that a person of the indicated type that they are moving around.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 100 percent

2.8.7 **ATTRIBUTE: Maximum mobility**

ATTRIBUTE-DESCRIPTION: Describes the maximum percentage of time in the area that a person of the indicated type that they are moving around. Note that one value for this attribute exceeds 100 percent.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 900 percent

2.9 **RELATIONSHIP: Area-Area activity**

RELATIONSHIP-DESCRIPTION: Relates the Area and Area activity entities. Up to five person types are characterized for each area.

RELATIONSHIP-FROM: Area

RELATIONSHIP-TO: Area activity

CARDINALITY: One to many

2.10 **ENTITY: Exposure point**

ENTITY-DESCRIPTION: This entity contains information about a point of exposure within the area. An exposure point is a location where persons engage in fixed, site-specific activities, and where a local source creates a significant increase in the area field.

2.10.1 **ATTRIBUTE: Source identifier**

ATTRIBUTE-DESCRIPTION: Distinguishes the exposure point and source within the site. Some exposure points/sources were measured without supplying the source identifier.

SIMPLE-DOMAIN: A positive integer, from 1 to 368

2.10.2 **ATTRIBUTE: Characterization method**

ATTRIBUTE-DESCRIPTION: Indicates the method by which the source was characterized.

CODESET-DOMAIN:

- 1 The source was characterized with the Wavecorder at three measurement points and using a reference signal. These measurements were used to fit a dipole model, from which calculated fields at various locations could be computed.
- 2 The source was characterized with the Wavecorder at three measurement points but without using a reference signal. These measurements were

inadequate to fit a dipole model, so just the three measurement locations are reported for the source.

- 3 The source was characterized with an EMDEX Snap instrument at several measurement points.
- 4 The source was not actually measured, but is instead characterized by measurements of a similar source.
- 5 This value appears for three sources, but its meaning was not documented.

2.10.3 ATTRIBUTE: Dataset number

ATTRIBUTE-DESCRIPTION: A value unique to the exposure point/source with characterization method and site. The environment, site number, characterization method and dataset number provides a unique key to the measurement. When the source characterization method is four, the measurements referred to may be found by substituting a one.

SIMPLE-DOMAIN: A non-negative integer, from 0 to 83

2.10.4 ATTRIBUTE: Source type

ATTRIBUTE-DESCRIPTION: Indicates the class of the source associated with the exposure point.

CODESET-DOMAIN:

- 1 Computer Monitor
- 2 Computer Monitor
- 3 Computer Monitor
- 4 Copier
- 5 Clock
- 6 Clock Radio
- 7 Plug-in Transformer
- 8 Fluorescent Desk Light
- 9 Fluorescent Light (Ceiling)
- 10 Typewriter
- 11 TV
- 12 Overhead Projector
- 13 Media Board
- 14 Adding Machine/Cash Register/Check Out Counter
- 15 Toaster Oven
- 16 Range
- 17 Portable Space Heater
- 18 Portable Fan
- 19 Scanner
- 20 Aquarium Pump
- 21 Incubator
- 22 Vending Machine

23	Food Warmer
24	Refrigerator
25	Dish Washer
26	Light Box
27	Microwave Oven
28	Heating Unit (Fixed)
29	Dry Type Transformer
30	Sewing Machine
31	Coke Machine
32	Ditto Machine
33	Laboratory Equipment
34	Coffee Machine
35	Tape Player
36	Laminating Machine
37	Tape Duplicator
38	Switchboard/Control Panel
39	Electrical Panel
40	Distribution Panel
41	Printer
42	Computer Camera
43	Enlarger
44	Charger
45	Fax Machine
46	Video Projector
47	Mainframe
48	Uninterruptable Power Supply
49	Computer
50	Security Equipment
51	Slide Projector
52	Micro Fiche Reader
53	Pencil Sharpener
54	Timer Switch
55	Animated Figurines
56	DictaPhone
57	CD-ROM
58	Headwall Panel
59	Monitoring Equipment

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60	Motorized Bed
61	Air Conditioner
62	Milling Machine
63	Saw
64	Lathe
65	Grinder
66	Precision Equipment
67	Drill Press
68	Welder
69	Belt Sander
70	Air Compressor
71	Pipe Threader
114	Electrical Panel
115	Ice Machine
116	Adding Machine
117	Slicing Machine
118	Regulator
119	Large Oven
120	Portable Heater
121	Electronic Scale
122	Heat Sealing Machine
123	Water Fountain

2.10.5 ATTRIBUTE: Source name

ATTRIBUTE-DESCRIPTION: For sources characterized by method 1, a source name is available.

CODESET-DOMAIN:

1	11 kw motor
2	20 hp motor
3	a/c
4	adding machine
5	air compressor
6	alarm clock
7	analysis machine
8	aquarium
9	aquarium pump
10	audiometer
11	automatic tester
12	bacti cinerator

13	battery charger
14	battery chargers
15	beckman gamma
16	belt sander
17	bench grinder
18	blood gas system
19	blood gas systemn
20	bone cutter
21	brain x-ray
22	camera
23	cardiology test equipment
24	cardio moniter
25	casg register
26	cash register
27	cassette player
28	cassette radio
29	cd-rom changer
30	cell counting machine
31	cell dyn
32	cell washer
33	centifuge
34	centrifuge
35	check out counter(front)
36	check out counter(side)
37	chemical mixing machine
38	chemical warmer
39	clock
40	clock radio
41	cloride analyzer
42	co-oximer
43	co2 test equipment
44	coagulation timer
45	coffee maker
46	coffee pots
47	coke machine
48	color tv
49	computer

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50	converter
51	copier
52	copier (idle)
53	copy machine
54	co oximeter
55	ct scanner
56	dayton bench grinder
57	dictaphone
58	digital height gage
59	display counter
60	drill press
61	drinking fountain
62	dual spindle machining center
63	dyna camera
64	ecg monitor
65	ecg pagewriter
66	eeg machine
67	electrical panel
68	electric saw
69	electrolyte analyzer
70	electronic balance
71	electronic scale
72	elevator
73	endoscopy procedures cart
74	engine lathe
75	fan
76	fax machine
77	fibrintimer
78	fibrintiner
79	floor source
80	fluorescent light
81	fluorescent lights
82	food display
83	food refrigeration cart
84	food warmer
85	freezer
86	gas chromatograph

87	gas chromatograph
88	grinder
89	headboard light
90	headwall
91	headwall/monitors
92	heat sealing machine
93	high speed machining center
94	high speed machining center
95	honing machine
96	hp pagewriter
97	hydrocollator
98	imaging system
99	immunoassay analyzer
100	incubator
101	infant warmer
102	infusion pump
103	iris touchscreen monitor
104	labeling machine
105	lab freezer
106	laminating machine
107	lathe
108	lathe motor
109	light
110	lights
111	light box
112	machining center
113	machining center
114	meat slicer
115	medical spectrometer
116	micro-fiche
117	microplate auto reader
118	microscope
119	microwave
120	micro scanner
121	milling/cnc machine
122	milling machine (off)
123	milling machine (on)

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124	moniter
125	monitor
126	monitoring equipment
127	net current
128	ohio mill motor
129	oh lighting system
130	oh projector
131	oh projector
132	optical probe instrument
133	oven
134	parafin processor
135	patient "headwall"
136	pencil sharpener
137	pencil sharpener
138	pipettor calibration system
139	pipe threader
140	platelet incubator
141	plug in transformer
142	plug transformer
143	portable radio
144	postage by phone
145	postage scale
146	precision measuring instr.
147	printer
148	pulse oximer
149	pyxix medistation
150	radiology linear acc.
151	radio charger
152	radio recharger
153	range
154	refrigerated centrifuge
155	refrigeration unit
156	refrigerator
157	register
158	register front
159	register side
160	regulator

161	robodrill
162	saw
163	scanner
164	security camera
165	security gate
166	serology analysis machine
167	sewing machine
168	slide projector
169	slide stainer
170	smoke alarm conduit
171	soda machine
172	sonograph
173	specimen freezer
174	specimen tester
175	sterile chamber workstation
176	sterile guard
177	surface grinder (off)
178	surface grinder (on)
179	surge suppressor
180	table lamp
181	tape player
182	tdx flx
183	tdx flx machine
184	telecopier
185	test tube rotator
186	timer
187	timerr
188	time stamp machine
189	transformer
190	treadmill
191	turning center
192	tv
193	typewrite
194	typewriter
195	ultrasound machine
196	univent
197	unknown

198	unknown source
199	ups
200	vending machine
201	vital signs monitor
202	wall source
203	wavelength analyzer
204	welder power supply
205	x-ray machine
206	x-ray machine ps
207	x-ray power supply
208	x-ray processing machine
209	x-ray viewer
210	xray machine control panel

2.10.6 ATTRIBUTE: Activity zone minimum distance

ATTRIBUTE-DESCRIPTION: The minimum distance between the exposure point source and persons during their activities at the exposure point.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 15 feet

2.10.7 ATTRIBUTE: Activity zone maximum distance

ATTRIBUTE-DESCRIPTION: The maximum distance between the exposure point source and persons during their activities at the exposure point.

SIMPLE-DOMAIN: A positive real number, from 1 to 25 feet

2.11 RELATIONSHIP: Area-Exposure point

RELATIONSHIP-DESCRIPTION: Relates the Area and Exposure point entities. Each area may contain more than one exposure point.

RELATIONSHIP-FROM: Area

RELATIONSHIP-TO: Exposure point

CARDINALITY: One to many

2.12 ENTITY: Exposure point activity

ENTITY-DESCRIPTION: This entity contains information about people and their activity near the exposure point.

2.12.1 ATTRIBUTE: Person type

ATTRIBUTE-DESCRIPTION: Indicates the type of person who is typically near an exposure point/source.

CODESET-DOMAIN:

1	Clerk / Cashier
2	Butcher / Assistant
3	Office Staff
4	Customer
5	Patient
6	Staff
7	Visitor

8	Maintenance Staff
9	Machinist / Fitter
10	Welder
11	Engineer / Inspector
12	Assembler / Shipper / Maintenance Staff
13	Office Staff
14	General Staff / Secretary / Support Staff
15	Professionals (Engineers, Managers, etc..)
16	Maintenance Staff
17	Visitors
18	Teacher
19	Student
20	Custodian
21	Administrative Staff
22	Volunteer Parent

2.12.2 ATTRIBUTE: Minimum number of people

ATTRIBUTE-DESCRIPTION: Describes the minimum number of people with the indicated person type who are typically near the exposure point/source.

SIMPLE-DOMAIN: A non-negative integer, from 0 to 1000

2.12.3 ATTRIBUTE: Maximum number of people

ATTRIBUTE-DESCRIPTION: Describes the maximum number of people with the indicated person type who are typically near the exposure point/source.

SIMPLE-DOMAIN: A positive integer, from 1 to 1500

2.12.4 ATTRIBUTE: Minimum time

ATTRIBUTE-DESCRIPTION: Describes the minimum amount of time spent by a person of the indicated type near the exposure point/source.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 1380 minutes

2.12.5 ATTRIBUTE: Maximum time

ATTRIBUTE-DESCRIPTION: Describes the maximum amount of time spent by a person of the indicated type near the exposure point/source. Note that some of these values exceed the length of a 24-hour day.

SIMPLE-DOMAIN: A positive real number, from 0 to 3360 minutes

2.13 RELATIONSHIP: Exposure point-Exposure point activity

RELATIONSHIP-DESCRIPTION: Relates the Exposure point and Exposure point activity entities. There is one activity record for each person type near the exposure point.

RELATIONSHIP-FROM: Exposure point

RELATIONSHIP-TO: Exposure point activity

CARDINALITY: One to many

2.14 ENTITY: Exposure point measurement

ENTITY-DESCRIPTION: This entity contains the information about the magnetic field at various distances from the exposure point source.

2.14.1 ATTRIBUTE: Distance

ATTRIBUTE-DESCRIPTION: Indicates the distance at which the magnetic field is characterized.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 6 feet

2.14.2 **ATTRIBUTE: Magnetic field**

ATTRIBUTE-DESCRIPTION: For characterization methods 1 and 2, this value represents the 60 Hz rms resultant magnetic field. For characterization method 1, it is a value computed from the dipole model constructed from the three measurements. For characterization method 2, it is computed from the three actual measurements. For characterization method 3, it is the 40 to 1000 Hz broadband magnetic field as measured by the EMDEX Snap.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 245,786.77 mG

2.15 **RELATIONSHIP: Exposure point-Exposure point measurement**

RELATIONSHIP-DESCRIPTION: Relates the Exposure point and Exposure point measurement entities. For characterization method 1, there are 13 measurements computed for each exposure point. For characterization methods 2 and 3, there are up to three measurements for each exposure point.

RELATIONSHIP-FROM: Exposure point

RELATIONSHIP-TO: Exposure point measurement

CARDINALITY: One to many

2.16 **ENTITY: Dipole summary**

ENTITY-DESCRIPTION: This entity characterizes the dipole model fitted during characterization method 1.

The entity contains attributes which characterize the source relative to an orthogonal spatial coordinate system. In the right-handed coordinate system, the x-axis is perpendicular to the reference face of the source, directed into the source. The y-axis is horizontal and directed from left to right facing the source, and the z-axis is vertical and directed downward.

2.16.1 **ATTRIBUTE: Center coordinate, x-axis**

ATTRIBUTE-DESCRIPTION: Indicates the location of the modeled dipole in the x direction, relative to the origin of the coordinate system.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 0.6 meters.

2.16.2 **ATTRIBUTE: Center coordinate, y-axis**

ATTRIBUTE-DESCRIPTION: Indicates the location of the modeled dipole in the y direction, relative to the origin of the coordinate system.

SIMPLE-DOMAIN: A real number, from -0.3 to 0.3 meters.

2.16.3 **ATTRIBUTE: Center coordinate, z-axis**

ATTRIBUTE-DESCRIPTION: Indicates the location of the modeled dipole in the z direction, relative to the origin of the coordinate system.

SIMPLE-DOMAIN: A real number, from -0.3 to 0.3 meters.

2.16.4 **ATTRIBUTE: Dipole resultant, 60 Hz**

ATTRIBUTE-DESCRIPTION: Indicates the strength of the modeled dipole resultant at 60 Hz.

SIMPLE-DOMAIN: A positive real number, from 0.0019 to 51.9 Am²

2.16.5 **ATTRIBUTE: Dipole error, 60 Hz**

ATTRIBUTE-DESCRIPTION: Error of modeled dipole. The original researchers do not document this value clearly, but it appears that it is a percentage value relative to the measured fields.

SIMPLE-DOMAIN: A positive real number, from 0.08 to 14.2

2.16.6 ATTRIBUTE: Dipole 60 Hz, real component, x-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 60 Hz dipole along the x-axis.

SIMPLE-DOMAIN: A real number, from -5.54 to 13.37 Am²

2.16.7 ATTRIBUTE: Dipole 60 Hz, imaginary component, x-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 60 Hz dipole along the x-axis.

SIMPLE-DOMAIN: A real number, from -2.81 to 6.5 Am²

2.16.8 ATTRIBUTE: Dipole 60 Hz, real component, y-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 60 Hz dipole along the y-axis.

SIMPLE-DOMAIN: A real number, from -34.67 to 6.85 Am²

2.16.9 ATTRIBUTE: Dipole 60 Hz, imaginary component, y-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 60 Hz dipole along the y-axis.

SIMPLE-DOMAIN: A real number, from -21.62 to 8.93 Am²

2.16.10 ATTRIBUTE: Dipole 60 Hz, real component, z-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 60 Hz dipole along the z-axis.

SIMPLE-DOMAIN: A real number, from -4.67 to 28.94 Am²

2.16.11 ATTRIBUTE: Dipole 60 Hz, imaginary component, z-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 60 Hz dipole along the z-axis.

SIMPLE-DOMAIN: A real number, from -6.84 to 9.2 Am²

2.16.12 ATTRIBUTE: Dipole resultant, 180 Hz

ATTRIBUTE-DESCRIPTION: Indicates the strength of the modeled dipole resultant at 180 Hz.

SIMPLE-DOMAIN: A positive real number, from 0.00101 to 15.3 Am²

2.16.13 ATTRIBUTE: Dipole error, 180 Hz

ATTRIBUTE-DESCRIPTION: Error of modeled dipole. The original researchers do not document this value clearly, but it appears that it is a percentage value relative to the measured fields.

SIMPLE-DOMAIN: A positive real number, from 0.42 to 9.22

2.16.14 ATTRIBUTE: Dipole 180 Hz, real component, x-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 180 Hz dipole along the x-axis.

SIMPLE-DOMAIN: A real number, from -1.63 to 0.23 Am²

2.16.15 ATTRIBUTE: Dipole 180 Hz, imaginary component, x-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 180 Hz dipole along the x-axis.

SIMPLE-DOMAIN: A real number, from -1.55 to 6.47 Am²

2.16.16 ATTRIBUTE: Dipole 180 Hz, real component, y-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 180 Hz dipole along the y-axis.

SIMPLE-DOMAIN: A real number, from -2.58 to 1.99 Am²

2.16.17 ATTRIBUTE: Dipole 180 Hz, imaginary component, y-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 180 Hz dipole along the y-axis.

SIMPLE-DOMAIN: A real number, from -4.12 to 13.52 Am²

2.16.18 ATTRIBUTE: Dipole 180 Hz, real component, z-axis

ATTRIBUTE-DESCRIPTION: Indicates the real component of the 180 Hz dipole along the z-axis.

SIMPLE-DOMAIN: A real number, from -0.54 to 0.55 Am²

2.16.19 ATTRIBUTE: Dipole 180 Hz, imaginary component, z-axis

ATTRIBUTE-DESCRIPTION: Indicates the imaginary component of the 180 Hz dipole along the z-axis.

SIMPLE-DOMAIN: A real number, from -0.26 to 0.58 Am²

2.16.20 ATTRIBUTE: Ratio of 30 to 60 Hz dipole moments at 6 inches

ATTRIBUTE-DESCRIPTION: The ratio of the 30 Hz dipole moment divided by the 60 Hz dipole moment at the first measurement point, 6 inches from the source. Values greater than 10 percent indicate the field is probably not periodic at 60 Hz.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 222.72 percent.

2.16.21 ATTRIBUTE: Ratio of 30 to 60 Hz dipole moments at 12 inches

ATTRIBUTE-DESCRIPTION: The ratio of the 30 Hz dipole moment divided by the 60 Hz dipole moment at the first measurement point, 12 inches from the source. Values greater than 10 percent indicate the field is probably not periodic at 60 Hz.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 257.47 percent.

2.16.22 ATTRIBUTE: Ratio of 30 to 60 Hz dipole moments at 24 inches

ATTRIBUTE-DESCRIPTION: The ratio of the 30 Hz dipole moment divided by the 60 Hz dipole moment at the first measurement point, 24 inches from the source. Values greater than 10 percent indicate the field is probably not periodic at 60 Hz.

SIMPLE-DOMAIN: A non-negative real number, from 0 to 221.29 percent.

2.17 RELATIONSHIP: Exposure point-Dipole summary

RELATIONSHIP-DESCRIPTION: Relates the Exposure point and Dipole summary entities. The dipole summary is present only for exposure points characterized using method 1.

RELATIONSHIP-FROM: Exposure point

RELATIONSHIP-TO: Dipole summary

CARDINALITY: One to one

3. Data Products

3.1 Distributors

3.1.1 Distributor

EMF Measurements Database

Russell S. Senior

T. Dan Bracken, Inc. 5415 S.E. Milwaukie Avenue, Suite 4 Portland, Oregon 97202

(503) 233-2181 (voice)

(503) 233-2665 (fax)

data@emf-data.org

3.2 Available Data Products

3.2.1 Data Product: Site data

DATA-PRODUCT-NAME: Site data

DATA-PRODUCT-DESCRIPTION: A file containing information specific to the site.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-site.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: There are no missing values in this data product

DATA-PRODUCT-USE-SIZE: 261 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 1340 bytes

NUMBER-OF-RECORDS: 20

NUMBER-OF-FIELDS: 5

MAXIMUM-RECORD-LENGTH: 14 bytes

FIELD-CONTENT:

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- 1 **Environment** (See section 2.1.1)
- 2 **Site number** (See section 2.1.2)
- 3 **Number of floors** (See section 2.1.3)
- 4 **Building material** (See section 2.1.4)
- 5 **Unperturbed geomagnetic field** (See section 2.1.5)

3.2.2 Data Product: Area data

DATA-PRODUCT-NAME: Area data

DATA-PRODUCT-DESCRIPTION: A file containing the information describing an area being characterized. The file includes a summary of the area mapping measurements made using the LINDA wheel.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-area.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 137,045 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 38,775 bytes

NUMBER-OF-RECORDS: 1182

NUMBER-OF-FIELDS: 25

MAXIMUM-RECORD-LENGTH: 121 bytes

FIELD-CONTENT:

- 1 **Environment** (See section 2.1.1)
- 2 **Site number** (See section 2.1.2)

3	Area number (See section 2.2.1)
4	Area type (See section 2.2.2)
5	Area name (See section 2.2.3)
6	Main area source type (See section 2.2.6)
7	Floor number (See section 2.2.4)
8	Area surface (See section 2.2.5)
9	Percent of area surveyed (See section 2.2.7)
10	Number of measurements (See section 2.2.8)
11	Mean (See section 2.2.9)
12	Standard deviation (See section 2.2.10)
13	Geometric Mean (See section 2.2.11)
14	Geometric standard deviation (See section 2.2.12)
15	Minimum (See section 2.2.13)
16	1st percentile (See section 2.2.14)
17	5th percentile (See section 2.2.15)
18	10th percentile (See section 2.2.16)
19	25th percentile (See section 2.2.17)
20	50th percentile (See section 2.2.18)
21	75th percentile (See section 2.2.19)
22	90th percentile (See section 2.2.20)
23	95th percentile (See section 2.2.21)
24	99th percentile (See section 2.2.22)
25	Maximum (See section 2.2.23)

3.2.3 Data Product: Temporal data

DATA-PRODUCT-NAME: Temporal data

DATA-PRODUCT-DESCRIPTION: A file containing a summary of the magnetic fields associated with a temporal field measurements in an area at the site.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-temporal.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 7541 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 3995 bytes

NUMBER-OF-RECORDS: 63

NUMBER-OF-FIELDS: 25

MAXIMUM-RECORD-LENGTH: 132 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*
- 3 **Area number** *(See section 2.2.1)*
- 4 **Area type** *(See section 2.2.2)*
- 5 **Area name** *(See section 2.2.3)*
- 6 **Main area source type** *(See section 2.2.6)*
- 7 **Days** *(See section 2.4.1)*
- 8 **Start time** *(See section 2.4.2)*
- 9 **Stop time** *(See section 2.4.3)*
- 10 **Number of measurements** *(See section 2.4.4)*
- 11 **Mean** *(See section 2.4.5)*
- 12 **Standard deviation** *(See section 2.4.6)*
- 13 **Geometric Mean** *(See section 2.4.7)*
- 14 **Geometric standard deviation** *(See section 2.4.8)*
- 15 **Minimum** *(See section 2.4.9)*
- 16 **1st percentile** *(See section 2.4.10)*
- 17 **5th percentile** *(See section 2.4.11)*
- 18 **10th percentile** *(See section 2.4.12)*
- 19 **25th percentile** *(See section 2.4.13)*
- 20 **50th percentile** *(See section 2.4.14)*
- 21 **75th percentile** *(See section 2.4.15)*

- 22 **90th percentile** *(See section 2.4.16)*
- 23 **95th percentile** *(See section 2.4.17)*
- 24 **99th percentile** *(See section 2.4.18)*
- 25 **Maximum** *(See section 2.4.19)*

3.2.4 Data Product: AC/DC file

DATA-PRODUCT-NAME: AC/DC file

DATA-PRODUCT-DESCRIPTION: A file containing a summary of the magnetic fields associated with AC/DC measurements in an area at the site.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-acdc.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 695,522 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 226,540 bytes

NUMBER-OF-RECORDS: 3366

NUMBER-OF-FIELDS: 43

MAXIMUM-RECORD-LENGTH: 223 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*
- 3 **Area number** *(See section 2.2.1)*
- 4 **Area type** *(See section 2.2.2)*

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- 5 **Area name** *(See section 2.2.3)*
- 6 **Main area source type** *(See section 2.2.6)*
- 7 **Record number** *(See section 2.6.1)*
- 8 **Floor number** *(See section 2.6.2)*
- 9 **DC magnetic field** *(See section 2.6.3)*
- 10 **AC 60 Hz x-axis magnitude** *(See section 2.6.4)*
- 11 **AC 60 Hz x-axis phase angle** *(See section 2.6.5)*
- 12 **AC 60 Hz y-axis magnitude** *(See section 2.6.6)*
- 13 **AC 60 Hz y-axis phase angle** *(See section 2.6.7)*
- 14 **AC 60 Hz z-axis magnitude** *(See section 2.6.8)*
- 15 **AC 60 Hz z-axis phase angle** *(See section 2.6.9)*
- 16 **AC 60 Hz maximum magnitude** *(See section 2.6.10)*
- 17 **AC 60 Hz maximum angle** *(See section 2.6.11)*
- 18 **AC 60 Hz perpendicular magnitude** *(See section 2.6.12)*
- 19 **AC 60 Hz polarization** *(See section 2.6.13)*
- 20 **AC 180 Hz x-axis magnitude** *(See section 2.6.14)*
- 21 **AC 180 Hz x-axis phase angle** *(See section 2.6.15)*
- 22 **AC 180 Hz y-axis magnitude** *(See section 2.6.16)*
- 23 **AC 180 Hz y-axis phase angle** *(See section 2.6.17)*
- 24 **AC 180 Hz z-axis magnitude** *(See section 2.6.18)*
- 25 **AC 180 Hz z-axis phase angle** *(See section 2.6.19)*
- 26 **AC 180 Hz maximum magnitude** *(See section 2.6.20)*
- 27 **AC 180 Hz maximum angle** *(See section 2.6.21)*
- 28 **AC 180 Hz perpendicular magnitude** *(See section 2.6.22)*
- 29 **AC 180 Hz polarization** *(See section 2.6.23)*
- 30 **AC 300 Hz x-axis magnitude** *(See section 2.6.24)*
- 31 **AC 300 Hz x-axis phase angle** *(See section 2.6.25)*
- 32 **AC 300 Hz y-axis magnitude** *(See section 2.6.26)*
- 33 **AC 300 Hz y-axis phase angle** *(See section 2.6.27)*
- 34 **AC 300 Hz z-axis magnitude** *(See section 2.6.28)*
- 35 **AC 300 Hz z-axis phase angle** *(See section 2.6.29)*
- 36 **AC 300 Hz maximum magnitude** *(See section 2.6.30)*
- 37 **AC 300 Hz maximum angle** *(See section 2.6.31)*
- 38 **AC 300 Hz perpendicular magnitude** *(See section 2.6.32)*
- 39 **AC 300 Hz polarization** *(See section 2.6.33)*
- 40 **Total harmonic distortion** *(See section 2.6.34)*
- 41 **Largest other harmonic, frequency** *(See section 2.6.35)*

42 **Largest other harmonic, magnitude** *(See section 2.6.36)*

43 **Ratio of 30 and 60 Hz magnitudes** *(See section 2.6.37)*

3.2.5 **Data Product: Area activity file**

DATA-PRODUCT-NAME: Area activity file

DATA-PRODUCT-DESCRIPTION: A file containing a summary of people activity within each area. Each record in this file represents a type of person within an area.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-aact.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 90,493 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 17,070 bytes

NUMBER-OF-RECORDS: 2625

NUMBER-OF-FIELDS: 12

MAXIMUM-RECORD-LENGTH: 41 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*
- 3 **Area number** *(See section 2.2.1)*
- 4 **Area type** *(See section 2.2.2)*
- 5 **Area name** *(See section 2.2.3)*
- 6 **Person type** *(See section 2.8.1)*

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- 7 **Minimum number of people** *(See section 2.8.2)*
- 8 **Maximum number of people** *(See section 2.8.3)*
- 9 **Minimum time** *(See section 2.8.4)*
- 10 **Maximum time** *(See section 2.8.5)*
- 11 **Minimum mobility** *(See section 2.8.6)*
- 12 **Maximum mobility** *(See section 2.8.7)*

3.2.6 Data Product: Exposure point source file

DATA-PRODUCT-NAME: Exposure point source file

DATA-PRODUCT-DESCRIPTION: A file containing information about point sources and the size of the activity zone surrounding them.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-ptsrc.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 62,041 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 14,939 bytes

NUMBER-OF-RECORDS: 2032

NUMBER-OF-FIELDS: 12

MAXIMUM-RECORD-LENGTH: 36 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*

- 3 **Area number** *(See section 2.2.1)*
- 4 **Area type** *(See section 2.2.2)*
- 5 **Area name** *(See section 2.2.3)*
- 6 **Source identifier** *(See section 2.10.1)*
- 7 **Characterization method** *(See section 2.10.2)*
- 8 **Dataset number** *(See section 2.10.3)*
- 9 **Source type** *(See section 2.10.4)*
- 10 **Source name** *(See section 2.10.5)*
- 11 **Activity zone minimum distance** *(See section 2.10.6)*
- 12 **Activity zone maximum distance** *(See section 2.10.7)*

3.2.7 Data Product: Exposure point activity file

DATA-PRODUCT-NAME: Exposure point activity file

DATA-PRODUCT-DESCRIPTION: A file containing information about activity near point sources.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-ptact.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 121,910 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 21,987 bytes

NUMBER-OF-RECORDS: 3308

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NUMBER-OF-FIELDS: 13

MAXIMUM-RECORD-LENGTH: 43 bytes

FIELD-CONTENT:

- 1 **Environment** (See section 2.1.1)
- 2 **Site number** (See section 2.1.2)
- 3 **Area number** (See section 2.2.1)
- 4 **Area type** (See section 2.2.2)
- 5 **Area name** (See section 2.2.3)
- 6 **Source identifier** (See section 2.10.1)
- 7 **Source type** (See section 2.10.4)
- 8 **Source name** (See section 2.10.5)
- 9 **Person type** (See section 2.12.1)
- 10 **Minimum number of people** (See section 2.12.2)
- 11 **Maximum number of people** (See section 2.12.3)
- 12 **Minimum time** (See section 2.12.4)
- 13 **Maximum time** (See section 2.12.5)

3.2.8 Data Product: Exposure point measurements file

DATA-PRODUCT-NAME: Exposure point measurements file

DATA-PRODUCT-DESCRIPTION: A file containing the measurement (or calculated fields) in the region of an exposure point source.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: <ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-meas.zip>

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 149,439 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 28,569 bytes

NUMBER-OF-RECORDS: 5803

NUMBER-OF-FIELDS: 9

MAXIMUM-RECORD-LENGTH: 32 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*
- 3 **Source identifier** *(See section 2.10.1)*
- 4 **Source type** *(See section 2.10.4)*
- 5 **Source name** *(See section 2.10.5)*
- 6 **Characterization method** *(See section 2.10.2)*
- 7 **Dataset number** *(See section 2.10.3)*
- 8 **Distance** *(See section 2.14.1)*
- 9 **Magnetic field** *(See section 2.14.2)*

3.2.9 Data Product: Dipole summary file

DATA-PRODUCT-NAME: Dipole summary file

DATA-PRODUCT-DESCRIPTION: A file containing summary measures of the dipole model fitted using characterization method 1.

LEVEL-OF-INTERPRETATION: Derived data

DATA-PRODUCT-CONDITIONS: User License

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DATA-PRODUCT-URL: ftp://ftp.emf-data.org/pub/emf-data/datasets/004/rapid3-dipole.zip

DATA-PRODUCT-AVAILABILITY: The files are also available by mail on diskette or CD for a nominal fee to cover materials, shipping and handling.

RECORD-DELIMITER: 2-character sequence: ASCII 13, ASCII 10 (decimal)

FIELD-DELIMITER: One or more space characters: ASCII 32 (decimal)

MISSING-VALUE: A single period character: ASCII 46 (decimal)

DATA-PRODUCT-USE-SIZE: 47,497 bytes

DATA-PRODUCT-DOWNLOAD-SIZE: 15,910 bytes

NUMBER-OF-RECORDS: 415

NUMBER-OF-FIELDS: 27

MAXIMUM-RECORD-LENGTH: 137 bytes

FIELD-CONTENT:

- 1 **Environment** *(See section 2.1.1)*
- 2 **Site number** *(See section 2.1.2)*
- 3 **Source identifier** *(See section 2.10.1)*
- 4 **Source type** *(See section 2.10.4)*
- 5 **Source name** *(See section 2.10.5)*
- 6 **Center coordinate, x-axis** *(See section 2.16.1)*
- 7 **Center coordinate, y-axis** *(See section 2.16.2)*
- 8 **Center coordinate, z-axis** *(See section 2.16.3)*
- 9 **Dipole resultant, 60 Hz** *(See section 2.16.4)*
- 10 **Dipole error, 60 Hz** *(See section 2.16.5)*
- 11 **Dipole 60 Hz, real component, x-axis** *(See section 2.16.6)*
- 12 **Dipole 60 Hz, imaginary component, x-axis** *(See section 2.16.7)*
- 13 **Dipole 60 Hz, real component, y-axis** *(See section 2.16.8)*
- 14 **Dipole 60 Hz, imaginary component, y-axis** *(See section 2.16.9)*
- 15 **Dipole 60 Hz, real component, z-axis** *(See section 2.16.10)*
- 16 **Dipole 60 Hz, imaginary component, z-axis** *(See section 2.16.11)*
- 17 **Dipole resultant, 180 Hz** *(See section 2.16.12)*
- 18 **Dipole error, 180 Hz** *(See section 2.16.13)*
- 19 **Dipole 180 Hz, real component, x-axis** *(See section 2.16.14)*
- 20 **Dipole 180 Hz, imaginary component, x-axis** *(See section 2.16.15)*
- 21 **Dipole 180 Hz, real component, y-axis** *(See section 2.16.16)*
- 22 **Dipole 180 Hz, imaginary component, y-axis** *(See section 2.16.17)*
- 23 **Dipole 180 Hz, real component, z-axis** *(See section 2.16.18)*
- 24 **Dipole 180 Hz, imaginary component, z-axis** *(See section 2.16.19)*
- 25 **Ratio of 30 to 60 Hz dipole moments at 6 inches** *(See section 2.16.20)*
- 26 **Ratio of 30 to 60 Hz dipole moments at 12 inches** *(See section 2.16.21)*
- 27 **Ratio of 30 to 60 Hz dipole moments at 24 inches** *(See section 2.16.22)*

