

SUPPORTING STATEMENT FOR RadNet ICR
EPA ICR # 0877.10
OMB Control Number 2060-0015

Section I: Part A

1. Identification of the Information Collection

1.(a) Title of the Information Collection

RadNet (formerly, Environmental Radiation Ambient Monitoring System [ERAMS])

1.(b) Short Characterization

RadNet in this ICR refers to EPA's national network of fixed stations monitoring environmental radiation. The objectives of RadNet (formerly, Environmental Radiation Ambient Monitoring System [ERAMS] and renamed in 2005 to RadNet) are to provide a means of estimating ambient levels of radioactive pollutants in our environment, to follow trends in environmental radioactivity levels, and to detect and assess the impact of fallout and other intrusions of radioactive materials. Data generated from EPA's RadNet have been and are being used to provide the information base for making decisions necessary to ensure the protection of public health. The system enables EPA to determine if additional sampling or other actions are required in particular cases of radioactive release to the environment, and, where necessary, RadNet can provide ancillary information on population exposure, radiation trends, and other aspects of such releases.

The RadNet network is used to collect air, precipitation, drinking water, and pasteurized milk samples. The data from analysis of these samples constitute the nation's single major source of environmental radiation data. The responsibility for operating RadNet is assigned to the Director, National Air and Radiation Environmental Laboratory (NAREL), Montgomery, Alabama. The component sampling stations are distributed throughout the United States and cover each geographical region, individual states, and major population centers. The respondents, primarily state and some local personnel, voluntarily collect the samples and complete the information forms. The forms request descriptive information related to sample collections (e.g., sample type, sample location, length of sampling, and volume represented). RadNet is a continuous monitoring system. Normal sampling frequencies are as follows.

- Air particulate samples are collected twice weekly.
- Precipitation samples are collected after each measurable rainfall and composited into monthly samples.
- Pasteurized milk samples are collected once a month.
- Drinking water samples are collected quarterly.

The samples are then forwarded to NAREL for radiochemical analyses. To ensure that the data

generated at NAREL are of known quality, a quality assurance plan (available upon request) is followed during all phases of sample collection and analysis activities.

All results are stored in the NAREL computer and made available online at the EPA website. The basic data of RadNet are available in 2 to 8 weeks upon request and when necessitated by circumstances can be available daily. See Attachment 1 for the forms used by respondents and NAREL personnel to document sampling in all RadNet media, air, precipitation, milk, and drinking water.

The utility of RadNet data is evidenced by its extensive use by a number of federal, state and commercial entities. DOE's National Laboratories (including Oak Ridge, Savannah River, Brookhaven, and Argonne) and many universities across the country utilize the data generated by the operation of the RadNet network. RadNet data are also used by the Nuclear Regulatory Commission (NRC) and NRC licensed nuclear power plants and their environmental contractors to establish background data. These data are used by the power plant operators as a baseline to ensure compliance with NRC release limits. The states also use RadNet data to supplement or compare with environmental radiation information generated by their own programs.

Data from this program and specific monitoring stations have been used to ascertain that radioactive materials detected in the environment in October 1976, October 1980, and January 1981 were not due to nuclear reactor releases, but were due to fallout. During and following the accident at Three Mile Island, Unit II(TMI-II), RadNet stations in the adjacent states demonstrated to the public that there were no radioactive materials in their areas as a result of the accident. Increased monitoring following the nuclear incident at Chernobyl in 1986 provided daily reports of atmospheric concentrations of radionuclides across the United States.

The collection of samples will involve 302 respondents with an annual respondent burden cost of approximately 480,073 dollars, including costs of benefits and overhead. The respondents are not asked or required to keep records and all supplies and equipment relating to RadNet activities are provided by the NAREL at no cost to the respondents.

RadNet data back to 1973 are available on EPA web sites. The data can be accessed through the EPA web site (www.epa.gov) under laboratories or at Envirofacts (<http://oaspub.epa.gov/enviro/erams>). RadNet data on the web are interactive--the database can be queried and searched. Quarterly reports are no longer produced in hard copy, due to the availability of RadNet data online. NAREL does not survey respondents, other than on specific issues regarding their work as sample collectors. That is done through routine conversations with them via telephone as part of the process of maintaining the flow of samples and supplies between NAREL and respondents.

Currently, the air network of RadNet is being upgraded and expanded. The expansion and upgrade amounts to replacing conventional air samplers with new air samplers that provide data in near real-time. In addition, the number of air samplers will increase from the current 117 samplers to a total of 152 during the period of this ICR (from February 2010 through February 2013). The total of 152 samplers will be comprised of 134 near-real-time samplers plus a legacy of approximately 18 conventional samplers. The size of the other media networks (milk, drinking water, and precipitation) are expected to remain essentially unchanged, except for the normal fluctuation of volunteer participants.

2. Need for and Use of the Collection

2.(a) Need / Authority for the Collection

The legal basis of RadNet originated and resides in Executive Order 10831 and Public Law 86-373. Executive order 10831 was announced to the public on July 31, 1959, and issued August 4, 1959. This order came in response to recommendations contained in a memorandum to the President from Elmer B. Staats on July 31, 1959. As reiterated before the Joint Committee on Atomic Energy by Maurice H. Stans, these recommendations also became a part of the legislative history of the 1959 amendments to the Atomic Energy Act. Radioactive fallout and environmental radiation monitoring became a responsibility of the Department of Health, Education and Welfare (HEW) under these legal mandates. In 1970, Reorganization Plan No. 3 transferred HEW's fallout and radioactive monitoring responsibilities to the Environmental Protection Agency (EPA). On July 1, 1973, through its Office of Radiation Programs (ORP), EPA developed and implemented a new continuous monitoring system. This system, originally termed ERAMS and now called RadNet, was designed to complete and complement the monitoring system previously instituted by HEW's Public Health Service under Executive Order 10831.

The objectives of RadNet are to provide a means of estimating ambient levels of radioactive pollutants in our environment, to follow trends in environmental radioactivity levels, and to assess the impact of fallout and other intrusions of radioactive materials. Data generated from EPA's RadNet have been and are being used to provide the information base for making decisions necessary to ensure the protection of public health. The system enables EPA to determine if additional sampling or other actions are required in particular cases of radioactive release to the environment, and, where necessary, RadNet can provide ancillary information on population exposure, radiation trends, and other aspects of such releases.

2.(b) Use / Users of the Data

Data generated by RadNet are used to provide a means of estimating ambient levels of radioactive pollutants in our environment, to follow trends in environmental radioactivity levels, and to detect and assess the impact of fallout and other intrusions of radioactive materials. Data generated from EPA's RadNet have been and are being used to provide the information base for making decisions necessary to ensure the protection of public health. The system enables EPA to determine if additional sampling or other actions are required in particular cases of radioactive release to the environment and, where necessary, RadNet can provide ancillary information on population exposure, radiation trends, and other aspects of such releases.

The utility of the RadNet data is evidenced by its extensive use by a number of federal, state and commercial entities. DOE's national Laboratories (including Oak Ridge, Savannah River, Brookhaven, and Argonne) and many universities across the country utilize the data generated by the operation of the RadNet network. RadNet data are also used by the Nuclear Regulatory Commission and NRC licensed nuclear power plants and their environmental contractors to establish background data. These data are used by the power plant operators as a baseline to ensure compliance with NRC release limits. The states also use RadNet data to supplement or compare with environmental radiation information generated by their own programs.

Data from this program and specific monitoring stations have been used by ORIA and others to ascertain that radioactive materials detected in the environment in October 1976, October 1980, and October 1980 were not due to nuclear reactor releases but were due to fallout. During and following the accident at Three Mile Island, Unit II(TMI-II), RadNet stations in the adjacent

states were immediately "activated" and demonstrated to the public that there were no radioactive materials in their areas as a result of the accident. Increased monitoring following the nuclear incident at Chernobyl in 1986 provided daily reports of the atmospheric concentrations of radionuclides. This information helped reduce the public's fear and concern about radiation and radioactivity.

3. Non-duplication, Consultations, and Other Collection Criteria

3. (a) Non-duplication

RadNet has been in operation for 37 years. During that time, data derived from the system have been disseminated nationally and internationally. The professional/information network developed over the life of RadNet has identified other environmental radiation data systems in the United States, but none have RadNet's national scope or exact collection and analytical structure.

Immediately following the accident at Chernobyl in 1986 in the former Soviet Union, the President's order charged EPA with lead responsibility for monitoring possible environmental effects in the United States. It was the unique nationwide monitoring capability of RadNet that helped EPA respond to that Presidential Order. Similarly, during the nine-year EPA follow-up monitoring of the accident at Three Mile Island RadNet was called upon because of its unique national scope and analytical structure and capability.

3. (b) Public Notice Required Prior to ICR Submission to OMB

The first Federal Register(FR) notice has been completed. The notice was published November 6, 2009 in FR Vol. 74, No. 214. EPA received no comments.

3. (c) Consultations

NAREL is involved in continual telephone and occasionally written communication with the respondents who supply the samples. In addition, NAREL is an active participant in the Council of Radiation Control Program Directors (CRCPD), which is an association of individuals from radiation programs from all fifty states. These individuals and their associates make up a significant number of RadNet data users. NAREL's participation in this association allows for frequent consultations on a variety of issues involving RadNet with many RadNet data users. Comments from federal and state agencies and other organizations concerning RadNet are welcomed and are noted at NAREL.

3. (d) Effects of Less Frequent Collection

Alternate, less frequent collection intervals have been considered but not adopted because these would not provide the continuous current "picture" of the radiation levels across the United States now available with the current system. Less frequent collection would eliminate the ability to determine and respond to elevated radiation levels soon after they occur and would dramatically decrease the ability to map trends in radiation data following a release.

3. (e) General Guidelines

The respondents must supply certain select samples (rain water and air filters) and accompanying forms more often than on a quarterly basis. This is done so that elevated levels of radiation will be detected as soon as possible so as to allow for the quickest response possible to potential health threats.

The respondents submit sample collection information on a one page form that accompanies the sample to the NAREL. Since most samples are collected in the field, electronic means of recording or sending the information are not feasible. In addition, to avoid assigning incorrect sampling information to a sample, the sample and sampling information need to be linked when they are sent to the lab. The most effective means to do this is to attach a form with the information to the sample.

3. (f-g) Confidentiality and Sensitive Questions

The section on confidentiality and sensitive questions does not apply to RadNet. The respondents do not supply confidential or sensitive information.

4. The Respondents and the Information Requested

4.(a) Respondents / NAICS Codes

All fifty states, primarily the State Public Health Departments (NAICS Code 92312), send samples along with one page sample collection forms to NAREL. The respondents were chosen for two basic reasons: most of them routinely collect samples of this type as part of their normal activities, and in order to obtain meaningful information concerning ambient radiation levels for the entire United States samples must be collected from as many parts of the country as feasible.

4.(b)(i) Information Requested

Respondents provide actual samples of air, precipitation, drinking water, and milk. Respondents do provide descriptive information about their samples on one page forms (see Attachments 1-3). The respondents are not requested or required to maintain records. Since the forms, as shown in the attachments, have had only very minor changes over time expiration dates are not included on them.

4.(b)(ii) Respondent Activities

RadNet respondents must perform the following tasks in order to provide samples to NAREL.

- Read instructions concerning the sampling process
- Collect samples in appropriate containers
- Mail/ship samples to NAREL in Montgomery, Alabama
- Complete description forms regarding samples
- Perform minor calibrations on instruments

Most respondents are employees of state health agencies and routinely perform sampling of their own that is analogous to RadNet sampling.

5. The Information Collected

5.(a) Agency Activities

Since RadNet began operating in the early 1970's, the following functions have been part of EPA's inventory of Agency activities.

- Maintain a master database
- Answer respondent questions
- Coordinate respondent sample submissions
- Maintain records of sample submissions
- Publish and disseminating data from sample analyses
- Analyze samples submitted by respondents
- Prepare and sending sampling material
- Provide maintenance and or replacements for sampling instruments

5.(b) Collection Methodology and Management

The RadNet network involves the collection of a variety of samples including air filters, milk, drinking water, and rain water (precipitation) samples. The RadNet manual (available upon request), contains the detailed procedures used to ensure uniform collection of the samples and the standard forms filled out by the respondents when they collect the samples. The forms were designed to minimize the burden on the respondents. In most cases only the date of sampling, location of sampling, and the name of the individual taking the sample are required. Since most samples are taken in the field, an electronic means of recording and sending this information is not feasible. Also, to ensure that the sample collection information accompanies the correct sample, the sample and the information need to be sent together as a single unit. This is best accomplished by attaching the one page form to each sample when it is sent to the NAREL.

Once the samples and any accompanying forms arrive at NAREL, the samples are assigned an identification number and this number, along with the information from the accompanying forms, is entered into the NAREL computer. The samples are then analyzed for a variety of radionuclides. Data from the analyses performed at NAREL are also entered into the computer. The data are stored in a database and are available to the public online at the EPA website. When necessitated by unique circumstances, data from the RadNet network can be made available daily. The data are verified by at least two individuals at NAREL. To ensure that the data are accurate and reliable, all activities associated with the RadNet network must conform to the quality assurance project plan for RadNet, which details the data quality objectives, project organization and responsibility, internal quality control checks, and other areas relating to quality assurance.

5.(c) Small Entity Flexibility

This section is not applicable because the respondents are state agencies.

5.(d) Collection Schedule

The collection frequency for the samples and the accompanying sample forms are listed below.

<u>Sample</u>	<u>Collection Frequency</u>
Milk	Quarterly

Drinking water	Quarterly
Rain	As rain occurs
Air filters	Two times per week

Respondents collect samples and send them to NAREL according to the frequency listed above. In case of an emergency, such as Three Mile Island and Chernobyl, the frequency may be increased.

6. Estimating the Burden and Cost of Collection

6.(a) Estimating Respondent Burden

Burden hour estimates are based primarily on informal telephone conversations with respondents over the years. Additional information used in estimating burden hours was obtained through discussions of NAREL personnel with personnel from state radiation departments at Council of Radiation Control Program Directors (CRCPD) meetings. These conversations also revealed that the technical labor category is the most appropriate one for all RadNet burden activities.

Although the respondent burden assumes 302 sampling stations, there can be times when the actual number of stations reporting is less than that, due to unexpected nonparticipation by some stations. However, participation is not anticipated to decrease by more than 12-15 percent of the total of 302 participating stations.

6.(b) Estimating Respondent Cost

Informal conversations and discussions with respondents have revealed that the technical labor category is the correct one for all RadNet respondent burden activities. Since the hourly wages of the respondents depend on years of employment and the pay scales of their respective states, an actual average hourly wage would require obtaining confidential information from the respondents. Based on our informal discussions at several Council of Radiation Control Program Directors (CRCPD) meetings, the hourly rate at the GS-12(1) level, \$55.12 dollars/hour (30.21 times a 1.6 overhead multiplication factor, based upon OPM salary tables effective January 2010 as displayed at http://www.opm.gov/oca/06tables/html/g_s_h.asp), is a good approximation of the respondents' hourly wage for this technical labor category. The respondents are not asked or required to keep records, and all supplies and materials relating to RadNet activities are provided by the NAREL at no cost to the respondents.

There are no capital costs for sample collectors (respondents). All equipment and materials are supplied by NAREL.

6.(c) Estimating Agency Burden and Cost

Our agency burden estimates are based on our years of experience in operating the RadNet network. Since the activities for the operation of RadNet involves workers at various GS levels, we used composite burden hours and calculated hourly costs at the GS-12 level (step 1) times 1.6 (the overhead multiplication factor) to be 48.34 dollars/hour. The total number of annual hours devoted to RadNet by Agency personnel is estimated to be 21,931 (1,447,220 dollars in labor costs). In addition, we estimate that the annual costs associated with supplying respondents with supplies, materials and replacement parts as well as supplies needed by NAREL to be approximately 74,000 dollars. The total capital costs (including supplies) are 1,383,086 dollars.

The total cost to the Agency is 2,830,306 dollars, which includes both labor and capital costs. This amounts to a net decrease of 470,365 dollars annually. An increase in costs was attributable, primarily, to the capital acquisitions (new samplers) and the added cost burden of the electronic (IT) infrastructure and the increased sample load inherent in the ongoing expansion and upgrade of RadNet's air monitoring system. Because the scheduled acquisitions will be complete in 2012, the Agency's overall annual capital cost burden will decrease.

6.(d) Bottom Line Burden Hours and Cost/Burden Tables

See burden tables on pages 11-13.

6.(e) Reasons For Change in Burden

For the previous review of the ICR for RadNet, the respondent burden hours were estimated to be 9,333 hours annually. Based on the number of current and new respondents resulting from the expansion of the RadNet air monitoring network, the respondent burden hours for this ICR are estimated to be 8,710 hours annually, which amounts to an annual net decrease of 623 hours required of respondents. This decrease resulted from the installation new air monitors, which require less time from the station operators. The new equipment was installed as a result of EPA's decision to upgrade existing air monitoring equipment. Expansion of the network will continue annually throughout the duration of this ICR and up through 2012. In this ICR, the number of air monitoring stations indicated for each year is 152. The number 152 was derived by averaging the total number of air monitors (real-time and conventional) anticipated to be in place and operational for each of the three years covered by this ICR.

6.(f) Burden Statement

The annual public reporting and recordkeeping burden for this collection of information is estimated to average 0.5 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID No. EPA-HQ-OAR-2003-0041, which is available for online viewing at www.regulations.gov, or in person viewing at the Office of Air and Radiation Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA/DC Public Reading Room is open

from 8 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is 202-566-1744, and the telephone number for the Office of Air and Radiation Docket is 202-566-1742. An electronic version of the public docket is available at www.regulations.gov. This site can be used to submit or view public comments, access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select "search," then key in the Docket ID Number identified above. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OAR-2003-0041 and OMB Control Number 2060-0015 in any correspondence.

Section II: Part B

In the case of the RadNet network, respondents send in actual samples such as air filters, milk, drinking water, and rain. With each sample the respondents send in a one page form which basically requires the date and location of sampling, the size of the sample, and the name of the individual taking the sample. This is basic information that identifies the sample and requires no real data gathering on the part of the respondent. The respondent simply supplies information on the sampling process that he/she just performed.

The design of RadNet makes it the most comprehensive radiation monitoring network in the nation. The 300 sampling sites span the United States and cover major population centers in all geographical regions. They are typically located at or near state health facilities and samples are collected voluntarily by state personnel. Although the choice of sampling station locations is not based on a truly randomized design, the nationwide dispersion of sites does represent a close approximation to randomly selected locations with consideration given to population centers and potential radiation source distribution. This arrangement maximizes the coordination with state and local agencies collecting the samples as it does not place stations in extremely remote and relatively inaccessible locations.

The RadNet network satisfies the three major objectives of an environmental monitoring program as set forth by the Health Physics Society's Committee on Upgrading the Quality of the Environmental Data (EPA 520/1-80-012). These objectives are:

- a. to assess dose,
- b. to determine any trends of environmental radiation dose rates and concentrations
of radioactive materials, and
- c. to reassure members of the public and governmental organizations regarding radiation hazards and environmental radiation exposures.

The Society specifically references EPA's RadNet as an example of a functioning environmental monitoring program that incorporates these major desirable features.

TABLE 1

Annual Respondent Burden Cost Estimates						
Activity	Hours per Occurrence (A)	Occurrences per Year (B)	Hours per Respondent per Year (C = A x B)	Respondents per Year (D)	Burden-hours per years (E = C x D)	Cost per year (F = E x \$55.12/hr)*
Read Instructions						
Air	1	2	2	152	304	16,756.48
Precipitation	0.5	2	1	34	34	1,874.08
Drinking water	0.5	2	1	78	78	4,299.36
Milk	1	2	2	38	76	4,189.12
Collect Samples						
Air	0.25	104	26	152	3952	217,834.24
Precipitation	0.4	12	4.8	34	163.2	8,995.58
Drinking Water	0.3	4	1.2	78	93.6	5,159.23
Milk	1	4	4	38	152	8,378.24
Calibrate Air Sampler	4.0	1	4.0	152	608	33,512.96
Complete and Mail Forms						
Air	0.2	104	20.8	152	3,161.6	174,267.39
Precipitation	0.1	12	1.2	34	40.8	2,248.90
Drinking Water	0.1	4	.4	78	31.2	1,719.74
Milk	0.1	4	.4	38	15.2	837.82
TOTAL ANNUAL HOURS					8,709.6	
TOTAL ANNUAL LABOR COST						480,073.14
RESPONDENTS' TOTAL ANNUAL COST**						480,073.14

* The rate used in this table is that of a GS-12/1 for 2010. The \$55.12 per hour amounts to the GS-12/1 rate of \$34.45/hr multiplied by an overhead rate of 1.6.

** Record keeping costs, capital costs, and maintenance costs are zero (0) for respondents.

TABLE 2

Annual Agency Burden/Cost Estimates (Activities)			
Line Item	Burden Activity	Annual Hours	Agency Costs*
1	Maintaining master database	550	30,316
2	Monitoring real-time data (contractor)	3,000	300,000
3	Monitoring real-time data (NAREL)	400	29,712
4	Site selection/coordination (regions)	1,200	66,144
5	Site selection/coordination (NAREL)	300	22,284
6	Maintain real-time detectors (contractor)	2,029	200,000
7	IT support (contractor)	1,920	108,000
8	Answering respondent questions	210	11,575
9	Coordinating respondent submissions	832	45,860
10	Maintaining records of samples	832	45,860
11	Publishing and disseminating data	300	16,536
12	Analyzing samples	8,736	481,528
13	Providing sampling supplies	1,622	89,405
	TOTAL	21,931	1,447,220

* For federal employees, the activity costs assume either a GS-12/1 (\$55.12/hr) or a GS-13/5 (\$74.28/hr) rate. Lines 3 and 5 are GS-13/5, and the rest of the lines referring to federal employees are GS-12/1. Lines 2, 6, and 7 are contractor costs. GS hourly rates are based upon 2010 data from the Office of Personnel Management (<http://www.opm.gov/oca/10tables/indexGS.asp>).

NOTE.—Line items 2, 3, 4, 5, 6, and 7 relate directly to the ongoing expansion and upgrade of the RadNet air network.

TABLE 3

Agency Burden/Cost Estimates (Capital Costs)*			
Line Item	Unit Cost (\$)	No. Units	Total (\$)
Real-time air sampler	81,995	14	1,147,930
Physical site preparation for air samplers	2,704	14	37,856
Supplies to field stations	500	148	74,000
IT costs			
• Data disaster recovery site	22,000	1	22,000
• Oracle license	15,000	1	15,000
• Internet access	18,000	1	18,000
• FTP software	500	1	500
• Records retention	1,800	1	1,800
• Backup software	6,000	1	6,000
• Equipment refresh	10,000	1	10,000
• CDX website host	50,000	1	50,000
Grand Total			1,383,086

*All capital costs in this table, except for the \$74,000 to supply field stations, pertain to costs supporting the expansion and upgrade of the RadNet air network.

TABLE 4

Summary of Respondent and Agency Total Costs	
Line Item	Total (\$)
Annual Respondent Burden	480,073
Annual Agency Burden for Activities	1,447,220
Annual Agency Burden for Capital Costs	1,383,086
Combined (activity and capital cost) Burden to the Agency	3,310,379

ATTACHMENT 1

Forms Used by RadNet Respondents
(click on PDF icon below)

