ENVIRONMENT, SAFETY AND HEALTH

Argonne National Laboratory's Policy

"It is the policy of the Laboratory that the work we perform will be conducted in a manner such that all reasonable measures are taken to protect the health and safety of employees and the public, to protect the environment, and to minimize accidental damage to property."

"No work should be done until the safety ramifications and environmental impact of the work are thoroughly examined."

"No work we do is so important that it need be done without proper safety measures."

Eric D. Isaacs, Director
Argonne National Laboratory

Environment, Safety and Health
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

INTEGRATED SAFETY MANAGEMENT
What It Means To You

Integrated Safety Management is a process for incorporating safety considerations into all work. Working safely should be a natural part of working, not just something "the safety people do." Safety is EVERYONE's responsibility.

What are all the elements of safety?
The elements of safety are environmental protection, occupational health, worker and public safety.

The Argonne ISM Objective
"Do Work Safely"

To implement the ISM process, Five Core Functions are applied to all work performed by Argonne:

1. Define the scope of work.
2. Identify and analyze the hazards.
3. Develop and implement hazard controls.
4. Perform work within controls.
5. Provide feedback (for) continuous improvement.

Accidents and Incidents must be reported to division management and investigated so appropriate and aggressive corrective action can be taken to prevent recurrence.

No matter how minor an accident or incident may seem, you must report it to your supervisor immediately. In an emergency, ***call 911****.*

If you are uncertain, do not take a chance –

Call 911

Immediate attention to the needs of the injured/ill worker environmental protection must be given high priority when managing any incident. Managers must report all injury/illness cases to the Medical Department.

RULES

Environment, Safety and Health are the responsibility of every employee, contractor and visitor to Argonne. Specific requirements have been established to ensure a safe workplace. The minimum requirements for working at Argonne are contained in the Laboratory Management System (LMS) http://inside.anl.gov/lms Other job specific work procedures and rules may also apply.

Site Security regulations have been established for the protection of employees and visitors. All site occupants and visitors are expected to comply with all posted traffic regulations and obey all traffic signals. All site occupants and visitors are expected to comply with the prohibited articles policy of the Laboratory. Visitors are to enter only areas that are necessary to conduct the specific requirements of the visit. Removal of any property from the Laboratory without permission and proper documentation is a violation of the law and will result in criminal prosecution.

Warning signals of many kinds are in use at the Laboratory. Some are described on the back of the Argonne phone book. One of the most important is the 20-second tone on the site-wide public address system. This tone precedes emergency messages.

Training Programs and additional information are available to help you become more aware of the required safe practices at the Argonne intranet: http://www.anl.gov/esh. For more information contact: Roby Enge, Director at 630-252-1581

WELCOME TO ARGONNE NATIONAL LABORATORY
Environment, Safety, and Health Orientation

Documentation of review of this material is required.

Environment, safety, and health are the responsibilities of every Argonne Employee, including those of you who work off-site. Your ability to work safely is of the utmost importance to Argonne. You will find several handouts in this packet addressing your safety on the job.

Training Requirements

A Job and Hazard Questionnaire (JHQ) is a document that can be used to identify training requirements. If a JHQ is appropriate for your assignment, your supervisor is responsible for seeing that it is completed for you. It will identify any hazards associated with your specific job. This information feeds directly into the Training Management System (TMS) and a training profile is generated. The profile indicates all courses that you should be taking as part of your job at Argonne. At a minimum, every employee is required to complete ESH100, Environment, Safety, and Health Orientation.

ESH100

For those of you who work for Argonne, but are never on-site, documentation of your review of the enclosed materials will give you credit for ESH100. Should you ever be assigned to the Argonne site, you would need to receive additional site-specific information. The main topics covered in ESH100 are Radiation Safety, Hazard Communication, and Emergency Response.

Radiation Safety

All areas at Argonne where there is potential for exposure to ionizing radiation are clearly identified by signs or postings. These signs will always include the "propeller" symbol, recognized world-wide as the symbol for radiation hazard. You may not enter controlled areas without an escort or additional training.

Hazard Communication Standard (HazCom)

The Hazard Communication Standard states that all employees have the need and the right to know what hazards they face in the workplace and how they can be protected. The primary message of the HazCom Standard is chemical safety. The use of labels that give the full name of the product and hazards associated with exposure to the product is an important part of HazCom. Another component is the use of Material Safety Data Sheets (MSDSs). MSDSs provide important health and safety information and must be supplied by the manufacturer or supplier with any shipment of hazardous materials to the workplace. Those of you who work at home may want to request an MSDS for any hazardous chemicals in your home or workplace.

You will find a sheet in this packet which includes a safety policy statement from the Laboratory Director and serves as a directory of departments or sections dealing with safety and health issues. The areas of expertise are listed along with a name and phone number. Please feel free to call upon these people for answers to your questions.

A copy of the National Fire Protection Association's (NFPA) 704 diamond used as chemical labeling at Argonne is enclosed. Further information on labeling has been provided on the sheet.

Emergency Response

The ability to respond quickly and correctly to an emergency is essential to your safety. We are fortunate at Argonne to have an on-site emergency response program activated by the use of a 911 phone call. At your off-site location you should be familiar with your local method for getting emergency assistance, your evacuation route, and your shelter location in the event of a weather emergency. Just as we have on-site drills, it would be appropriate to conduct your own practice exercise if you work at home. Participate in drills if you work in another business site.

Office Safety

Most, but not all, of our off-site employees are working in an office environment. Most people tend to think of an office as a very safe workplace, but that is not true. Many accidents occur in the office with slips, trips, and falls being the most common. You are more likely to take a fall in the office than at any other job.

Signs and Postings

We discussed the use of signs to identify radiation areas at the Laboratory. Many other safety signs are in use on-site and off-site. Please do not assume these signs are meant for someone else. Assume that all safety signs are meant for you unless directed otherwise.

Quality Assurance

Argonne has a Quality Assurance (QA) Program which can best be summarized, "Every employee is responsible for the quality of the work that he/she performs." Each division has a QA Representative who can assist in identifying QA issues and resolving them. There is a QA handout in your packet.

Documentation Required

Please review all the enclosed items and retain them for reference. Please sign and date the ANL Off-Site Employment/Orientation Checklist enclosed with your employment forms indicating your receipt and review of this information.

ARGONNE QUALITY ASSURANCE
NEW EMPLOYEE ORIENTATION

The research and services provided by Argonne's employees have always been at the forefront of science in this country. At Argonne, every employee is responsible for the quality of the work that he or she performs, and Line Management is responsible for the quality of work performed in their organization. This is true whether your job is in basic research, engineering design, software programming, or performing any of the thousands of tasks done every day at Argonne.

Quality is meeting or exceeding the performance requirements and expectations of those for who work is done. We do this by effectively implementing our *Quality Assurance* (QA) program. As the name implies, it is how we assure quality is at the heart of everything we do. The QA program provides the framework and tools we use to ensure that the desired quality will be achieved. Our QA program addresses organizational structure and reporting relationships, training, procurement, design efforts, assessments and other areas which support the successful completion of Argonne's mission. Our goal at Argonne is to meet the needs of those who support our work; comply with all applicable laws, regulations, DOE Directives, codes, and standards; safeguard the health and safety of Argonne employees and the public; and protect the environment.

Argonne's QA program is described in the Quality Assurance Requirements Document (QARD) which implements the requirements established by DOE Order 414.1C, "Quality Assurance", and 10 CFR 830 Subpart A, "Quality Assurance". Argonne's QARD contains ten criteria which define the framework for the Argonne QA program. Argonne's QARD and the implementing procedures in the Quality Assurance Procedures manual (QAPM) can be found on the ESH/QA Home Page, http://www.anl.gov/EQO.

How does quality assurance apply to my assignment?

Whether you are a researcher, an engineer, a secretary, or a fireman, quality should be integrated into every task you do during the day, and you should be thinking about ways to improve the quality of your work. Is this task done in a manner which meets the requirements of the sponsor of your work? Does this task comply with relevant requirements? Does this task create unnecessary impact on the health or the safety of another employee, a member of the public, or on the environment? Are there Laboratory prescribed processes or business management systems that provide barriers to achieving quality or efficiency in completing our work activities? If any of these statements raises a question in your mind, there is an opportunity for improvement.

A QA Representative (QAR) has been appointed within each division or program to support the division in implementing QA requirements. The QAR is available to assist you in understanding the QA requirements associated with your assignment. The QAR will introduce you to the QA requirements and provide any additional training you may need. The ESQ-QA staff is another source of information for questions related to quality assurance rules, regulations, or policies.

Quality is a responsibility of each and every Argonne employee and you are responsible for the quality of your individual work. If you identify issues or problems that are contrary to your division QA requirements or Argonne's QA program, it is your responsibility to notify your supervisor so the issue or problem will be addressed.

GENERAL NOTICE
CONTINUING HEALTH STUDIES OF CONTRACTOR WORKERS AT DEPARTMENT OF ENERGY (DOE) FACILITIES

PURPOSE: As part of DOE's environment, safety, and health program, and pursuant to the Atomic Energy Act, DOE conducts and funds health studies and health monitoring of workers at DOE facilities. The current epidemiologic research is a continuation of the DOE-wide epidemiology program begun in the 1960's and 1970's and formerly conducted by Los Alamos national Laboratory, Hanford, and Oak Ridge scientists. To continue these studies, conduct new studies, and monitor current workers, researchers rely on information collected from past studies and on current information from medical, personnel, radiation, industrial hygiene, work history, and related records. The purposes of these studies are to determine whether working conditions at DOE facilities in the past or at present pose significant health risks to workers and to provide a basis for taking appropriate corrective actions. In addition, these studies are used to make improvements in medical monitoring of current workers, decide whether additional health studies are needed, and serve as the basis for continuing evaluation of the health of workers. These studies may require access to workers' records or may request worker participation in the study through interviews or other aspects of the study.

NOTICICATION OF A STUDY: When a study is to be conducted at a DOE facility, the study will be announced with a "Notice of Research Study." In addition, most studies will begin with a site visit by the investigators to present the study to management, employees, and organized labor.

CONFIDENTIALITY: Should health researchers need access to personnel records for a study, sensitive information that could be used to identify individuals, such as name and social security number, will remain confidential and be protected from public disclosure to the extent permitted by law. One or more of four mechanisms protect sensitive information: the Federal Privacy Act of 1974 limits the release of sensitive information from federally-held records; certain State privacy laws may limit the release of sensitive information held by contractors; researchers under the contract to the Federal Government are bound by the terms of their contracts to safeguard this information, as are researchers under contract to DOE contractors; and DOE, the National Institute for Occupational Safety and Health, and virtually all other Federal agencies require that researchers comply with requirements of an Institutional Review Board (IRB) to protect the health, safety, and records of individuals in the research. The IRB requires that researchers: not use sensitive information to determine rights, benefits, or privileges; take appropriate steps to prevent improper disclosure; and establish administrative, technical, and physical safeguards to prevent unauthorized use or disclosure.

STUDY SPONSORS: In addition to DOE-conducted studies, DOE funds the National Institute for Occupational Safety and Health, other Federal or State agencies, and their grantees and contractors, to conduct health studies of DOE workers.

REPORTING RESULTS: Once completed, study results will be reported to the workers and distributed as health bulletins throughout the DOE, as news releases to the media, and as research publications in scientific and public health journals.

FOR MORE INFORMATION: The study plans, IRB documentation, other confidentiality agreements, and the names of persons who can answer your questions about a particular study will be placed in the facility reading room. If you have questions about ongoing or anticipated studies at your facility, you may contact the U.S.DOE, Office of Epidemiologic Studies, Dr. Gerald R. Petersen at 301-903-2340.

CHEMICAL WARNING LABELS

Container labels help take the guesswork out of using chemicals safely. Proper chemical labeling helps protect employees, but it also protects Laboratory property, and saves chemical disposal costs. The Occupation Safety & Health Administration requires that chemical containers be labeled showing the chemical name and pertinent health and safety hazard information.

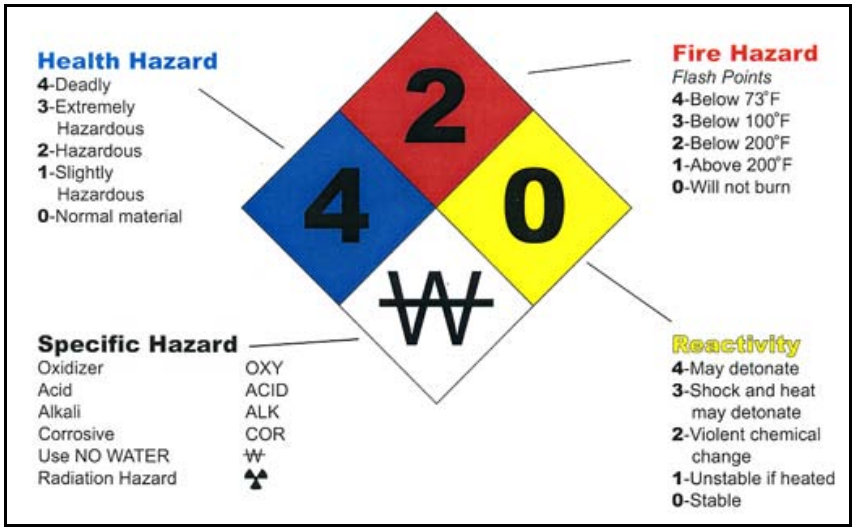
Manufactured chemical products usually come to the Laboratory with labels already bearing chemical identification, hazard warnings, handling precautions, and the manufacturer's name and address as required by OSHA. These labels must be left in place, and not obscured or defaced so that the information they contain remains readable by employees. Other chemical containers must also be labeled.

The most prevalent are containers into which chemicals are transferred or mixed (for example, squeeze bottles). Unless the chemical contents will be used up during the current work-shift, the containers must either bear all the OSHA required information (with the exception of the manufacturer) or refer employees to other resources that provide this information such as Material Safety Data Sheets (MSDS).

To help address current labeling requirements, we recommend the color/numeric system developed by the National Fire Protection Association (NFPA) that provides certain health and safety hazard warning information at a glance. The picture below is an example of the color and number coding system. Several types of pre-printed labels are available from ANL-Stores.

Hazard codes are already available for many chemicals used at the Laboratory. Time will be needed, however, to adjust some of the currently available NFPA codes to reflect for mixtures, or additional health hazard considerations such as cancer, allergic sensitization, and other potential effects from chronic low-level exposures.

Industrial Hygiene (2-3310) will assist in recommending these hazard codes and label wording.



Computer Screen
Video Display Terminal (VDT)

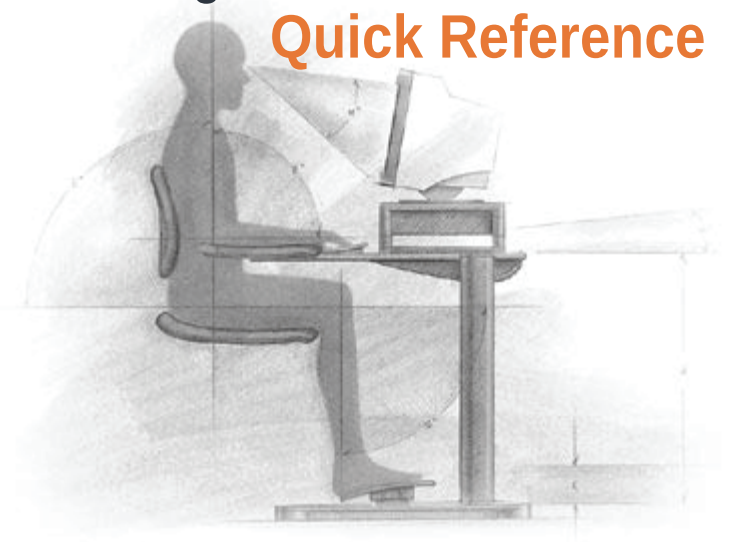
Give your hands, wrists, and back a break. Stretch often and take breaks, as needed. Seek medical attention and talk to your supervisor if you develop any prolonged discomfort, pain or symptoms while you are working.

Try the following daily:

- ☐ Occasionally get up from your desk, walk around or exercise
- ☐ Experiment with adjusting your chair; change the settings periodically (for example, raise or lower your chair slightly)
- ☐ If performing task-intensive work, every twenty or thirty minutes, try to:
  - Shrug your shoulders
  - Shake your arms
  - Stretch your legs and back
  - Rotate your ankles and wrists
  - Close your eyes

Argonne NATIONAL LABORATORY

Ergonomic Workstation
Quick Reference



To reduce eye strain, glare should be minimized.

Follow the suggestions below for lighting and possible positioning of your screen to avoid awkward postures.

- ☐ Point task lighting toward the document and away from the screen
- ☐ Block outside light from windows with blinds or place screen at a right angle to the window
- ☐ Shade your screen with an anti-glare filter or hood, if necessary
- ☐ Keep screen clean, free of dust and smudges
- ☐ Adjust the contrast and brightness of your monitor for maximum brightness without blurring

ESQ Division
Argonne National Laboratory
9700 S. Cass Avenue
Argonne, IL 60439

For questions, to request an ergonomic evaluation of your work area, or to obtain more information about ergonomic furniture, tools, or equipment, contact:
Steve Eagels, ESQ, Ext. 2-2993
seagels@anl.gov

ESQ Division

Argonne National Laboratory
9700 S. Cass Avenue
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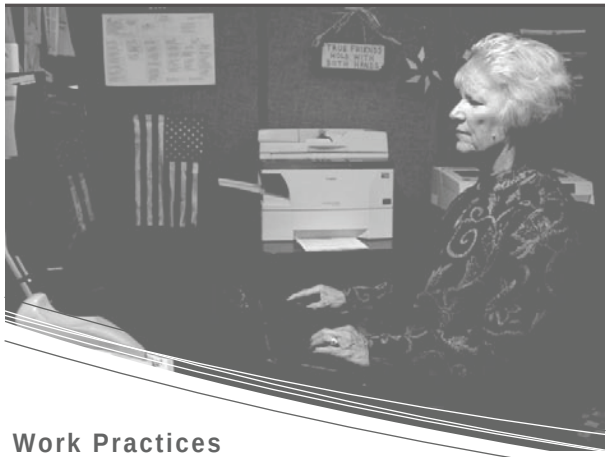

Work Practices

Ergonomics - fitting the work to the person rather than the person to the work.

Setting up a proper workstation, and following appropriate work practices listed below, can help prevent aches, discomfort and fatigue.

- ☐ Keep shoulders and hips aligned to maintain the natural curves of your back
- ☐ Relax shoulders
- ☐ Keep elbows close to your body, avoid long reaches
- ☐ Position forearms parallel to the floor
- ☐ Keep wrists straight
- ☐ Position knees even with or slightly lower than your hips, creating a 90° to 110° angle

Quick tips for chair adjustment:

- ☐ Adjust chair height so your forearms and thighs are parallel to the floor
- ☐ Be sure your upper and lower back are fully supported
- ☐ Adjust arm rests
  (If arm rests are used, they should support both forearms while computer tasks are performed , and they should not interfere with movement.)
- ☐ Allow minimum of one to two inches between the seat of the chair and the back of your knees
- ☐ Rest the feet comfortably on the floor or on an ergonomic footrest that is designed to keep your feet supported and comfortable.

Seating

For questions, to request
an ergonomic evaluation of your work area,
or to obtain more information about ergonomic furniture, tools,
or equipment, contact:
Steve Eagels, ESQ, Ext. 2-2993
seagels@anl.gov

In an effort to avoid overreaching, straining and twisting, try to arrange your workstation following the guidelines listed below.

Workstation

- ☐ Place the document holder at same height and distance as the screen.
- ☐ Place the monitor directly in front of you, and position the top of the screen at or slightly below the eye level.
- ☐ Position the screen about arm's length from eyes.
- ☐ Use wrist rest, if necessary, to support your wrists and keep them straight and parallel to the ground when using keyboard/input device.
- ☐ Keep input devices (such as a mouse or a graphics tablet) adjacent to the keyboard.
- ☐ Place frequently used objects (such as a telephone) within easy reach.
- ☐ Consider a headset if you use the telephone frequently.
- ☐ For bi or trifocals users, position the monitor lower so the screen is at the appropriate viewing angle for corrective lenses (helps to avoid tilting your head back to view the screen).

Environment Safety and Health at Argonne

ESH/QA Director	Roby Enge	2-1581
ESH/QA Support/Deputy Director	Terri Bray	2-9957
Industrial Hygiene	James Woodring	2-3310
Safety	Chuck Clarke	2-5100
Training	Edwina Langenberg	2-4903
Radiological Safety	Gary Zeman	2-8893
Radiological Safety Services	Sam Baker	2-4392
Operational Health Physics	Sheri Minnick	2-6829
Environmental Protection	Norbert Golchert	2-3312
Quality Assurance	Marty Alewine	2-6310
Issues Management	Beth Harvey	2-8096
Compliance Oversight & Assessments		
PAAA/851/ORPS	Jack Kester	2-7149
Assessments	Patrick Nolen	2-2103
Environmental Compliance	Geoff Pierce	2-2940
Legal, General Counsel	Will Elias	2-6186
Office of Safeguards & Security	Larry Collins	2-9919
FMS Safety	John Benkert	2-4335
Emergency Management	Gary Winner	2-5991
Fire Department	Craig Patterson	2-6136
Waste Management	Sue Lorenz	2-5385
Nuclear Operations	Cindy Rock	2-5606
Medical	Jamie Stalker, MD	2-2800

<u>DIRECTORY OF CONTACTS</u>

Accident/incident investigation	Shaney Harden	2-5283
Air pollution control	Greg Barrett	2-2854
ALARA program	Sam Baker	2-4392
Analytical services	Theresa Davis	2-6077
Area Emergency Supervisor Coordinator	Gary Winner	2-5991
Asbestos hazards	Bob Utesch	2-5645
Beryllium	John Davis	2-2865
Biosafety/Bloodborne pathogens	Gail Van Gorp	2-3689
Biosafety Committee	Dan Schabacker	2-5191
Carcinogen safety	Gail Van Gorp	2-3689
Chemical exposure/safety	Jim Woodring	2-3310
Chemical hygiene plans	Jim Woodring	2-3310
Chemical Management System	Jeanne Elkins	2-9857
Clean Air Act permit management	Greg Barrett	2-2854
Computer workstation evaluation	Shaney Harden	2-5283
Conduct of Operations	Walt Bird	2-7932
Confined space entry	Ralph Hinterman	2-2881
Construction safety	Frank Curran	2-7293
Counterfeit & suspect part coordinator	Bob Arthurs	2-8227
CPR training	Cynthia Hijuelos	2-6136
Cranes, hoisting & rigging	Dennis Hennebry	2-2860
Criticality safety	Jim Morman	2-6076
Electrical safety	Joe Kilar	2-8862
Electrical code	Jerry Grant	2-5815
Electromagnetic radiation	Bruce Murdoch	2-4905
Emergency Operations Center (EOC)	Gary Winner	2-5991
Environmental compliance	Geoff Pierce	2-2940
Environmental monitoring	Larry Moos	2-6933
Ergonomics	Steve Eagels	2-2993
Explosives	Frank Curran	2-7293
Fall protection	Frank Curran	2-7293
Fire extinguishers/inspection	George Friedericks	2-6131
Fire systems testing/maintenance	Steve Anderson	2-6911
Fire protection engineering	Glenn Schroeder	2-6355
Health Physics	Sheri Minnick	2-6829
HEPA filter testing	Tony Juscius	2-4149
Hoisting & rigging safety	Dennis Hennebry	2-2860
Human subjects related research	Gail Van Gorp	2-3689
Indoor air quality	Jim Woodring	2-3310
Industrial hygiene	Jim Woodring	2-3310
Industrial safety	Steve Eagels	2-2993
Land pollution control	Gregg Kulma	2-9147
Laser safety	Bruce Murdoch	2-4905
Lead hazards	John Davis	2-2856
Lessons Learned	Asu Alp	2-3301
Legal ES&H questions	Bill Luck	2-7300
Medical surveillance	Jamie Stalker, MD	2-2800
MSDSs	Jeanne Elkins	2-9857
Nanomaterials	Bruce Stockmeier	2-9394
NEPA	Mark Kamiya	2-2704
NESHAP program	Norbert Golchert	2-3312
Noise measurement	Ralph Hinterman	2-7853
NPDES monitoring	Larry Moos	2-6933
NPDES permit management	Devin Hodge	2-7834
	Peter Lynch	2-4582
Nuclear facility compliance	Joyce Leggett	2-3060
Nuclear material control	Manjula Pfingston	2-5044
Occurrence reporting (ORPS)	Sue Brindle	2-6286
Open flame permits	George Friedericks	2-6131
Packaging & transportation	Jeff McGhee	2-5712
PCBs management	Mark Kamiya	2-2704
Personal protective equipment (PPE)		
Radiological	Contact Health Physicist	
Non-radiological	Gail Van Gorp or Division Coordinator	2-3689
Pollution prevention	Gregg Kulma	2-9147
Pressure safety	Bill Toter	2-7342
FMS	Dejan Ristic	2-5075
PAAA Reporting	Robin Colglazier	2-8747
Project review		
Environmental aspects	Mark Kamiya	2-2704
IH & safety aspects	Jim Woodring	2-3310
Fire protection	Glenn Schroeder	2-6355
Radiological Assistance Program (RAP)	Nick Contos	2-1583
Radiological safety	Sam Baker	2-4392
Radiation dosimetry, internal	Charlotte Sholeen	2-6172
Radiation dosimetry, external	Gerry Davidson	2-8894
Radiological instrumentation	Bill Munyon	2-3327
RCRA permit management	Gregg Kulma	2-9147
Reproductive hazards	Jamie Stalker, MD	2-2800
Respirator training/issue	Tony Juscius	2-4149
RF/microwaves/magnetic fields	Bruce Murdoch	2-4905
Sealed radioactive sources	Matthew Rumick	2-6444
Security	Dave Metta	2-5738
Off-hours	Protective Force	2-5731
Service contractor safety	Frank Curran	2-7293
Site inspections	Chuck Clarke	2-5100
Special materials	Manjula Pfingston	2-5044
Spill prevention/control (SPCC)	Pete Lynch	2-4582
Spill reporting	Pete Lynch	2-4582
10CFR851 Worker Safety & Health		
Implementation	Jack Kester	2-7149
Compliance & Reporting	Stuart Meredith	2-6312
Training	Edwina Langenberg	2-4903
TMS Data Entry	Tim Ortiz	2-2846
Trainers	Ralph Hinterman	2-2881
	Jeff Ullian	2-4228
Videographer	Brian Weder	2-7588
Instructional Design	Magda Migasiuk	2-7460
	Kathy Hulina	2-3800
Web Developer	Ben Kress	2-7683
Training Management System	Julie Tossing	2-3809
Traffic Safety	Philip Rash	2-8114
Transportation safety	Jeff McGhee	2-5712
Transuranic waste	Chris Brandjes	2-2242
Ventilation-general/building	Paul Vanderwall	2-8494
Ventilation-hazard control/hoods	Bob Utesch	2-5645
Waste disposal: Chemical	Linda Barlow	2-2212
Mixed, Radioactive	Joe Jacoboski	2-1678
Waste management operations	Dan Dilday	2-2208
Waste minimization	Gregg Kulma	2-9147
Water pollution control	Pete Lynch	2-4582
Worker compensation (Occupational Disability)	Bonnie Marchiniak	2-2811
Worker compensation (injury billing)	Roslyn Kiwior	2-2803