
HEALTH PHYSICS & RADIATION SAFETY SERVICES



Stan A. Huber Consultants, Inc.
Health Physics and Radiation Safety Services

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Health Physics & Radiation Safety Services

Radiation Safety Audits



Decontamination - Decommissioning Services

Risk Assessment



NORM Services



Radioactive Waste Management Consulting

Contamination Tests



Radiation Surveys



DOT Compliance

Radioactive Gauge Inventory Services



Leak Testing



Nuclear Equipment Calibrations



1-800-383-0468

Stan A. Huber Consultants, Inc.



Stan A. Huber Consultants, Inc. has specialized in providing radiation safety/health physics support services for a wide variety of facilities that use radioactive materials for over 25 years. We are licensed by the Illinois Emergency Management Agency Division of Nuclear Safety with reciprocity recognition throughout the United States. Call us for answers to your radiation questions and health physics needs.



- **24-Hour Emergency Response to Radiation Accidents**
- **Gauge Inventory and Quality Control Services**
- **Decommissioning - Decontamination Services**
- **Radiation Safety Training Seminars (also customized to your facility)**
- **Radiation Safety Audits & Regulatory Compliance**
- **NORM Consulting and Remediation Services**
- **Radiation Surveys and Contamination Tests**
- **Leak Testing of Sealed Sources**
- **Licensing Services (NRC or Agreement State)**
- **Nuclear Equipment Calibrations**
- **Environmental Pathway Analysis**
- **Risk Assessment**
- **Radioactive Waste Management Consulting**

All of our personnel are experienced to handle all facets of your radioactive material program. Please call us for our list of special projects (extensive NORM decommissioning projects, site characterization, steel mill decontamination, emergency response at oil refineries, temporary radiation safety officer duties, etc.)

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sahci

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Radiation Safety Consulting Services

Stan A. Huber Consultants, Inc. has provided radiation safety consulting services to industrial and medical clients for over 25 years.

Depending on the size and extent of your operation, a health physics consulting program can be tailored to your needs on either quarterly, semi-annual, or annual visit frequencies. If special needs arise, visits can also be on call or on any frequency you choose.

The following categories describe typical areas of coverage during our scheduled visits to facilities:

- **Licensing and Regulations**

Nuclear Regulatory Commission, State Health Department, Food and Drug Administration, Department of Transportation, OSHA, and Joint Commission on Accreditation of Hospitals, compliance and updating.

- **Record Systems**

Implement or review those records required by the previously mentioned regulatory agencies or recommended for efficient department operations. We can provide you with appropriate forms to best suit your operations for all record keeping requirements.

- **Radiation Safety**

Implement radiation safety survey checks and continuing evaluation of radiation safety controls and methods to meet changing regulatory agency requirements.

- **Quality Control Checks**

Includes controls for instrument validity, radiopharmaceutical integrity, and of imaging or lab studies.

- **Continuing Education**

Includes lectures and audio-visual presentations to your personnel geared to your particular operation.

- **Procedure and Operation Manual**

Includes review and updating of your manuals. We can also assist in the initial development of such manuals.



Radiation Safety Consulting Services (continued)

- **Certified Calibration of Special Instruments**

We are licensed by the Illinois Emergency Management Agency Division of Nuclear Safety to perform certified calibrations of nuclear instruments either on-site at your facility or in our laboratory. We keep back-up records of all certificates in case your originals get misplaced or lost.

- **Facility Changes and Close-Out Surveys**

We can assist in or perform close-out surveys of licensed facilities and handle all regulatory requirements and paperwork.

The foregoing is not intended to limit the service to these categories, but rather to indicate the comprehensiveness and application of the service. All of our consulting visits are of 6 - 8 hours (full day) duration. Special 1/2 day visit programs are also available on request.

We will provide you with narrative progress reports after each visit to summarize our actions, observations, or recommendations. Visits are always scheduled in advance.

License and Registration

Stan A. Huber Consultants, Inc., Illinois Emergency Management Agency Division of Nuclear Safety Radioactive Materials License Number is IL-01013-01 (Illinois Registration #97117151). We are also listed as "Radiation Experts" in Illinois and other states that have such lists.

Stan A. Huber is licensed by the Texas Board of Health in Medical Nuclear Physics and Medical Health Physics, License Number MP0279.



Radioactive Material Licensing Services

Stan A. Huber Consultants, Inc. can prepare or assist in the preparation of radioactive material licensing documents for your facility (Nuclear Regulatory Commission and State Health Department license, renewal or amendment applications, etc.). Our experience with more than 400 regular clients assures that we are always up to date on current regulations and licensing formats.

Most licensing preparation can be handled by correspondence or telephone. More complex licensing actions may require an on-site visit and license audit to ascertain correct coverage. A license audit is usually a prerequisite for establishing and maintaining an understandable and efficient control system. The audit steps and purposes are:

- To make certain that the license is organized and complete for present operations. If documents are missing, action will be taken or recommended for their replacement.
- To summarize and restate the license in a manner that is more understandable and useful to the user.
- To list all restrictions and stipulations of the total license in an organized manner and subsequently check department operations and records for compliance.
- To ascertain, by record reviews and interviews, that no studies or activities are being performed which are not licensed and that authorized users or radioactive source listings are current and complete.
- To list any necessary amendments to be implemented for present or planned operations.
- To review current methods of handling licenser, such as through Review Committees, for potential recommendations to achieve optimum efficiency and communication among all involved personnel.

A typical license audit will take between 3 and 6 hours to complete. Some licensing actions (such as for use of Xenon-133 radioactive gas) may require additional information, such as airflow and ventilation requirements.

Any necessary renewal or amendment applications are prepared in our office and mailed or delivered to you for review and forwarding to the appropriate regulatory agencies. We also handle any follow-up correspondence necessary until the license is issued.



Radiation Training Services

Stan A. Huber Consultants, Inc. presents a variety of training seminars to aid management in the tasks of implementing their radiation safety program. We schedule our *Seminar on Radiation Safety and Management* approximately every 4 months at locations throughout the U.S. Seminar topics are:

- ◆ **Types of Radiation Used in Industry**
 - Basic Radioactivity and Radiation Theory
 - Radiation Quantities; Math Review
- ◆ **Nuclear Regulatory Commission and Agreement State Regulations**
 - 10 CFR Part 20
 - Regulations Review
 - Inspections by Regulatory Agencies
 - Inspection Reports and Your Follow-up
- ◆ **Licensing of Radioactive Materials**
 - General or Specific Licenses
 - Who Needs a License
- ◆ **Radiation Biology**
- ◆ **DOT Regulations & Transportation**
- ◆ **Effective Radiation Safety Programs**
 - Personnel Training and Continuing Education
 - Record Systems & Record Retention Requirements
 - Operations Manuals
 - Personnel Monitoring (film badge requirements)
 - Leak Testing of Sealed Sources & Gauges
 - Calibration of Instruments
 - Radioactive Materials Area Posting
 - Facility Description and Survey Requirements
- ◆ **Emergency Response to Radiation Incidents**
 - Contamination Incidents
 - Damaged or Lost Gauges or Sources
 - Personnel Exposures and Reporting Requirements
- ◆ **Termination & Expansion or Reduction of Radioactive Materials Program**
 - Termination of Licenses
 - Close-out or Decommissioning of Facilities
 - Disposal of Radioactive Sources or Gauges

Training for Results Our training methods combine lecture, hands-on sessions, and workshops. All of our health physics consultants are available on a one-on-one basis to address specific concerns, such as individual license reviews or questions, throughout the seminars. We also encourage all personnel who attend any of our courses to call us at any time with questions (at no charge, of course). We can also assist in the preparation for radiation accident cases or conducting simulated drills.

Continued



These are some of the companies that have sent personnel to our Radiation Management Seminars:

3M Company	Eaton Corporation	Nekoosa Papers
Allied Signal Corp.	Eveready Battery	Nevada State Health Lab
Allied Bendix ESD	Falkirk Mining	Nevada Dept. of Transportation
American Cyanamid	Flambeau Paper Company	Northrup King Co.
American Nat'l Can	Flodata Prod. Logging	Ohmart Corporation
Amgen Boulder	General Research Corporation	Packard Instrument Company
AMOCO Chemical	General Foods USA	Pennsylvania Dept. of Transportation
B.F. Goodrich	General Mills	Perkin Elmer Corporation
BASF Corporation	General Electric	Pfizer, Inc.
Baxter Healthcare	Georgia Pacific	Procter & Gamble
Beckman Industries	Gulf Coast Research	Quantum Chemical Company
Bowling Green State University	Helene Curtis	Raychem Corporation
BP Oil Company	Hershey Chocolate	Rock Island Arsenal
BP Chemical	Hewlett Packard	Rockwell International
Bristol Meyers Squibb	Hoechst Roussel Agri.	Ronan Engineering
Butler University	Humboldt State University	Sandoz Pharmaceuticals
CA Dept. of Transportation	Idaho Dept. of Transportation	Shell Oil Company
Camco, Inc.	Indiana Dept. of Transportation	Smith Kline Beecham
Case Western Reserve Univ.	Indiana Power and Light	Teledyne Test Products
Chevron Chemical Co.	Isotope Products Laboratories	Telios Pharmaceuticals
Chiron Corp.	James River Corporation	Texaco Refining
Ciba-Corning Diagnostics	Kay Ray/Sensall	U.S. Borax Chemical
Clark Oil	Kerr-McGee Corporation	Union Carbide
Cleveland State University	Kimberly Clark	Uniroyal Chemical
Corning Glass Works	Liposome Technologies	United Technologies
CPC International	Litton Guidance	Unocal, Inc.
Cyprus Plateau Mining	Martin Marietta	US Bureau of Mines
Disaster Emergency Services	McDonnell Douglas	US Geological Survey
Dow Chemical	Mission Research	Water Utilities
Dow Corning	Monitor Sugar Company	Wheaton College (Illinois)
E.I. DuPont	Monsanto Co.	

Customized training is, of course, arranged according to your schedule and needs. Training can be done in one, two, or five day sessions, depending on the specific needs and levels of radiation training needed (such as, for authorized users, management, key radiation safety personnel, support workers, etc.).

Stan A. Huber Consultants, Inc. has specialized in providing radiation safety training services for hospitals, universities, research labs, and a wide variety of manufacturing and industrial facilities that use radioactive materials for over 25 years.

We can offer your facility an effective way to oversee your radioactive material program through the use of formal training seminars, on-site customized personnel training or audio-visual presentations. Please call us for information about what type of training can best accomplish your goals depending on the extent of your radioactive materials program and special license considerations.

For a list of upcoming seminar dates and topics and all of our training options, please call **1 (800) 383-0468** or visit our training page at www.sahci.com.



Management Compliance Audits

A total NRC or Agreement State license audit is usually a prerequisite for establishing and maintaining an understandable and efficient control system. The audit steps and purposes are:

- To make certain that the license is organized and complete for present operations. If documents are missing, action will be taken or recommended for their replacement.
- To summarize and restate the license in a manner that is more understandable and useful to the user.
- To list all restrictions and stipulations of the total license in an organized manner and subsequently check department operations and records for compliance.
- To ascertain, by record reviews and interviews, that no studies or activities are being performed which are not licensed and that authorized users or radioactive source listings are current and complete.
- To list any necessary amendments to be implemented for present or planned operations.
- To review current methods of handling licenser, such as through Review Committees, for potential recommendations to achieve optimum efficiency and communication among all involved personnel.

After completion of the license audit, the consultant can prepare any necessary radioactive material amendment or renewal application.

Special management decisions must be made at the time of initiating a radioactive material program or expanding an existing operation. The consultant can be of specialized assistance in this area by objective application of his experience and training to develop sound recommendations or justifications based on an individual facility's circumstance.

The consultant can prepare or aid in the preparation of cost analysis studies, facility design, feasibility studies, and complete overview evaluation studies.

Nuclear Calibration Services

Survey Meters □ Dose Calibrators

Pocket Dosimeters □ Monitors and Alarms

*Calibrations performed **on-site** at your facility or
Performed in our lab - 5 day Turn-around time*

- We have regular routes throughout the Midwestern United States and can often perform these calibrations ON-SITE at your facility, whenever a minimum of three instruments can be calibrated at any one time. Specific dates for these calibration visits are arranged with you prior to our visits.
- Instruments can be sent to our lab for calibrations. We will perform the calibration within five (5) days of receipt of the instruments and return them to you along with a calibration certificate. This certificate needs to be kept on file for your records and regulatory agency inspections. We keep back-up records of all certificates, in the event that your originals are misplaced.

According to your facility's radioactive material license conditions, instruments need to be calibrated on specific frequencies. We can send reminders to you when calibrations are again due to be performed, upon request.

All of our radioactive sources and standards are NIST (NBS) traceable, and our calibration methods and procedures conform to Nuclear Regulatory Commission and State Health Department regulations.

Our Illinois Emergency Management Agency Division of Nuclear Safety license number is IL-01013-01, with nationwide reciprocity recognition.



Leak Testing of Radioactive Sources and Gauges

Stan A. Huber Consultants, Inc. performs certified leak testing of radioactive sealed sources, reference standards, and gauges.

Ordering Information and Procedures

- Tests can be ordered by phone or email. We then send you our leak test kits for the number of sources that require leak testing. You perform the simple test according to the instructions in the kit and mail the kit back to us. Within five (5) days of our receipt of the kit, the test is assayed and results are reported to you by mail. Should our results indicate that a source is leaking, we will immediately contact you by telephone.
- If we visit your facility for consulting or instrument calibration, we can perform the leak test services during our visits. The tests are assayed in our lab and results are reported to you within 10 days of our visit.

Along with the certificate for each test performed, we will send you an equal number of new kits for you to keep on hand for the next time the tests are due. We can also send you reminders when your sources are due to be tested again, if you so desire.

When ordering leak test kits, please specify if any Iodine-125 sources are to be leak tested. These sources require that, along with the surface contamination test, an additional airborne contamination test also be performed.

Our office keeps back-up copies of all leak test certificates in the event that your originals are misplaced.

Our methods and procedures are registered with the Illinois Emergency Management Agency Division of Nuclear Safety under license number IL-01013-01, with nationwide reciprocity recognition.



24 Hour Emergency Response Services to Radiation Accidents

Stan A. Huber Consultants, Inc. can respond to radioactive gauge or other radiation incidents around the clock. This immediate response allows management to handle the incident in a correct manner according to regulatory requirements.

Should you need emergency response because of a radiation incident during off-duty hours, help is only a phone call away. We ask that you call our regular toll-free number. Should you not be able to reach us immediately, you may call our emergency number 1 (815) 485-7866. One of our health physics personnel will then return your call. This on-site assistance response is only limited by travel time and distance.

Site Visit Objectives are:

- Secure the radioactive source and keep personnel exposures to a minimum.
- Address any personnel exposure concerns and follow-up actions needed.
- Meet with management and keep them informed of all actions.
- Contact the radiation source manufacturer for handling instructions, if applicable.
- Perform leak testing of gauges or tests of any areas that could have been contaminated, to determine radiation source integrity, or additional precautions which may be indicated.
- Discuss procedures that will aid in future operations to avoid recurrence of incidents.

All of our actions and recommendations are detailed in a narrative report to management after the site visit.

Our specific license allows us to retrieve and prepare radioactive sources for return to the manufacturer or for disposal, and to take, possess and analyze samples.



Radioactive Decontamination and Decommissioning Services

There are three basic categories of radioactive decontamination projects that are typically requested, as follows:

- A facility has been contaminated with radioactive materials and needs an emergency clean-up. Often, the type and quantity of radioactive material and the extent of contamination is unknown. Public health and safety could be at risk and media relations may be a concern. Immediate, comprehensive and professional response is required.
- A part of a licensed facility has been contaminated and the types, quantities and extent of contamination is reported as known. The license of the facility may be continued, but the contaminated area needs to be cleaned for a number of possible reasons, such as moving a location, personnel safety concerns, rearranging operations, etc.
- A radioactive materials licensed operation is being terminated and the facility is being decommissioned. Decontamination and a “close-out” radiation survey and testing are needed to apply to the appropriate regulatory agency for release of the facility for unrestricted use.

Stan A. Huber Consultants, Inc. has done all of the foregoing types of radioactive decontamination projects and variations thereof. Some of the primary services include:

- Emergency Response (if indicated)
- Site Characterization - Define Scope of Problem
- Develop Decontamination Plan with Most Applicable Technologies*
- Obtain Regulatory Agency Approval for Decon Plan
- Assemble Workforce
- Conduct Radiation Safety and Site Specific Training
- Implement Decon Plan
- Monitor Radiation Safety of Workers Throughout Project
- Analyze Samples (air, soil, water, surfaces, etc.)
- Contain and Package Wastes
- Do Labeling and Manifests (or regulatory guidance)
- Arrange Transport to Treatment, Interim Storage or Appropriate Disposal Facilities
- Coordinate Decontamination Activities with Regulatory Agencies Throughout Project and Submit Close-out Radiation Survey and Test Results. (Documented completion of decontamination or decommissioning)

*The type of treatment or decontamination technologies used at each job site vary with the individual circumstances. There are dozens of different radioactive decontamination techniques and equipment for various surfaces and materials, as well as different cleaning, stripping, encapsulating, washing, abrasion, etc. products on the market. SAHCI has broad experience with these technologies and is always seeking potential improved products or techniques.

24 Hour - 7 Days Per Week Coverage



Close-Out Radiation Survey Projects

Termination of radioactive materials licenses, or close-out of existing licensed facilities require that a close-out radiation survey be performed to ascertain that the areas are free of radioactive contamination and can be released for unrestricted use. Any areas found to be contaminated require decontamination. All survey results must be submitted to the Nuclear Regulatory Commission or State Health Department or retained for future inspection by those agencies.

Close-out of facilities requires that the following steps be taken:

- Perform a site visit to the building or area to be closed out.
- Review all existing radioactive material license documents to verify what type of radioactive materials had been used or stored in the facility. In older facilities that have not been used for years or have been vacant for a long time, it is often difficult to find licensing documents. In those cases, it may be possible to interview previous authorized users or personnel.
- If radioactive materials are to be disposed (possibly through a radioactive waste broker), a conference between management, the waste removal firm, and the decontamination personnel should be held and an estimated schedule of removal and decontamination should be established.
- Once the extent of the close-out and decommissioning project has been established, definite time schedules can be set up, giving projected starting and ending dates for each phase, number of personnel needed for each phase, etc.
- Our health physics personnel can coordinate the total project and act as liaison between waste removal personnel, management, and regulatory agencies.
- Waste removal should be estimated according to the type of waste to be removed in each area, cubic footage of waste, barrels and supplies needed, and any special equipment that may need to be obtained or rented for waste removal.
- Health physics personnel will check and decontaminate (if needed) each area, after radioactive waste has been removed.
- Wipe test results are analyzed in our mobile lab or in our office and results relayed to on-site health physics personnel for further decontamination or suspect areas, if necessary.
- We will communicate our progress and results to management through daily or other periodic reports, showing the areas being worked on, number of personnel used each day, and special problems or results.
- Once clean-up has been completed, we will prepare a close-out summary report to management, and any detailed reports necessary for regulatory agencies. Should regulatory agencies desire to make a site visit, we will also participate in these meetings and inspections to explain our findings.

We will prepare any documents for regulatory agencies (NRC and/or State Health Departments) requesting license termination or facility close-out, and handle any follow-up meetings or correspondence necessary for licensing termination or relocation actions.



Rad-Waste or Special Waste Consulting Training and Nuclear Support Services for NORM Mixed Waste and Rad-Waste Handling Disposal

The Problems or Needs

Naturally Occurring Radioactive Material (NORM) in the form of diffuse contamination in **oil, water, mining, and other earth resource use operations** has been a problem for a number of years. However, the extent and degree of concentration of NORM varies widely and its radiation exposure potentials have only recently been thoroughly studied. Regulations and licensing requirements are now in existence or being developed in several states. Naturally Occurring or Accelerator Produced Radioactive Material (NARM), in the form of manufactured or discrete radiation sources, is a similar but separate waste management issue.

If either NORM, NARM or “regular” radioactive waste becomes contaminated with EPA classified hazardous waste, then a “mixed-waste” problem arises. Aside from regulatory compliance, as well as disposal needs and costs, there are also the concerns of in-house and long term liabilities.

The Solution

Stan A. Huber Consultants, Inc., with over 25 years of nuclear health physics experience and rad-waste management services, works with other specialists to offer a **full range of professional services** to cover all these complex needs under one umbrella, including, but not limited to, the following:

- Provide **professionally recognized** radiological and chemical testing of waste streams to define the true scope of any problem that may exist, or to demonstrate there is no concern.
- Define ways to minimize waste streams, process costs, and disposal quantities, as opposed to rad-waste disposal firm brokers who could typically be interested in maximizing waste volumes.
- Prepare or assist with licensing, permits, and regulatory compliance needs and documentation.
- Provide health physics support such as decontamination/decommissioning services; certified calibrations of nuclear instruments; NRC registered leak tests of sealed radiation sources; air monitoring; soil and water tests; radiation surveys and wipe tests; bioassay systems; radiation safety audits; trend analysis and quality assurance system.



Special Projects

DECONTAMINATION – DECOMMISSIONING EMERGENCY RESPONSE AND NORM PROJECTS

<u>Client Name</u>	<u>Job Description</u>
Enginex, Lake Forest, IL	Thorium Monitoring Projects throughout Chicago, Illinois for ComEd, Chicago Dept. of Water. Includes soil sampling and analysis for Thorium contamination, particulate air monitoring, packaging of contaminated soils, and soil screening surveys.
Enginex, Lake Forest, IL	Thorium Monitoring Projects throughout Chicago, Illinois for ComEd, Chicago Dept. of Water. Includes soil sampling and analysis for Thorium contamination, particulate air monitoring, packaging of contaminated soils, and soil screening surveys.
Michael Reese Hospital Chicago, IL	Close-out survey of Michael Reese Hospital, termination of license, waste disposal
Lakeshore East Development 221 N. Columbus Drive USEPA Superfund Site Chicago, IL	Site Radiation Safety Officer throughout planning stages, site characterization, clean-up and packaging, and continued construction radiation monitoring of 25 acre parcel of land with Th-230/232 impacted soils. Duties include radiation surveys, soil sampling, air monitoring, awareness and health physics training, personnel dosimetry, and regulatory compliance. Worked with excavation contractors to safely identify, excavate, and package impacted soils.
DuSable Park Chicago, IL	Performed surveys of potentially Thorium contaminated soils and performed air monitoring and radiation screening during excavation process. Assisted in packaging and shipping radioactive waste for disposal.
Former Kraft Building (Parcel K and 21) USEPA Superfund Site Chicago, IL	Site Radiation Safety Officer throughout planning stages, site characterization, clean-up and packaging, and continued construction radiation monitoring of parcel with Th-230/232 impacted soils. Duties include radiation surveys, soil sampling, air monitoring, awareness and health physics training, personnel dosimetry, and regulatory compliance. Worked with excavation contractors to safely identify, excavate, and package impacted soils
GeoSyntec Consultants 160 E. Illinois Street Project Chicago, IL	Designed and implemented air monitoring program for Thorium contamination during demolition of existing building. Performed site characterization prior to demolition. Provided continuing radiation monitoring support throughout demolition and construction of new building.
MidAmerican Energy Co. Muscatine, IA	Emergency response to gauge shutter malfunction and exposure concerns. Coordinated with State and local regulation agencies.
B.P. Refinery Whiting, IN	Emergency response to Cs-137 gauge incident, taking radiation readings and participate in NRC inspection and communication follow up meetings with contractor personnel.
Mead/Westvaco Richmond, VA	Identification, retrieval and disposal of radioactive gauge found damaged in scrap yard.
L & L Supply Company Carmi, IL	Performed Site Characterization and cleanup of site contaminated with Ra-226/228 pipe scale (TENORM). After submittal of Final Status Survey Report the property was released for unrestricted use by the IEMA-Department of Nuclear Safety.



Special Projects

DECONTAMINATION – DECOMMISSIONING EMERGENCY RESPONSE AND NORM PROJECTS

<u>Client Name</u>	<u>Job Description</u>
341 East Ohio Street Site Chicago, IL USEPA Superfund Site Chicago, IL	Assisted in designing and implementing Site Characterization. Worked with general contractor to develop Work Plan and Quality Assurance Project Plan for EPA approval. Acted as Site Radiation Safety Officer throughout clean-up process. Performed all required radiation monitoring.
Lindsay Light II Site North Columbus Drive USEPA Superfund Site Chicago, IL	Site Radiation Safety Officer – supervised all health physics aspects of Th-230/232 clean-up. For specific duties please see Lakeshore East project above.
Beverly Gravel Co. Elgin, IL	Large-scale decontamination project at a gravel pit involving cleanup and remediation of Th-230/232 impacted soil.
Keystone Steel & Wire Co. Peoria, IL	Decontamination of steel and wire plant involving surveying and clean-up of complete facility, using a total of 20 health physics personnel and a clean-up crew of over 100. Coordinated with the IEMA- Department of Nuclear Safety.
Procter & Gamble Cincinnati, OH	Assisted in cleanup of laboratories contaminated with H-3 and C-14. Packaged waste and performed surveys required to release area for unrestricted use.
Case Property Brookhaven, MS	Decontamination of NORM on private property due to oil pipe decaling processing. Surveys and remediation of over 25 acres of land over a 2-1/2 year time period.
Alliant Techsystems Wilmington, IL	Site characterization of part of ammunition facility. Developed radiation safety plan and supervised removals of depleted uranium (D.U.) contaminated sand pile with unexploded ordnance contractor (UXO) and packaged/transported D.U. for transfer and disposal.
Border Steel Mill El Paso, TX	Decontamination of Cs-137 contaminated steel mill involving personnel training, surveying, waste packaging and clean up of facility.
General Instruments (CP Claire, Inc.) Chicago, IL	Survey of large manufacturing facility (approx. 100,000 sq. ft.). Decontamination of Cs-137 and Ni-63 from several furnaces and ovens, floors, equipment, etc. and resurvey. Coordinated with IEMA-Department of Nuclear Safety. Later, Stan Huber also surveyed the General Instruments, Inc. facility in Guadalajara, Mexico.
Mead Paper Co. Escanaba, MI	Nuclear Gauge removal, packaging, and disposal services.
Spectrulite Consortium Madison, IL	Health Physics Radiation Safety Services for Decontamination -Decommissioning and waste disposal of Th-232 Magnesium casting dross.
Inland Environmental Skokie, IL	Radiation survey and analysis of plots of land in the western suburbs of Chicago, IL.



Special Projects

DECONTAMINATION – DECOMMISSIONING EMERGENCY RESPONSE AND NORM PROJECTS

<u>Client Name</u>	<u>Job Description</u>
U.S. Steel Gary Works Gary, IN	Emergency responses involving nuclear gauges.
B.P. Whiting, IN	Emergency response, leak testing and survey of radioactive gauges (fire at facility). Emergency response involving radioactive contamination found during hazardous waste project.
Browning Ferris Industries Springfield, MO	Emergency response and decontamination of Radium found in landfill and waste packaging.
Johnson City Medical Center Johnson City, TN	Emergency response and decontamination of P-32 incident at hospital nuclear laboratory.
Austeel Lemont Co., Inc. Lemont, IL	Decontamination of steel plant involving the surveying, waste packaging and cleanup of facility in coordination with Wastren Remediation.
Raytheon/Fleet Environmental Boston, MA	Decontamination of Thorium contaminated facility and equipment. Included packaging of waste and arranging disposal. Coordinated with Nuclear Regulatory Commission.
Southern Zinc Co. Atlanta, GA	Decontamination of Depleted Uranium contamination in a scrap milling process. Coordinated with Georgia Radiological Health Dept.
Butler University Indianapolis, IN	Decontamination and decommissioning of university laboratory facility. Waste packaging and disposal consulting.
Bristol-Meyers Squibb Evansville, IN.	Survey of lab area, decontamination and/or removal of fixtures, floors and walls.
Louisiana Pacific Corporation Alpena, MI	Radioactive gauge removal project
Pittsburg & Midwest Coal Mining Company Raton, NM	Radioactive gauge removal, packaging and return to the manufacturer
Crosfield Catalysts Chicago, IL	Radioactive gauge removal services



Special Projects

COMPLIANCE AUDITS AND CONSULTING SERVICES

Stan A. Huber Consultants, Inc. (SAHCI) has completed several radiation safety and management compliance audits, procedure manual preparation, and license reviews. Some of our clients include:

- StoraEnso North America, Wisconsin Rapids, WI
- Corning, Inc., Greenville, OH
- University of Health Sciences, Kansas City, MO
- Marshall University School of Medicine, Huntington, WV
- Emory University, Atlanta, GA
- Minerals Technology, Easton, PA
- Kay-Ray/Sensall, Mt. Prospect, IL
- Firestone Fibre & Textile, Hopewell, VA
- Dept. of Defense, Naval Surface Weapons Center, Crane, IN
- MediPhysics, Arlington Hts., IL
- BEBIG, Inc., Elgin, IL
- City of Indianapolis, Indianapolis, IN
- Hammes Company, Brookfield, WI

RADIATION SAFETY TRAINING PROJECTS

The following corporations have contracted with Stan A. Huber Consultants, Inc. (SAHCI) to do on-site radiation safety training for their manufacturing and management personnel. This included five day, 40 hour training; two day training; one day training; and refresher training.

Escanaba Paper Company, Escanaba, MI
Aventine Renewable Energy, Pekin, IL
Corn Products International, Argo, IL
U.S. Steel, Gary, IN
BASF Corporation, Joliet, IL
Beckman-Coulter, Inc., Indianapolis, IN
Sugen, Inc., South San Francisco, CA
St. Lawrence Cement Co., Hagerstown, MD
Indiana Dept. of Transportation, Indianapolis, IN
Packard Instruments, Downers Grove, IL
Baxter Healthcare, Irving, CA
Bio-Imaging Research, Lincolnshire, IL
Molecular Dynamics, Sunnyvale, CA

Occupational Training Services, Alsip, IL
Mobil Oil, Joliet, IL
Helene Curtis, Chicago, IL
Celtrix Pharmaceuticals, Inc., Santa Clara, CA
Johnson Controls, Battle Creek, MI
Sterigenics International, Several US Locations
Indiana State Dept. of Health, Indianapolis, IN
CINERGY Westwood Gen. Station, Tremont, PA
INDEV Gauging Systems, Burr Ridge, IL
Applied Extrusion Technologies, Terre Haute, IN
CMI International, Tulsa, OK
Cementos Progreso, Guatemala, Central America



Special Projects

TEMPORARY RADIATION SAFETY OFFICER SERVICES AND MANAGEMENT SUPPORT

Stan A. Huber Consultants, Inc. (SAHCI) has provided Temporary Radiation Safety Officer and Management Support services to several facilities. Among our clients are:

ArcelorMittal USA East Chicago, IN	Radiation Safety Officer and health physics services for major steel mill operation.
LyondellBasell – Equistar Chemicals. Morris, IL	Radiation Safety Officer and health physics services for a large chemical company.
Alliance Imaging, Inc. Chicago, IL	Radiation Safety Officer (WI) for mobile PET operation.
LaPorte Hospital LaPorte, IN	Radiation Safety Officer services for large medical facility.
Millipore St. Charles, MO	Radiation Safety Officer for research laboratory.
Midwest PET Cedar Rapids, IA	Temporary Radiation Safety Officer for Mobile PET Operation
Perkin Elmer Life Sciences Torrance, CA	Temporary Radiation Safety Officer and permanent Alternate Radiation Safety Officer for liquid scintillation equipment manufacturing facility.
Packard Instrument Co. Downers Grove, IL	Temporary RSO for corporate facility of a liquid scintillation equipment manufacturer. SAHCI has served as RSO on two separate occasions for several months during search for and orientation of a permanent RSO.
Chicago Specialties Chicago, IL	Temporary RSO to oversee disposition of materials and close-out of facility.
Michael Reese Medical Center Chicago, IL	Temporary RSO for several months for a Broad Scope Medical Licensee, Radiation Oncology Center and research labs.
Wisconsin Electric Power Co. Milwaukee, WI	Temporary Radiation Protection Officer for Fossil Operation Plants on a temporary basis during search for a permanent Radiation Protection Officer.



Special Projects

TEMPORARY RADIATION SAFETY OFFICER SERVICES AND MANAGEMENT SUPPORT

Client Name

Job Description

**Henkel Corp.
Kankakee, IL**

Temporary RSO for several months for a large chemical company. An initial audit of Henkel Corp.'s radiation safety program was performed upon SAHCI assuming the RSO responsibilities, to ensure Henkel Corp. was in compliance with all Illinois Department of Nuclear Safety regulations and license conditions.

**CITGO Petroleum Corp.
Lemont, IL**

Temporary RSO for several months for large oil refinery in suburban Chicago, IL.

**Jackson County
Schneck Memorial Hospital
Seymour, IN**

Temporary Radiation Safety Officer for several months for Medical Center during search for permanent Radiation Safety Officer.

