

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by the Region III staff on this date.

Facility: United Technology, Inc.  
Boonville, Indiana

Non-Licensee

Licensee Emergency Classification:  
 Notification of an Unusual Event  
 Alert  
 Site Area Emergency  
 General Emergency  
 Not Applicable

Subject: CONTAMINATED ALUMINUM FOUND IN SCRAP YARD----(UPDATE)

On September 14, 1987, samples of the contaminated aluminum dross from the scrap yard in Sikeston, Missouri, were analyzed in the Region III (Chicago) laboratory and found to be contaminated with radium-226, a material which is not subject to NRC licensing but is under state jurisdiction. The States of Missouri and Indiana have been notified of the laboratory findings. (The aluminum dross was from a scrap aluminum processing facility operated by United Technology in Boonville, Indiana.) Similar results were obtained by an independent laboratory retained by the firm which was the intended recipient of the dross.

The truckload of aluminum dross which had been removed from the rail car at Paul's, Inc., in Sikeston has been placed back in the rail car. That rail car and a second one are marked as containing radioactive material. The radiation levels at the surface of the rail car are 0.4 to 0.5 millirem per hour.

The previous shipment of dross from the United Technology's facility in Boonville, Indiana, was sent to a customer in Kansas. At the request of Region III, the State of Kansas surveyed the customer's facility on September 11, 1987, and found no evidence of contamination. These findings, coupled with the State of Indiana's survey at the United Technology's facility indicate that the contamination was confined to a single batch of dross.

An NRC inspector performed radiation surveys of the Paul's, Inc., scrap yard facilities and equipment and found no detectable radiation above natural background levels.

Scrap yard workers had no external contamination, but may have been exposed to airborne concentrations of radium-226, which was measurable in air samples collected by the customer's consultant.

The States of Missouri and Indiana have jurisdiction over this matter and are coordinating their response.

This information is current as of 4 p.m., September 14, 1987.

CONTACT: D. Wiedeman (FTS 388-5616) B. Mallett (FTS 388-5742)

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Licensee: \_\_\_\_\_ (Corp. Office - Reactor Lic. Only)

U  
2 Radioactive Contamination of Plant Equipment and Waste

(8)  
10-8

On August 25, 1988, lead waste shipped by truck from ALCO Pacific, Inc., of Gardena, California, was rejected at the Casmalia Toxic Waste site because of radiation levels of up to 1.4 millirem/hour at the surface of the waste. The truck with the contaminated waste returned to ALCO Pacific. Meanwhile, a representative of Casmalia Toxic Waste notified Environmental Radiation Management (ERM) of the California Department of Health Services of the event. ERM notified the Los Angeles field office of the event and requested that the Los Angeles County Health Department be notified.

ALCO Pacific, a non-licensee, operates a lead reprocessing facility. Lead waste products, received from various states as well as local companies in the Los Angeles area, are reprocessed by incineration. An ERM Health Physicist went to the facility and confirmed radiation levels above background in the returned waste shipment. Radiation levels in the work and public areas did not exceed background levels. The Los Angeles County Health Department had samples of the waste analyzed, and the analyses indicated levels between 3 and E-3 microcuries of Cs-137.

ALCO Pacific was advised by ERM to obtain the services of a knowledgeable firm to decontaminate and remove the radioactive waste, and to cease operations until the magnitude of the problem had been identified and any hazards eliminated. ALCO Pacific complied and hired AWC, Inc. of Las Vegas, Nevada, for assessment and cleanup. A representative of AWC, Inc. responded on September 19, 1988 and made a complete survey of the facility. In addition to the waste, radiation levels of 100 microrems/hour were detected in the facility's baghouse. The recycled lead product, however, did not have measurable levels of radiation above background.

The AWC, Inc. representative was able to trace the cause of the radioactivity to a Cs-137 source inadvertently left in a shipment of source holders and shields from J. L. Shepherd Associates of San Fernando, California. AWC, Inc. packaged the contaminated waste and decontaminated the baghouse. Fifty-two drums of waste from the baghouse contained significant levels of cadmium and lead as well as Cs-137. This waste is being stored at ALCO Pacific awaiting final disposal as mixed waste. The remaining waste was shipped in approximately 500 drums to the Beatty (Nevada) Low Level Waste Site.

Decontamination was complete, the furnace reignited, and operations resumed on September 28, 1988. ALCO Pacific has requested State assistance in disposing of or storing the 52 drums of mixed waste.

In order to help prevent recurrence of similar events, ALCO Pacific purchased a radiation meter to survey incoming shipments. The California Department of Occupational Safety (DOSH) investigated the operations of J. L. Shepherd Associates and found failures to maintain accurate and clear records. A notice of violation was issued and authorization for removal of sealed sources from source holders has been temporarily suspended by DOSH, pending satisfactory completion of corrective actions. J. L. Shepherd Associates is contesting the investigation findings.

The effect on public health or safety, including plant workers, was minimal for this event. However, had the source been of a much higher activity, the

consequences could have been significant, not only to public health or safety, but also in regard to the costs associated with decontamination of the facility. The most significant aspect of this event is that a licensee had lost control of licensed material.

\* \* \* \* \*

### 3. Breakdown of Management Controls at a Nuclear Pharmacy's Facilities

On October 12, 1988, the NRC issued an Order Modifying Licenses (effective immediately) to two nuclear pharmacies (located in Blue Ash, Ohio, and Columbus, Ohio) operated by Syncor International Corporation of Chatsworth, California (Ref. C-5). The Order required additional quality assurance measures at the facilities as a result of improperly labeled radiopharmaceuticals being distributed by the Blue Ash facility and inadequate quality control measures at both facilities. The Order also required Syncor to assess corporate oversight at a sampling of various Syncor facilities. Syncor International operates many facilities which distribute radiopharmaceuticals to medical institutions for diagnostic and therapeutic medical procedures.

In April and May 1988, NRC Region III was notified of several misadministrations of diagnostic radiopharmaceuticals occurring at hospitals serviced by the Syncor operation at Blue Ash. Syncor had distributed 17 patient doses of one radiopharmaceutical incorrectly labeled as another. This mislabeling resulted in 14 diagnostic misadministrations at seven hospitals. In August 1988, NRC Region III interviewed a sample of customers of the Blue Ash facility and identified numerous other occurrences of improperly tagged or labeled radiopharmaceuticals being provided to these customers. (Tagging is the chemical combination of a radioactive material and other materials which determine the behavior of a radiopharmaceutical in the body. Different tagging substances are used for various diagnostic procedures. Labeling is the identification of the radiopharmaceutical on its container.) Each of these improperly tagged or labeled doses resulted in diagnostic misadministrations or in unnecessary organ and whole body doses during the diagnostic procedures.

On July 13, 1988, NRC Region III issued a Confirmatory Action Letter to the Blue Ash facility documenting the licensee's agreement to implement improvements to its quality assurance/quality control program and to properly report misadministrations (Ref. C-6).

On September 2, 1988, NRC Region III issued a second Confirmatory Action Letter to the Blue Ash facility documenting the licensee's agreement to provide an independent verification by two individuals that radiopharmaceuticals have been properly tested and labeled before distribution (Ref. C-7).

As a result of the Blue Ash findings, NRC Region III conducted inspections at a sampling of other Syncor facilities, including the Columbus, Ohio, facility. The Columbus inspection on September 8-9, 1988, determined that testing equipment for radiopharmaceuticals had been out of service September 5-7, 1988, and that required tests had not been performed.

On September 9, 1988, NRC Region III issued a Confirmatory Action Letter to the Columbus facility documenting the licensee's agreement to institute additional management quality assurance audits to make certain that all tests and assays are performed properly (Ref. C-8).

Commissioner of the Minnesota Pollution Control Agency and will replace Gerald Willet, Commissioner of the Minnesota Pollution Control Agency. Minnesota's new Alternate Commissioner will be Dagmar Romano, Executive Office Policy Analyst with the Minnesota Pollution Control Agency.

#### Public Utilities Commission Meeting

On May 12, 1988, Messrs. W. G. Guldemon, R. Lickus, B. Burgess, M. Moser (Region III), and D. DeIanni (NRR) participated in a meeting with the Minnesota Public Utilities Commission (PUC) on the subject of spent fuel consolidation at Prairie Island. The meeting was held at the request of the PUC. Representatives from Northern States Power were also present.

The meeting opened with a general discussion of NRC organization and responsibilities followed by a technical presentation on spent fuel consolidation and NRC involvement in the recently completed pilot project at Prairie Island. The presentation was generally well received by the PUC. Following the presentation the PUC members asked a number of questions of the NRC and Northern States Power representatives.

#### MISSOURI

##### Excavation of Possible Contaminated Drums

On May 17, 1988, Region III received telephone calls from the NRC Operations Center and the State of Missouri Bureau of Radiological Health regarding the uncovering of 55-gallon drums containing liquid material at Lambert International Airport near St. Louis, Missouri. The drums were uncovered while Midcoast Aviation was excavating for a new hangar on May 6, 1988. At this time, Midcoast Aviation contacted an environmental consultant, the Environmental Protection Agency, and the State of Missouri Radiological Health organization. During subsequent removal of the drums, some of the liquid material leaked out onto the surrounding soil. Midcoast Aviation had the contaminated soil contained, the liquid material gathered up into new drums, and liquid and soil sampled for analysis. The results indicated possible radioactive contamination of the liquid. On May 17, 1988, NMSS contacted DOE who is taking the lead since the site may be part of a DOE program for cleaning up contaminated sites. A DOE and NRC Region III inspector were onsite on May 18, 1988 to follow up on the incident. Midcoast Aviation agreed with Region III to not reinitiate excavation at the site until DOE or the NRC gives approval. Preliminary information indicates that no radioactive material is present in the barrels.

##### Radioactive Contamination in Smelted Copper Slag

Region III was advised on May 19, 1988, that Warrenton Refining Company (Warren County, Missouri), a non-licensee, shipped two boxcars of copper slag to Noranda Company, in Toronto, Canada. Upon arrival at Noranda Company, the slag was checked by a company representative for radioactivity, who found various accelerator-produced isotopes, cobalt-56, 57, 58, and 60, manganese-54, and zinc-65. Region III was advised that the Canadian Atomic Energy Control Board is going to "order" Noranda Company to return the contaminated material to the United States. (To date, the staff is not aware that such an Order has been issued.)

Warrenton's health physics consultant checked its plant and found "no radiological hazard" there. Warrenton maintains detailed records of its sources of scrap and these are being reviewed to determine likely sources of contaminated scrap. If the source can be identified, waste disposal costs will be passed on to the original source.

Warrenton's and Noranda's consultants have estimated the concentration of each radionuclide in the contaminated slag.

Region III anticipates that, if the contaminated slag is returned to Warrenton, the State of Missouri may seek technical assistance from NRC regarding resolution of the issue.

#### REGION IV

##### ARKANSAS

###### Emergency Planning Issues

On May 5, Gary Sanborn, RSLO, participated with FEMA and State and local officials in a meeting to discuss the emergency preparedness concerns of some residents of the Arkansas Nuclear One EPZ. The principal concern of these residents is the ability to evacuate under adverse weather conditions (see February and March monthly reports). Mr. Sanborn restated NRC's position that there is no regulatory basis on which to require any remedial action. FEMA has found the State and local plans in accord with all applicable planning requirements and guidance. The residents indicated they may petition NRC for a rule change to address the scope of their concerns.

##### LOUISIANA

###### Budgetary Matters

In May, the State's budgetary problems led to the elimination of a number of mid-level management positions within the Department of Environmental Quality and poses the potential for salary reductions for certain individuals. Within the Louisiana Nuclear Energy Division, the agency responsible for the Agreement State program, two assistant administrator positions were eliminated. The people affected--Hall Bohlinger and Ronnie Wascom--have moved into lower level supervisory positions.

##### GENERAL

###### Appointment of New RSLO

Charles A. Hackney has replaced Gary Sanborn as RSLO effective May 22, 1988, and will serve as the Region's liaison to its 14 States, to FEMA's regional offices, and to the applicable State radioactive waste compact organizations.

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE SLITP-89-01  
 Date November 16, 1989

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by SLITP staff on this date.

Facility: Bayou Steel Company	Licensee Emergency
La Place, Louisiana	Classification:
	Unusual Event
Non-Licensee	<input type="checkbox"/> Alert
	<input type="checkbox"/> Site Area Emergency
	<input type="checkbox"/> General Emergency
	<input checked="" type="checkbox"/> Not Applicable

Subject: Steel Furnace Melts Cesium Source

State, Local and Indian Tribe Programs (SLITP) was notified by Louisiana that a Cesium-137 (Cs-137) source was inadvertently melted by a steel mill in that State. The mill reported to Louisiana late November 14, 1989 that an outgoing rail shipment of furnace flue dust tripped the plant's radiation monitors. Surveys by a consultant and by a State inspector sent to the site found irradiator levels up to 1mr/hr on the sides of the railcars. Analysis of samples identified the contaminant to be Cs-137. Initial site surveys did not disclose contamination in the environs around the plant or in the plant except in the baghouse. This is consistent with the expected behavior of Cesium in steel making furnaces and with previous incidents of this kind involving Cs-137. Product and slag samples are being collected to confirm this. Additional surveys of the plant and surrounding environs are being made. Inquiries are being made into worker access to the baghouse. No date for the contamination event has yet been established nor is an estimate yet available for the total quantity of Cs-137 that was involved.

The flue dust shipment is being held at the plant.

The plant operates an electric arc furnace (which uses virtually 100% scrap as feed). The products are 4'x4'x30' ingots. Truck and railroad shipments of incoming scrap are monitored by sodium iodine detectors. A radioactive source in a source housing can be missed by the monitors, especially when shielded by other scrap.

SLITP is aware of 15 cases (including this event) since 1983 of accidental smelting of radioactive sources. Eleven have occurred in the U.S. Cs-137 and Co-60 are the primary sources of contamination. Most cases involve steel, although lead, copper and aluminum smelters have also experienced this problem. In response, many scrap yards and dealers have installed radiation detectors to monitor incoming scrap. In 1986 NRC issued a hazardous scrap warning poster that has been distributed to the ferrous and non-ferrous metal industry [NUREG/BR-0108].

C/R Distribution: Chm, Cmsr,  
 GPA, GC, CA, PDR, Historian,  
 SECY, Records.

SLITP-89-01

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Region IV (Arlington) is following the State's response and is prepared to assist if requested.

SLITP was notified of the incident at 4:00 p.m. (EST) on November 15, 1989. This information is current as of 8:00 a.m. on November 16, 1989.

CONTACTS: J. Lubenau                      C. Cain  
                  FTS 492-0819                      FTS 728-8186

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January 3, 1990

10-11

(11)

SUBJECT: Incident Response

TO: BRP RI&A Files

FROM: Jim Yusko

DATE: December 15, 1989

89-12-07-PA

Following up on the previous notification and discussions (see prior memos), author met at the Cytemp Specialty Steel Company in Bridgeville with Mike Sullivan, Vice-President of Engineering for Cytemp/Titusville; Tom Woods, Shop Foreman, Cytemp/Bridgeville, and Bob Gallagher, Applied Health Physics. The discussion dealt with the incident first reported to DER/BRP December 7 concerning the allegations of some "highly radioactive" powder being found at Cytemp Bridgeville. Cytemp deals in smaller volumes than some other specialty steel companies, and in this instance were working with aerospace materials which were "certified and prepared" by qualified brokers. If there were to be impurities found in the metal, this was the consequence of operations at the Bridgeville facility, not at Titusville. Some contamination was found in the dust from the Bridgeville facility, most likely through some super alloys of high purity done in the vacuum industrial melting (VIM) shop. Residuals from this were sent to Greenville Metals in Greenville, Pa., who then rejected approximately 1,400 lbs. of metal skulls. Throughout this, all thought that the contamination originated from the Bridgeville facility. The shop at Bridgeville was checked for any contamination, with drums of dust from the furnace checked more closely, both visually and otherwise.

Two potential grades of infrequently made specialty steels were targeted by Cytemp: these are waspalloy, a specialty steel alloy used primarily for Pratt & Whitney engines or Rene 41, a General Electric alloy. All scrap used is prepared, cleaned, and degreased to remove any surficial impurities. The cast of characters can be extensive or short, depending on the grade of stuff dealt with. Scrap dealers in and around the Titusville area apparently, according to Sullivan, have "higher qualifications" due to the tighter restrictions for the specialty metals made at Titusville.

It was disclosed that at the Bridgeville facility, there are two furnaces (electric arc) of nominal 20 ton capacity, and one of nominal 50 ton capacity. Titusville facility has one 25 ton electric arc furnace.

January 3, 1990

SUBJECT: Continued Investigation - Cytemp Bridgeville

TO: BRP RI&A Files

FROM: ~~X~~ Jim Yusko

DATE: December 20, 1989

Gathered at Cytemp Bridgeville this morning were the following individuals: Tom Weaver (President of Local 3052, Titusville), Virgil Colucci (President of Local 178, Bridgeville), John Miller (Committeeman for the grinding mill at Titusville, also representing the hot mill), Jim Crisman (Committeeman, VIM Titusville and also member of their Safety Committee), Parker Adams, (Environmental Compliance Manager Titusville), Fran Lander (Melt Shop Superintendent, Bridgeville), Stan Staron (General Foreman, Melt Shop, Bridgeville), Tom Wood and Mike Sullivan, R. G. Gallagher (Applied Health Physics) and author.

Sullivan mentioned the evolution of the incident: Cytemp/Titusville had sent some material to Greenville Metals in Greenville and they do routine screening on all materials coming into them. Approximately 1,500 lbs. of materials shipped to them exceeded their acceptable (but otherwise undefined) levels for radiation, and the load was rejected. Cytemp was alerted, but due to the original visual inspection were unsure of its origin (the hot top materials might have belonged to Titusville). At that point, Stan, Fran, and Tom checked materials here at Cytemp Bridgeville. Determined that the material in question was the L Furnace residue which was emitting radiation.

In the meantime, Parker Adams called various companies trying to find out who could be contacted regarding this, and Applied Health Physics was recommended. They were hired, and the scope of work that AHP is to do is to: 1) determine what it is they are dealing with; 2) how to deal with it; 3) come up with a methodology for detection. Sullivan went on to say that they are dealing with less of a problem than had occurred in Auburn Steel, where approximately 100 Curies of cobalt 60 were melted in 1982. Cytemp is committed to vigilance and education, as they are trying to figure out which heat had the problem. Sullivan wants safeguards from their suppliers regarding this.

Author described other incidents and the history involved with some of the problems with metal scrap, including more recent incidents and the various means of detection. Gallagher gave some preliminary results for his findings, finding that the dust samples showed some radioactivity, although it was extremely dilute. Gallagher feels that there is no significant threat, although they did

Sullivan feels that it might be from June or July (1989) that the process originated, since their work with the Rene material is very rare.

Regarding what to do next, Gallagher wants to find a suitable location for the construction and work of a small temporary decontamination facility. The drums will be brought in one at a time and they will be sampled and repacked. Gallagher hopes to have everything put away by the end of the year.

A video that Gallagher had taken for AHP for their work at the Bloise Scrapyard and the Starr Iron Works in Punxsutawney was shown, showing also the detection systems over at Timken at Canton, Ohio.

Sullivan wants to develop standards and procedures for the handling of incidents like this in the future. He also wants to check the liquid metal to try to minimize any effects that might occur in the baghouse. This to be developed for both the Bridgeville and Titusville plants. Sullivan also received a price quote for a detection system two weeks before the problem occurred.

Author checked again the drums which had been stored underneath some of the flues leading to the baghouse. Presently there are 16 drums, arrayed in various pallets. Highest level found was .2 mR/h @ contact with the drum. Levels varied, only a few in this range. There are sixteen (16) 55-gallon drums, one 30-gallon drum, and two other tarped and bagged solids on pallets. Area is still fenced off with "Caution Radiation" and "Keep Out" signs. Slides taken to photo document the condition and presence of the materials today. To be followed up with a vengeance, naturally.

JGY:kld

January 2, 1990

SUBJECT: Radiation Incident?

TO: BRP Radiation Incidents and Accidents File

FROM: Jim Yusko

DATE: December 7, 1989

Telephone conversation with S. R. Levin, BRP Harrisburg: At Cytemp Specialty Steel Company in Bridgeville, reported that they had received some barrels of "mysterious powder" possibly containing radioactive materials. Questions were raised whether any employees were affected. A discussion that the material may contain hazardous material in addition to or distinct from being radioactive, and that employees were worried. Person who contacted Levin was Walter Slaska, an employee whose telephone number was given as 412/746-1537.

Telephone conversation with Slaska. Slaska told author that he worked at the Cytemp Specialty Steel Company in Bridgeville and that he was concerned about some recent incidents that had occurred there. The Titusville, Pennsylvania, plant shipped down some "highly radioactive" material, which had then been remanded to their scrap yard. Company sent people down to Bridgeville from Titusville who had supposedly cleaned everything, placing the materials in 55-gallon barrels, which had been covered over or tarped and put on skids. The barrels were moved with high lifts and they were set under their pollution plant. Cardboard signs were posted saying essentially "keep out" - hazardous materials were present. According to the employee, company officials ordered some people to remove the [protective?] clothing they were wearing and the area was roped off to limit access. Individual works in the furnace area and said possibly five people were exposed to the materials. He had heard from a fellow who works in the scrap yard that the material was "highly radioactive". Asked individual for a further contact person, he told me the foreman is Mr. Fran Landers, Director of the Melt Shop. Telephone number for Landers is 412/257-5161 or -5162. Cytemp has a pollution control system which sends the collected exhaust to a huge tipple which then leads to a baghouse. The bags are changed periodically but some of the bags are now "highly hazardous" as a result of the incident. After a sufficient volume has been collected, these bags are then mixed with other scrap heaps and are added to the various alloy runs. There are approximately 15-20 sleds with the bags on them, said the individual.

Attempted contact December 7 and following days with Fran Landers at Cytemp at the number given. Messages left, no phone calls received.

To be followed-up on.

JGY:ld

January 3, 1990

SUBJECT: Radiation Incident - Continued

TO: BRP RI&A Files

FROM: J Jim Yusko

DATE: December 14, 1989

After several attempts at contacting Fran Lander at Cytemp Specialty Steel in Bridgeville (412/257-5162), a Tom Woods of Cytemp called (412/257-5166). Attempts to reach Wood on December 13 unsuccessful, as was an attempt on December 14. Call directed instead to Mr. Mike Sullivan of Cytemp/Titusville (814/827-3641). Sullivan informed me he is vice-president of engineering for Cytemp/Titusville. Told Sullivan of the reason for the call, that being the earlier call that DER BRP received and that the caller had informed us of there being "highly radioactive" materials at Cytemp/Bridgeville. Sullivan said that they had sent some material to Greenville Metals Company in Greenville. Greenville Metals screens all materials received in their yard, and they recently sent back approximately 1500 lbs. of solids which were "above the borderline" in terms of radioactive material content. Cytemp then contacted Bob Gallagher of Applied Health Physics in Bethel Park, whose crew had then checked the solids, finding readings in the range of 0.6-2.5 mR/hr. The material was at Titusville, and company officials were trying to tie this back to a specific heat, to find out what material might have caused these levels. They had encountered some confusion as to the origin. They checked various buttons from the melts and were trying to determine whether this was in fact due to any other radioactive residues, but found nothing. They had some drums of dust with radiation levels in the range of 0.15 to 0.6 mR/hr. Applied Health Physics personnel were in Titusville on December 11, some sampling was conducted, and they were trying to determine what the isotope was. Cytemp has checked the chemistry button but all melts that they have checked thus far are below the threshold for radioactive content. Suggested that if the material were cesium or radium, these would vaporize. Suggested further that if it were radium, that since radium behaves similar to calcium, it would then end up in the slag, as they are in the same group of a periodic table. Quote of the day: "I guess we need some help" - Mike Sullivan, Cytemp/Titusville. Made arrangements that author and Sullivan and possibly Gallagher would meet on December 15 at Cytemp/Bridgeville to see what was there and what was going on. Offered services to Sullivan, explaining author's expertise in the area.

JGY:ld