OPERATING EXPERIENCE SUMMARY

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U.S. Department of Energy

Office of Environment, Safety and Health

OE Summary 2003-20

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The Office of Environment, Safety and Health (EH), Office of Analytical Studies, publishes the Operating Experience Summary to promote safety throughout the Department of Energy (DOE) complex by encouraging the exchange of lessons-learned information among DOE facilities.

To issue the Summary in a timely manner, EH relies on preliminary information such as daily operations reports, notification reports, and conversations with cognizant facility or DOE field office staff. If you have additional pertinent information or identify inaccurate statements in the Summary, please bring this to the attention of Frank Russo, 301-903-8008, or Internet address Frank.Russo@eh.doe.gov, so we may issue a correction.

The OE Summary can be used as a DOE-wide information source as described in Section 5.1.2, DOE-STD-7501-99, *The DOE Corporate Lessons Learned Program*. Readers are cautioned that review of the Summary should not be a substitute for a thorough review of the interim and final occurrence reports.

Operating Experience Summary 2003-20

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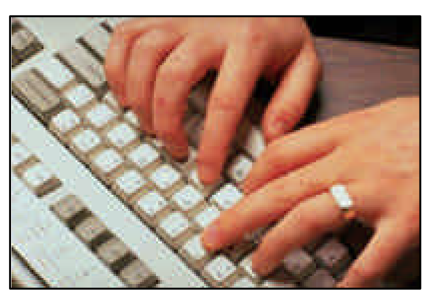

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EVENTS

1. OVERLOADED TRAILER CAUSES TRANSPORTATION ACCIDENT

On August 13, 2003, at the Pantex Plant, a transportation accident occurred when a trailer hitch on the rear of a dump truck failed, dropping the tongue of a utility trailer onto the road surface while traveling between 20 and 25 mph. The dump truck was towing a heavy front-end loader on the trailer. The weight of the front-end loader, and its orientation on the trailer, severely overloaded the hitch, shearing all four of the ½-inch steel bolts that attached the hitch to the truck. The driver felt the tongue of the trailer drop from the truck onto the road surface and was able to safely maneuver the trailer to the side of the road, where one of two safety chains failed when the trailer tongue dug into the shoulder. No injuries resulted from this occurrence. (ORPS Report ALO-AO-BWXP-PANTEX-2003-0038)

An equipment supplier had delivered the front-end loader to the Pantex Plant, but the subcontractor decided to return the loader using an available truck and trailer, rather than have the supplier retrieve the equipment. The subcontractor supervisor questioned the load capacity of the truck and trailer in relation to the size of the load, but did not stop the loading activity. He thought that the personnel who arranged for the truck and trailer knew the weight of the loader and the capacity of the trailer and correctly assigned the equipment. The truck driver secured the loader to the trailer and attached safety chains from the trailer to the truck. He had driven about 1.5 miles before the trailer tongue dropped to the road surface, making a 260-foot-long skid mark in the asphalt.

Figure 1-1 is a photograph of the truck, trailer, and front-end loader where they came to a stop on the shoulder of the road after the accident. As can been seen in the figure, workers loaded the equipment onto the trailer with its heavy end (engine, rear frame, fuel tank, and hydraulic reservoir) between the axles and the tongue of the trailer. This configuration produced higher forces on the trailer hitch than if the loader orientation had been reversed. Figure 1-2 shows the trailer hitch on the ground after the accident, with two of the four empty bolt holes.

Figure 1-1. Vehicles immediately following accident

The 28-foot-long utility trailer involved in this incident had a maximum hauling capacity of 30,000 pounds. Subtracting the weight of the trailer from the maximum hauling capacity, the load on the trailer should not have exceeded 22,300 pounds. The front-end loader weighed 48,500 pounds. The weight, which was clearly

Figure 1-2. Trailer hitch after detachment from truck

stenciled on the loader, was more than double the trailer's capacity.

Figure 1-3 is a photograph of two of the four trailer hitch bolts after they were sheared off. Investigators determined that the shear-rating for the four bolts securing the trailer hitch was 4,900 pounds. They also inspected the bolts to determine if they were suspect or counterfeit items and determined that the stamped markings on the bolt heads were not on the suspect/counterfeit parts list.

Figure 1-3. Two of the four sheared trailer hitch bolts

Investigators determined that the direct cause of this incident was that the equipment selected to transport the front-end loader was inadequate. They also determined that the root cause of the occurrence was a work planning deficiency because the weight of the loader was not considered when selecting the truck and trailer used to haul it.

Corrective actions resulting from this occurrence included the following.

- Construction management personnel conducted a safety meeting with all subcontractors at the Pantex Site and discussed this event in detail. The content of the meeting focused on following safety rules, the competency of operators, and equipment selection. Construction management personnel provided all subcontractors with a summary of all incidents that have occurred to date in 2003, an overview of the requirement for an Activity Hazard Analysis, and a copy of the site safety requirements.

- The Pantex Plant prime contractor will issue a lessons learned to all site subcontractors informing them of this event and describing the actions they must take when transporting equipment to and from the site, including evaluating the weight of the proposed load against the capacity of the transport equipment.

A search of ORPS for events involving trailers decoupling from towing vehicles in motion revealed several occurrences. On April 19, 2002, on the same road at the Pantex Plant where the August 13, 2003, event occurred, a road salt tank trailer loaded with magnesium chloride solution separated from its tow truck and rolled backwards into a street sign. The receiver on the trailer was much larger than the hitch ball, allowing the trailer to separate from the towing vehicle. The street sign punctured the plastic tank, and approximately 60 gallons of magnesium chloride solution spilled onto the ground. Damage was limited to the plastic tank and the street sign, and no personnel injuries resulted

CONTRIBUTING FACTORS TO THIS EVENT

- The truck driver did not exercise the responsibility stipulated in his commercial driver's license for ensuring the adequacy of the transportation equipment for the load being transported.
- The weight of the front-end loader being transported exceeded the trailer capacity by more than 13 tons.
- The heavy end of the front-end loader was positioned between the axles and the tongue of the trailer, increasing the forces on the trailer hitch.
- Both the trailer and the trailer hitch were loaded far beyond their design capacity.
- Work planning processes such as hazards analyses and engineering design reviews were not conducted for this transportation task.

from this incident. (ORPS Report ALO-AO-BWXP-PANTEX-2002-0024)

On November 15, 2001, at the Los Alamos National Laboratory, a trailer containing a shipment of low specific activity radioactive waste decoupled from the tractor pulling it while exiting a parking lot. The driver heard a loud pop, looked in his side view mirror, and observed the trailer as it decoupled from the tractor. The mechanism that caused the fifth wheel latching assembly to become unlocked has never been determined. The trailer slid approximately 10 feet and came to rest on its front leg supports. No personnel injuries or equipment damage resulted from this incident. (ORPS Report ALO-LA-LANL-WASTEMGT-2001-0011)

This event identified transportation safety issues not normally considered by DOE site workers in the course of loading and transporting trailers with heavy equipment. In the state of Texas, as in many other states, a commercial driver's license stipulates that it is the driver's responsibility to validate that the load being transported is compatible with the vehicle being used. Typically, equipment and supplies are transported to DOE sites by common carriers, not DOE site workers, and the capacity of a transport vehicle with respect to the weight of the load is not normally a site worker consideration. However, if site workers do transport equipment, they should be held to the same transportation safety requirements imposed on common carriers.

KEYWORDS: *Transportation accident, equipment transport, overloaded trailer, trailer hitch failure, front-end loader*

ISM CORE FUNCTIONS: *Define the Scope of Work, Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls*

2. HEAVY CABLE TRENCH COVER DROPPED ON ENERGIZED POWER CABLE

On August 28, 2003, at the Hanford Tank Farms, as an electrician attempted to replace a trench cover plate, it slipped from his hands, fell into a cable trench, and damaged a 480-volt power cable, creating an arc/flash to ground. The plate was stenciled with the words "Caution – Lifting Hazard Do Not Remove Trench Covers Without Permission From Facility Manager," but the lifting hazard was not identified in the Job Safety Analysis (JSA). No injuries resulted from this occurrence. (ORPS Report RP--CHG-TANKFARM-2003-0043)

A recessed lip in the concrete floor supports the 1/2-inch-thick steel trench cover plate on three sides. The cover has two threaded holes to install eye bolts for ease of handling, but they were never installed. Had the cover plate been fitted with eye bolts and a rope, the electrician could have attached the rope to a nearby structural column, which would have prevented the cover from falling into the trench when he lost control.

Figure 2-1 shows the location of the trench and cover plates, and Figure 2-2 shows the cover plate in the trench following the incident. Figure 2-3 shows the damage to the power cable insulation and the ground wire.

Figure 2-1. Cable trench and cover plates

Facility workers were involved in preparing the JSA, and subcontractor managers approved it. The JSA contained standard language concerning lifting hazards, with an unassisted lift limit of 50 pounds, but did not include the actual weight of the cover plate. The prime contractor also approved a work package that incorporated the JSA. Although it did not mention the potential hazards associated with removing and reinstalling the cover plate.

Figure 2-2. Smaller plate in trench following incident

The causal analysis for this occurrence focused on (1) the weight of the dropped cover plate and (2) the absence of eye bolts and associated rope that the electrician could have used to remove and install the cover. After the event, investigators asked the electrician how much he thought the dropped plate weighed, and he estimated 35 to 40 pounds—well below the 90-pound weight of the cover and the 50-pound limit for unassisted handling. This weight discrepancy and other factors, such as overlooking the stenciled lifting hazard caution sign on the plate, indicate that electrician was overconfident, lacked awareness about the risks involved, and lacked a questioning attitude.

Figure 2-3. Damage to 480-volt cable and small white ground wire

Corrective actions being considered as a result of this incident include replacing the cover plates with new plates made of a different material. The cover plates serve as a deck plate and provide an enclosure for the cables in the trench to prevent direct access to electrical equipment. Using plates made of steel is excessive and introduces unnecessary hazards in terms of lifting weight, pinch points that could injure fingers or toes, and electrical conductivity. Lighter, non-conductive cover plates could perform the required functions without the safety risks associated with the steel plates. An alternate corrective action under consideration is to provide a mechanical means, such as a mobile hoist in conjunction with eye bolts in the plates and rigging measures, to assist workers when they remove and replace the covers.

CONTRIBUTING FACTORS FOR THE EVENT

- The steel plate trench cover was over-designed for its function (enclosing energized cables).
- The steel plate cover presented unnecessary hazards to workers (weight, pinch points, electrical conductivity).
- The electrician mistakenly assumed that he could safely reinstall the cover plate alone.
- The 50-pound limit for unassisted lifting was exceeded.
- Provisions in the cover plate design for eye bolts and ropes/cables were not used to assist in handling.

A search of ORPS revealed several events involving lifting hazards. On April 15, 2002, in a building at the Portsmouth Gaseous Diffusion Plant, a supervisor instructed a worker that he should not carry heavy bags of trash down two flights of stairs when the elevator was out of service because of lifting hazard concerns. Two days later, with the elevator still out of service, the worker ignored these instructions, lifted two of the bags, and dropped them over a railing. The worker looked below before releasing the bags, but each bag nearly struck another worker on a lower floor. (ORPS Report ORO--BJC-PORTENVRES-2003-0008)

On March 3, 1994, at the Idaho Chemical Processing Plant Irradiated Fuel Storage Area, a mechanic tried to reposition a 150-pound section of deck grating by himself. In the process, he lost control of the grating, which fell through an opening between grating sections to the basin floor. Investigators determined that the pre-job briefing and the work order failed to address the possibility of dropping heavy objects or the number of people needed to position the deck grating. (ORPS Report ID--WINC-FUELRCSTR-1994-0006)

GOOD PRACTICES FOR HANDLING ACCESS PANELS, COVER PLATES, AND MANWAYS

- Seek assistance when lifting objects that weigh 50 pounds or more.
- Plan jobs and equipment availability so that heavy objects can be moved mechanically.
- Before attempting to move a heavy object, estimate the object's weight and make a judgment about your ability to handle the load by yourself.
- Provide hand-holds or lifting points for heavy panels.
- Mark heavy panels or other objects with their actual weight.

Like many occurrences compromising worker safety, this incident was foreseeable and preventable. Work planners could have anticipated that an individual worker might not observe the informal 50-pound limit on unassisted lifting. The work planners could also have anticipated that a worker handling a 90-pound steel plate without handholds might lose control and drop it into the trench. Further, if the plate had not contacted the ground wire in addition to the 480-volt cable, it could have remained energized. The orientation of the cover plate in the trench would have obstructed the view of the breached cable insulation. A person reaching in to retrieve the plate (not realizing that it was energized) could have provided a path to ground and suffered a serious injury.

KEYWORDS: *Lifting hazard, electrical arc/flash, risk awareness*

ISM CORE FUNCTIONS: *Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls*

3. UNKNOWN SAFETY HAZARDS – MISWIRED AND DAMAGED EXTENSION CORDS

The use of miswired or damaged extension cords and power strips places workers at risk to serious injury from electrical shock. The Office of Environment, Safety and Health reviewed 24 events involving extension cords and power strips, 54 percent (13) of which resulted in electrical shocks. The distribution of the cause types is shown in Figure 3-1. All events involving power strips resulted from defective equipment.

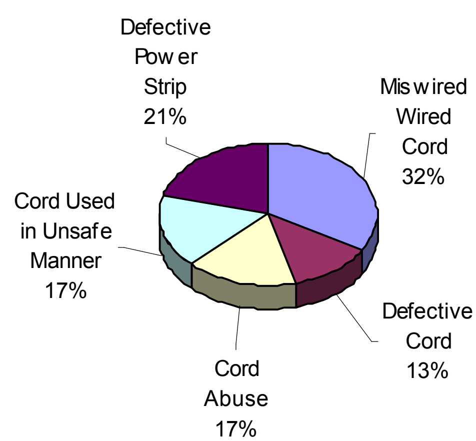

Figure 3-1. Distribution of events by cause type

As the graph illustrates, the majority of extension cord events resulted from miswired connections at the plug or end cap. The following recent event is a good example.

On September 9, 2003, at the Idaho Test Reactor Area, electricians discovered a shop-fabricated extension cord that was miswired, posing a shock hazard. The extension cord was being used to power a filter blower (480-volt, 3-phase) from a disconnect switch. When the switch was closed, a fuse for one of the phases blew, indicating a problem with the circuit. (ORPS Report ID--BBWI-TRA-2003-0008)

Electricians performed a detailed inspection of the extension cord and discovered that one of the phase wires had been incorrectly connected to the case of the cord cap by a ground wire. Figure 3-2 shows the disassembled end caps and the installed green jumper wire connecting the green power wire to the cap. These cord caps are designed for four-wire (3 power/1 ground), three-phase applications. The electrician who fabricated the extension cord had not wired this particular type of three-prong cap previously and incorrectly wired it as a single-phase, three-wire plug.

Figure 3-2. Disassembled extension cord plugs

Miswired electrical cords and plugs can have serious consequences, as reported in May 2003, after a machinist received a severe electrical shock from an incorrectly wired 480-volt welding receptacle at the Los Alamos National Laboratory. (ORPS Report ALO-LA-LANL-NUCSAFGRDS-2003-0002)

Other examples of miswired and damaged extension cords reported in ORPS are summarized below.

- On September 18, 2002, at the Idaho Radioactive Waste Management Complex, a custodian received a mild shock while using a floor buffer. The extension cord being used to supply power to the buffer was lying on the wet floor. (ORPS Report ID--BBWI-RWMC-2002-0009)

- On July 12, 2002, at the Rocky Flats 371 Building, two workers received a mild shock when one of them stepped on and damaged an extension cord, causing an electrical arc. A nail on the floor had pierced the insulation on the cord. (ORPS Report RFO--KHLL-371OPS-2002-0040)

- On June 13, 2002, at the Oak Ridge National Laboratory, a pipefitter received a mild shock from a component rack that was powered by a faulty extension cord. (ORPS Report ORO--ORNL-X10EAST-2002-0008)

- On May 16, 2001, at the Yucca Mountain Project, a foreman discovered a shop-built extension cord that had the ground wire and the hot wire cross-terminated at the cord plug. (ORPS Report HQ--BSYM-YMSGD-2001-0003)

Extension cords can provide a convenient source of power in the workplace for maintenance and construction activities, but are often taken for granted and not properly maintained or used. Extension cords should not be left in areas where they could become tripping hazards or where they could be damaged, such as by being walked on or driven over (Figure 3-3).

Figure 3-3. Practice good housekeeping

Check plugs on cords to ensure all prongs are properly attached and check the cord for insulation damage (Figure 3-4).

Do not use extension cords in an unsafe manner. Avoid plugging two cords together to make a longer one, thus reducing operating voltage at the end of the cord. Certainly, never wire up an extension cord, as shown in Figure 3-5.

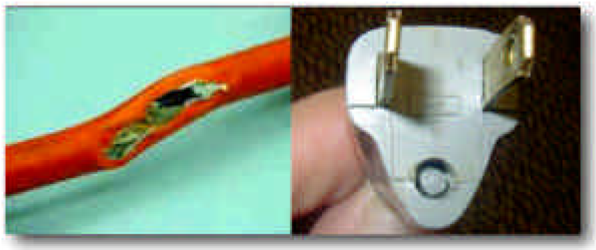

Figure 3-4. Damaged cord and missing ground

Do not use extension cords as a substitute for permanent wiring. There have been events reported in ORPS where the application of an extension cord went well beyond temporary use. Using extension cords to power portable equipment is a common practice. However, personnel must recognize that temporary situations can become long term or permanent. Because configuration control of portable equipment may be less rigorous than for permanent equipment, temporary installations of portable equipment and extension cord use can be easily forgotten or overlooked, resulting in an unsafe work environment.

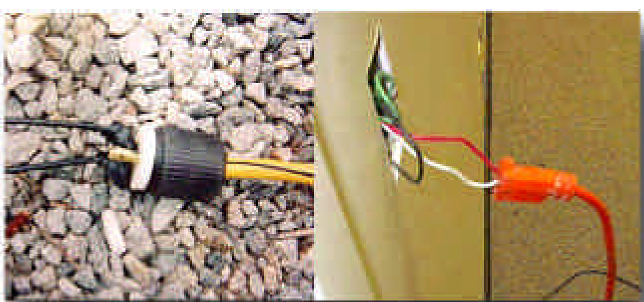

Figure 3-5. Unsafe use of extension cords

Always remove defective or damaged extension cords and power strips from the workplace when they are discovered (Figure 3-6).

Extension cords should be part of the facility power tool maintenance or assured grounding programs. Assured equipment grounding conductor programs cover all cord sets and receptacles that are not part of the permanent wiring of a building or structure and equipment connected by a cord or plug. Program requirements are stated in 29 CFR 1926.404, Wiring Design and Protection, section (b)(1)(iii). In addition, OSHA requires two types of wiring tests. The first is a continuity test to ensure that the equipment grounding conductor is electrically continuous. It must be performed on all cord

Figure 3-6. Remove this from service

sets, receptacles, and cord- and plug-connected equipment that is required to be grounded. The second test is to ensure that the equipment grounding conductor is connected to the proper terminal. These tests are required before first use, following repairs or suspected damage, and at 3-month intervals.

The U.S. Consumer Product Safety Commission estimates that about 4,000 injuries associated with extension cords are treated in hospital emergency rooms each year. Extension cords are typically used in the 120- to 480-volt range, which is common in the workplace, where even non-electrical workers can be exposed to the hazards of a miswired or damaged cord. Electricians need to ensure that shop-fabricated extension cords are correctly wired (with proper phasing and grounding) to protect users from an unknown electrical safety hazard.

KEYWORDS: *Electrical safety, extension cord, power cord, power strip, electrical shock, miswired, plug, end cap, connector*

ISM CORE FUNCTIONS: *Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls*

4. INEEL SHARES BEST PRACTICES FOR CONTAMINATION CONTROL

Workers continue to experience radiological contaminations, particularly at older nuclear facilities and those that are undergoing decontamination and decommissioning. In addition to the safety impact to workers, personnel contaminations can significantly impact a contractor's ability to complete its work within the allotted cost, scope, and schedule, especially at decontamination and decommissioning sites. Recently, the DOE Office of Environmental Management (EM) sponsored its annual Managers' Meeting in Denver, Colorado. Participants observed that the Idaho National Engineering and Environmental Laboratory (INEEL) had experienced zero skin contaminations this year.

A fact sheet distributed by INEEL outlines its best practices for contamination control, which are summarized below.

1) Traditional cotton anti-contamination (anti-c) clothing was changed out in favor of Tyvek® and PROTEK 2000 anti-c's. INEEL found that Tyvek performed better at minimizing wicking, a commonly reported problem. There are several types of new anti-c clothing on the market. Notably, there is a company that makes an anti-c of Gore-Tex® material that is supposed to allow the worker's sweat to pass through the material from the inside while preventing contaminate wicking. INEEL is testing this material and others at the Advanced Test Reactor facility.

2) INEEL improved its pre-job walkdowns and reduced reliance on personal protective equipment (PPE) as the sole contamination barrier. Radiological Control (Radcon) and facility personnel are reviewing job tasks more closely, with a particular emphasis on human factors. INEEL revised its Radioactive Work Permit procedure to require Radcon personnel to consider special dose/contamination reduction methods. Radcon personnel and facility workers review the work location, looking at the areas where the worker is likely to come in contact with contaminated surfaces (e.g., Will the worker have to kneel in the area? Can elbows come into contact with contaminated materials or surfaces?). Using this information, Radcon personnel apply duct tape to vulnerable areas of the worker's anti-c's, such as knees, elbows, and shoulders. The duct tape provides an additional barrier to contamination without additional layers of anti-c clothing, minimizing the potential for heat stress to the worker. Where the use of duct tape is not practical, a worker may wear part of a wet suit. At the Advanced Test Reactor, for example, fuel handlers are often assigned a vest made from a wet suit. This vest is placed over the anti-c clothing, allowing the workers to use fuel pool handling tools, while minimizing the risk of heat stress or other ergonomic issues. Most pool handling tools are 20 feet long and must be braced against the body while in use. The vest also prevents contamination from wicking through the anti-c material.

3) Where practicable, INEEL decontaminates job sites and uses fixative coatings, physical barriers, and ventilation to prevent contamination spread.

4) INEEL created a cost/benefit process to allow line management to compare the costs of decontaminating an area versus the operational cost of maintaining the contaminated area. This allowed INEEL to decrease its contamination area footprint. The most notable success was at the Idaho Nuclear Technology and Engineering Center, where the contractor spent about $2,500 to decontaminate the area, resulting in an estimated savings of about $250K in operational costs.

CONSIDERATIONS FOR PREVENTING PERSONNEL CONTAMINATIONS

- Use breathable anti-c's to prevent wicking.
- Thoroughly walk down a job to identify potential contamination hazards.
- Use as many shielding barriers (fixative, physical shielding, ventilation, duct tape vulnerable areas) as possible.
- Avoid overheated conditions in the work area.
- Consider decontaminating an area wherever possible rather than maintaining it in an operational status.

This is not a complete list of the processes and techniques INEEL uses to reduce skin and clothing contaminations. Additional questions or comments may be referred to Ken Whitham at DOE-Idaho at (208) 526-4151 or e-mail at whithakr@id.doe.gov.

The DOE Lessons Learned database contains an entry from Hanford (Identifier 2002-RL-HNF-0027), entitled *ALARA Good Work Practices*, which has a number of specific suggestions for reducing worker contaminations. This lesson can be accessed at the following URL: http://www.eh.doe.gov/ll.

The fact sheet from INEEL and the lesson submitted by Hanford illustrate the value of using the experiences at other sites to remedy problems. The Office of Environment, Safety and Health hopes that these Best Practices can help prevent personnel contaminations.

KEYWORDS: *Radiation contamination, PPE, anti-c, radcon*

ISM CORE FUNCTIONS: *Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls, Provide Feedback and Continuous Improvement*

5. IDEAL INDUSTRIES RECALLS VOLTAGE TESTERS

On July 31, 2003, the U.S. Consumer Product Safety Commission, in cooperation with IDEAL Industries, Inc., recalled about 121,000 potentially defective solenoid-type voltage testers and voltage/continuity testers. The testers may short out at high voltage, causing an arc flash that can injure users and blow out the faceplate. Model (Catalog) numbers for the hand-held testers being recalled are 61-065, 61-066, 61-067, 61-076, 61-079, and 61-080. Use of these testers should be discontinued immediately.

The recall notice can be accessed at the following URL: http://www.cpsc.gov/cpscpub/prerel/prhtml03/03167.html. As stated in the notice, IDEAL received 11 reports that solenoid coils on the testers shorted-out without warning. Two users reported they were badly burned. One sustained third-degree burns on his hand, forearms, neck, and face; the other suffered second- and third-degree burns to his hands.

Figure 5-1 shows a typical recalled unit. The tester body is yellow, and the wire leads have one black and one red test probe. The model or catalog number is on the faceplate (see Figure 5-2). Electrical distributors, industrial distributors, and home centers across the country sold these hand-held testers between December 1999 and July 2003. Testers manufactured before November 1999 and after May 2002 are not included in the recall, nor are any other IDEAL testers or meters.

Figure 5-1. The recalled voltage tester

IDEAL manufactures the testers at two locations (Sycamore, Illinois, and Ajax, Ontario, Canada). Date codes, located on the faceplate of the units (Figure 5-2) indicate where and when they were manufactured. This information can be used to determine whether a tester is in the group that has been recalled. The date code information should be interpreted as follows.

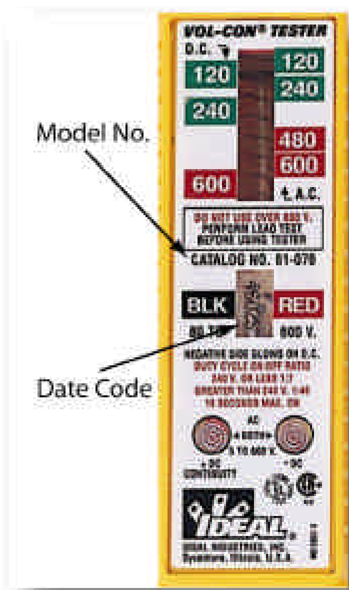

Figure 5-2. Model number and date code

- For Sycamore-manufactured units — Recall date codes are 4799S through 1902S, in a week/2-digit-year format, with S" indicating the tester was manufactured in Sycamore, Illinois. For example, 4799S means the tester was manufactured in the 47th week of 1999 in Sycamore.

- For Ajax-manufactured units — Recall date codes are 479I through 192I, in a week/1-digit-year format, with "I" indicating the tester was manufactured in Canada. For example, 479I means the tester was manufactured in the 47th week of 1999 at IDEAL Canada in Ajax. Some testers manufactured in Ajax have a day, month, and 1-digit-year date code. In this case, a date code of 01032 would mean the tester was manufactured on March 1, 2002.

IDEAL will provide a free replacement for all recalled models manufactured between the applicable dates. Call customer service at 1-877-557-8598, toll-free, between 7 a.m. and 5 p.m. Central Time (Monday through Friday) to obtain more information on the recall and learn how to return defective testers. The email address for Customer Service is testersandmeters@idealindustries.com. Registration and return options can also be accessed through the IDEAL, Inc. website at www.idealindustries.com

The DOE Operating Experience Working Group also has information about the recall under "Defective Items" on the Suspect/Counterfeit or Defective Items website. The Data Collection Sheet (DCS) for the recall is DCS-532. The Defective Items portion of the site is password-protected, and registration is required. The site can be accessed at http://tis.eh.doe.gov/paa/sci/.