

## *Operations Update*

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*APS/Users Monthly Meeting*

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# APS Goal –Maintain a Safe Work Environment in User Facilities

Joliet Jr. College Instructor giving “drivers test”

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**APS Policies and Procedure for User Shop Access**

**Policy for User Shop Access**

To reduce the risk of personal injury, adverse environmental impact, and damage to equipment, the APS has established controls for the use of the machine shops located in the APS Lab Office Modules (LOM) and user managed spaces. For the purposes of this policy and procedure the following definitions are used:

- **User Shop:** Any location where machine tools are available to CAT/XOR/User personnel including the shared, central pentagon LOM shops and CAT/XOR managed areas.
- **Shop User:** Any person who uses machine tools in a user shop.
- **Machine Tools:** Stationary, as opposed to hand-held, material forming tools.
- **Shop Coordinator:** Appointed by CAT/XOR management to represent/oversee its interest in user shop operations
- **Machine Shop Certifier:** A person knowledgeable of machine tool operation/training and appointed by the APS, to determine, via hands-on demonstration and/or written tests, if a shop user candidate has sufficient experience and skills to use the machine(s) in a proper, safe manner.

**No one is allowed to use a User Shop until they have been authorized to do so according to the requirements of this policy.**

(Note: From the date of the approval of this policy until 1 February 2006, users may be authorized to use the shops by either the previously established process or the process defined by this policy and procedure. After 1 February 2006 authorization will be granted only according to the process described in this policy and procedure.)

There are a number of options at the APS for users to obtain machining services: a full line of machining services are available to APS Users through the ANL machine shops, the APS may be able to provide some limited machining support, and a CAT/XOR personnel may also be able to provide support.

This Policy and Procedure define the APS site-specific program that is consistent ANL standards for machine shop safety, as defined in the ANL *ES&H Manual*.

Authorization to use machine shop tools will be on a tool-by-tool and shop-by shop basis.



**Joliet Junior College Machine Shop Training**

Main Control Room Operators to Assist

## *Machine Shop Policy*

### ■ **APS has implemented the Machine Shop Policy**

- On 1 Feb. 2006 all current authorizations for using machine tools in user controlled spaces will expire.
- Prior to this date, anyone who wants to use the machine shop must undergo a new orientation that will be administered by the Machine Shop Coordinators. You are then allowed in to the shop.
  - *This is a minimal orientation which provides shop access for the purpose of using hand tools only and the new orientation reinforces this.*
- Anyone who wants to use a machine tool (including a drill press with a chuck) must identify themselves to the Machine Shop Coordinator and then APS will arrange a visit by the Joliet instructor to administer a qualification test.
- All training/orientation expires after two years.

### ■ **Machine Shop Coordinators are responsible for contacting the users of their shops. We will also begin advertising this in User News so word gets out to all of our Users.**

### ■ **Modifications may be considered after we have experience with the current implementation.**

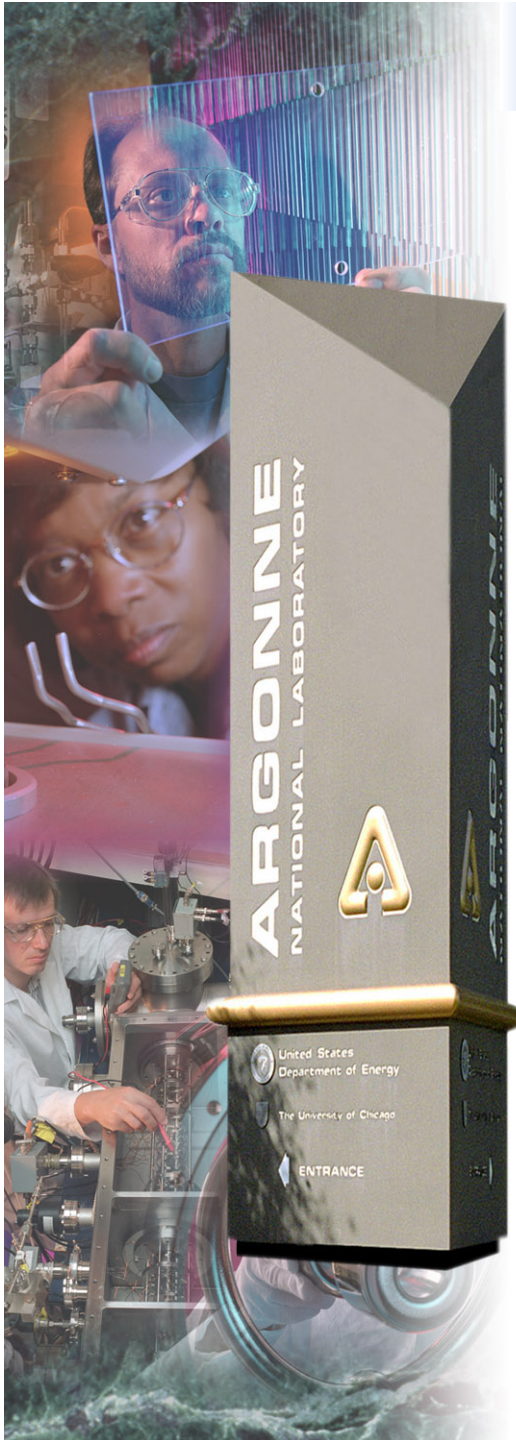
## *Machine Shop Policy*

- **Operators in the main control room have all had a machine shop class.**
  - Operators may be made available at the ACO's discretion to help with very minor jobs in the evening and weekends. The ACO may refuse the request for safety reasons or if the current work in the control room precludes temporarily reassigning the Operator to machining activities.
- **Information on the Machine Shop Certification** (including a user guide) is available at:  
[http://www.aps.anl.gov/Safety\\_and\\_Training/Safety\\_Guides/index.html](http://www.aps.anl.gov/Safety_and_Training/Safety_Guides/index.html)
  - *Page has both study guides as well as testing requirements.*

## ***Machine Fault Notification***

- **“Next Update at”** has the expectation that Users are waiting around for beam to come back. (OK for up to 1 or 1 ½ hr) and are not always useful.
- **APS is implementing a notification strategy to one which allows Users to “go away”/sleep but then are called back when there is a significant probability that beam will be stored. (Eliminate waiting around).**
- **Progress to date :**
  - APS IT has installed a modern listserv system which will allow users to add/delete email addresses via a WWW page or email (Mailman). *Most cell phones and pagers in the US have an email address associated with them.*
    - *System requires confirmation to prevent abuse.*
    - *System prevents unauthorized email accounts from sending to the system.*
    - *Currently evaluating the various features of the system for our notification service.*
    - *Existing paging communications system is sending messages to a “test list”.*
  - Prototype pager has been programmed by ANL. Pagers/software/programmer have been purchased from vendor to be “cloned”.
- **What is left to do:**
  - Test system with several different vendors. Currently, Tmobile, Nextel, and Cingular, as well as wide area and local pagers are part of the testing.
  - Engage “beta” testers with cell phones and other pagers.
  - Determine distribution mode for pagers.
  - Documentation and updating of APS WWW pages.
- **Target: Would like to start rolling this out for users in time for 2006-1**
- **Announcements will be made in User News, CAT-CHAT etc...**





## *APS Arc Flash Injury 10/23/05*



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## *Incident Summary*

- An APS scientist entered the Building 431 Gas Yard at 8:06 PM (CDT) on October 23, 2005 to obtain a helium gas cylinder.
- The scientist opened the cover on the exterior flood light switch and flipped the switch on.
- The switch arced internally (shorted) and the hot gases from the arc blew out from around the switch burning the scientist's left hand.
- The short tripped opened the circuit breaker which stopped the arcing. It was a 277 VAC, 20 amp circuit.



## *Switch Before Incident*



## *Switch After Incident*



## *Switch Closeup*

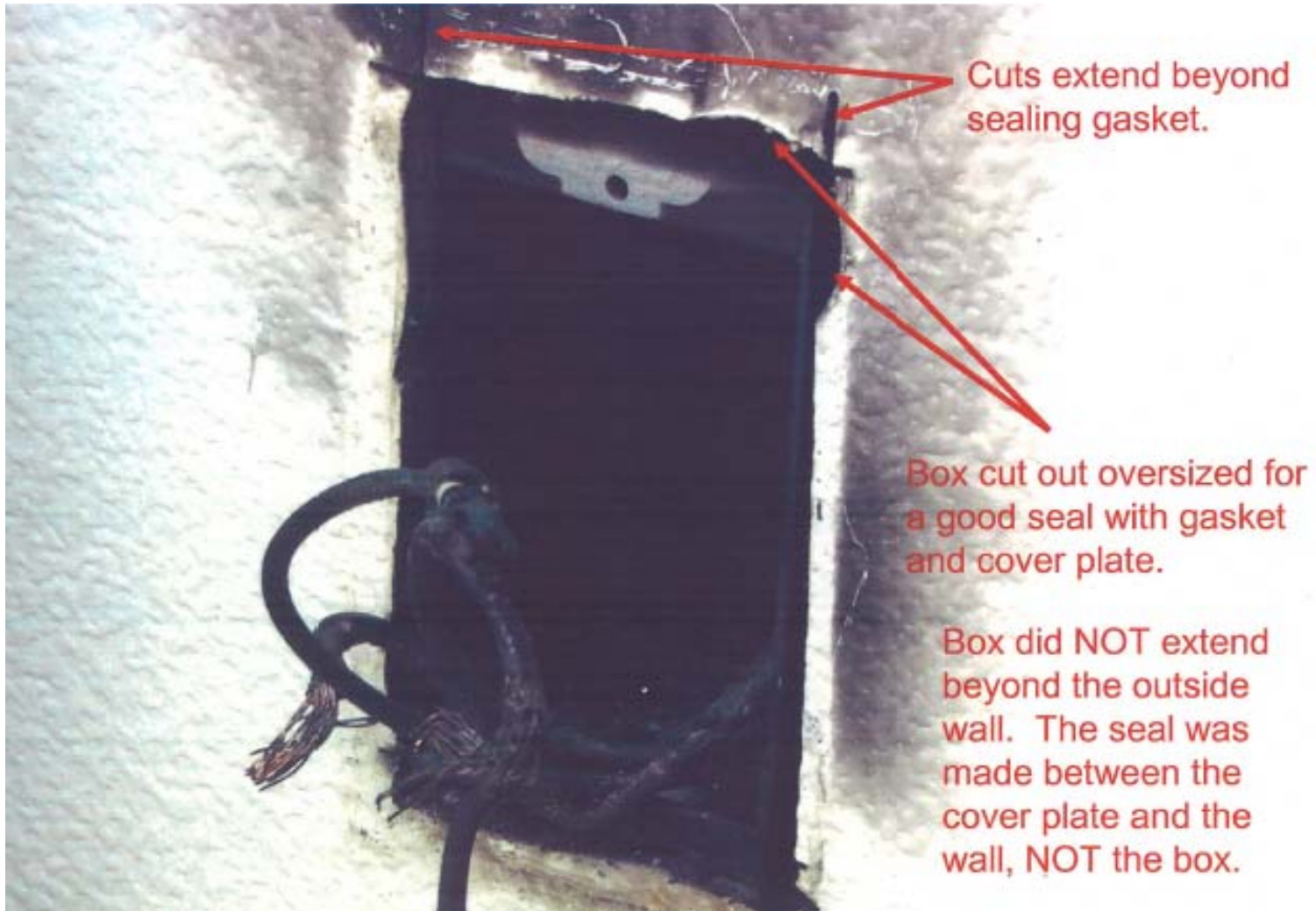


## *As Found Conditions Inside Truck Lock*





## *Likely Cause Was Moisture Intrusion*

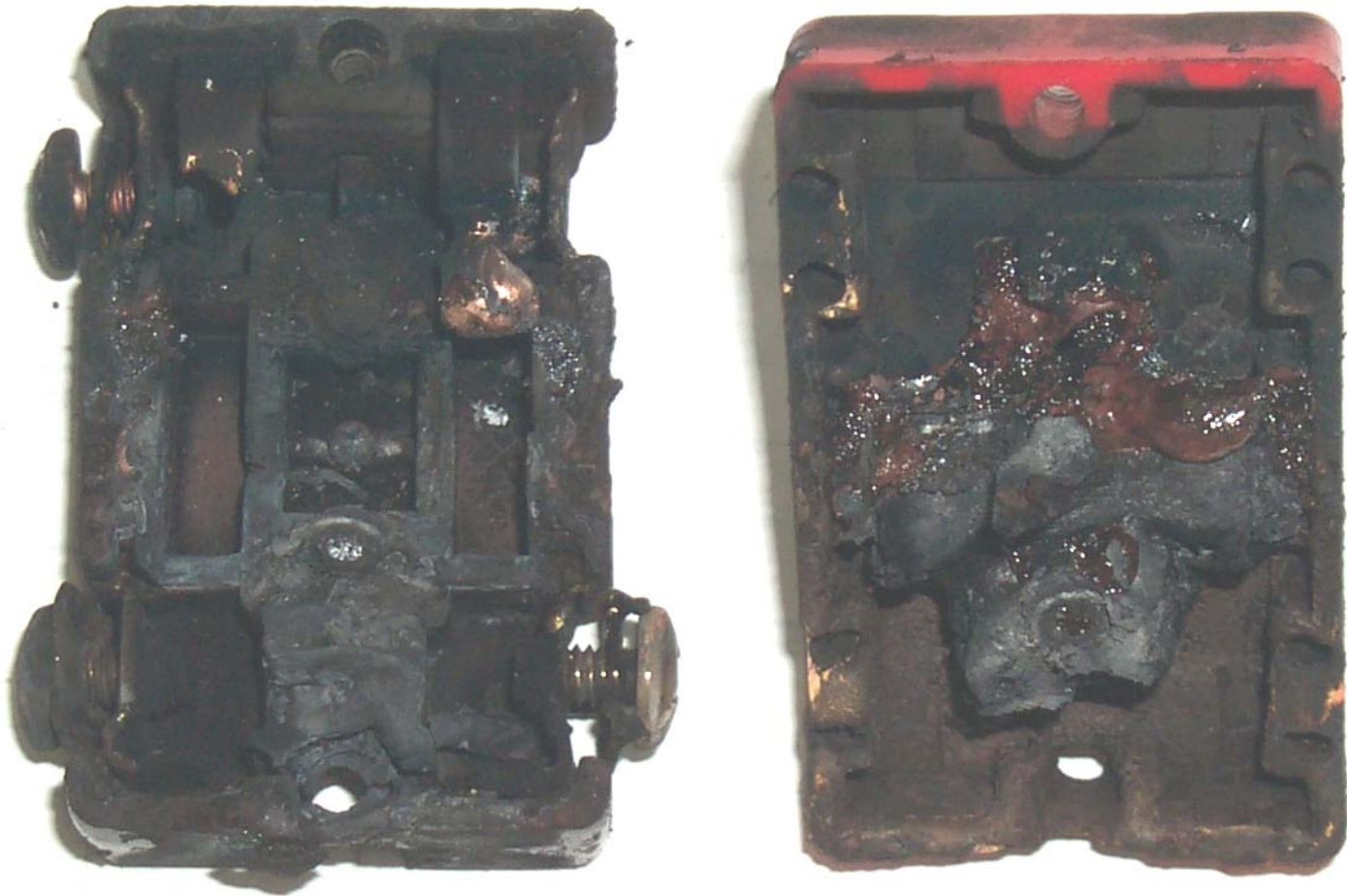




## *Panel Opening As Found Details (continued)*



## *Inside the Switch Body*



## *Actions Taken and in Progress*

- Event was discussed at the 10/24/05 “CAT Chat” and the 10/25/05 ANL Management Council meeting.
- ORPS Report to DOE was submitted on 10/25/2005.
- Photoelectric cells are being installed to automatically turn on gas yard exterior lights pending final recommendations.
- Installations have been completed for the 431/432 and 437/438 gas yards. Parts have been ordered for 433/434 and 435 yards.
- The scientist’s second degree burn was treated several times and has healed.