

# JOB HAZARD ANALYSIS FOR ENERGIZED ELECTRICAL WORK

## Part I - To be completed by the person requesting the work:

MJR, Service Request, RSS, or Project Number/Title Physics: < 600 Vac Circuit Breaker / Disconnect Ops w/ Covers On

Work Location (Bldg./Room or Area) 6000,6000B,6005,6007,6008,6010,6016,6025 Complex                      East                     

Description of Energized Components/Equipment and work to be done

Operation of various circuit breakers and disconnects rated < 600 Vac with covers on in Physics Division facilities at ORNL.

Justification why Components/Equipment cannot feasibly be de-energized  
 < 600 Vac circuit breakers and disconnects are turned off and on by Qualified Persons during routine maintenance activities in Physics Division facilities. Physics Division maintains a list of Qualified Persons and their qualifications. Operation of the breakers is a Typical Energized Work Task. No Shock Hazard is present and Arc Flash Risk Category 0 applies. PPE requirements will be communicated to all staff.

Work Requester B. Alan Tatum (28208) Date January 21, 2005

## Part II - To be completed by those (Electrically) Qualified Persons performing the work:

Exposed Energized Circuit/Equipment                      none                      Exposure Voltage(s)                      none                     

Circuit Isolation Point identified? (Required – list source)                      various                     

### Shock Hazard Analysis

Check one box below	Voltage	Limited (Non-Qualified) Approach Boundary	Restricted Approach Boundary	Prohibited Approach Boundary
	<50	Not Specified	Not Specified	Not Specified
	50 to 300	3 ft. 6 in.	Avoid Contact	Avoid Contact
	301 to 750	10 ft. 0 in.	1 ft. 0 in.	1 in.
	751 to 15kV	10 ft. 0 in.	2 ft. 7 in.	10 in.

### Arc Flash Analysis

Is a calculated Arc Flash Analysis Hazard/Risk Category identified for the task? Yes  Value:                      No

[ If analysis is not done or posted on equipment, see "Typical Energized Work Activities" or Table 4 in "Performing Energized Work" to determine type/level of protective clothing and PPE required for task risk category ]

Check one box below	Risk Category	Typical Protective Clothing and PPE*	Required minimum Arc Rating (cal/cm <sup>2</sup> )
✓	0	Long sleeve shirt, pants, and undergarments of untreated natural fibers (NF), safety glasses, closed toe shoes	N/A
	1	4 calorie (min.) FR shirt/pants, <u>or</u> FR coverall over NF undergarments, safety glasses, hard hat, leather work shoes/boots, gloves	4
	2	8 cal. FR shirt/pants, <u>or</u> 8 cal. FR coverall over NF pants and tee shirt, hard hat, arc-rated face shield, safety glasses, hearing protection, leather work shoes/boots, voltage rated gloves	8
	3	2 pairs of 8 cal. FR coveralls over NF pants and tee shirt, <u>or</u> 25 calorie FR flash suit and hood over NF pants and tee shirt, hard hat, safety glasses, hearing protection, leather work shoes/boots, voltage rated gloves	25
	4	25 calorie FR flash suit and hood over 8 cal. FR coveralls + NF pants and tee shirt, hard hat, safety glasses, hearing protection, leather work shoes/boots, voltage rated gloves	40

( Over )

**Part II (Cont.) To be completed by those Qualified Persons performing the work:**

Other types/forms of stored energy?

none

Controls in place that address those hazards (**List all that apply**)

no applicable

Additional safety observer required? Yes \*\*  No

**Part III Review and Approval**

Signatures below indicate the project lead/supervisor and qualified persons have reviewed the noted conditions, are in 100% agreement of the work to be performed, and pending final approval (see below) may proceed using all of the protective measures/controls listed above.

Project Lead/Supervisor B. Alan Tatum (Physics ESO) *B. Alan Tatum* Date: January 21, 2005

Qualified Person Physics Qualified Electrical Worker list on file Date: \_\_\_\_\_

Qualified Person \_\_\_\_\_ Date: \_\_\_\_\_

Safety Observer (as required) \_\_\_\_\_ Date: \_\_\_\_\_

Approved (Level 2 Manager or LSS signature required)

Glenn R. Young

*Glenn R. Young*

Date: January 21, 2005

\* Listed clothing and PPE represents minimum protection levels and is not to be considered all inclusive. Additional items may be required dependent upon conditions – See Table 3 for alternative clothing systems or PPE.

\*\* If second qualified person will be working at the same time, it will require a third person to act as a safety observer. To perform regular duties the safety observer must wear protective clothing and PPE that meets the Risk Category 1 level. If facility configurations require the safety observer to be within the restricted approach boundary (or closer), they must be a qualified person and also wear the required levels of protective clothing and PPE like those performing the energized work.