



# Interpretation

## Section 41.

### Supply and communications systems—Rules for employers

#### Rule 410A3b, *EXCEPTION 4*

#### General requirements – General

(2017 Edition, page 278)

(4 February 2021) IR592

**Question:** The second sentence of Rule 410A3b, *EXCEPTION 4* states, “Arc-rated equipment is necessary for the protection of the employee’s head and face and may consist of head protection meeting OSHA 29 CFR 1910.135 and a face shield with a minimum arc rating of 8 cal/cm<sup>2</sup> if the estimated incident-energy exposure is greater than 9 cal/cm<sup>2</sup> and less than 13 cal/cm<sup>2</sup> for exposures involving single-phase arcs in open air or greater than 5 cal/cm<sup>2</sup> and less than 9 cal/cm<sup>2</sup> for other exposures.”

If a face shield has a rating of 12 cal/cm<sup>2</sup>, can this exception be interpreted to mean that exposures greater than 9 cal/cm<sup>2</sup> and less than 17 cal/cm<sup>2</sup> for exposures involving single-phase arcs in open air or greater than 5 cal/cm<sup>2</sup> and less than 13 cal/cm<sup>2</sup> for other exposures?

**Discussion:** BC Hydro is aligning our arc flash PPE requirements with the 2017 Edition of the NESC. We currently specify our face shields to require a minimum arc rating of 12 cal/cm<sup>2</sup>. We are not going to allow the face shields to be used for calculated incident energy beyond the 12 cal/cm<sup>2</sup> rating in any circumstance but want to ensure that we are correctly interpreting Rule 410A3b, *EXCEPTION 4*.

#### Interpretation

This response is based on the language used in Rule 410A3b of the 2017 NESC.

The answer to the question concerning *EXCEPTION 4* to Rule 410A3b is no. *EXCEPTION 4* allows a face shield with a minimum arc rating of 8 cal/cm<sup>2</sup> to be used “*if the estimated incident energy exposure is greater than 9 cal/cm<sup>2</sup> and less than 13 cal/cm<sup>2</sup> for exposures involving single phase arcs in open air or greater than 5 cal/cm<sup>2</sup> and less than 9 cal/cm<sup>2</sup> for other exposures.*” For scenarios where the estimated incident energy exposure is outside these ranges, this part of *EXCEPTION 4* cannot be used. Therefore, the requirements of Rule 410A3b will apply unless one of the other exceptions can be used.



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However, the last sentence of *EXCEPTION 4* can be used, **but only for single phase arcs in open air**. The arc rating of the protection used for the head and face “*may be 4 cal/cm<sup>2</sup> less than the estimated incident energy.*”