NR Logo **ARC FLASH PPE FAQ – Update January 2020**

***Question: Where will I find out the work activities which require me to wear Arc Flash PPE?***

**Answer:** Notice board posters for Delivery Units and pocket guides will be available in Safety Central for download via the ‘national electrical power distribution safety briefing’ page.

If you are a holder of Distribution Level A, Level B, Level C or Level D competence, then you should also receive a briefing from your line manager or nominated briefer by the 6th June 2020. Again, these briefing slides will be available in Safety Central for download.

Also, we have also updated Task Risk Control Sheet NR/L3/MTC/RCS0216/DP01 and this will be available (along with the associated technical briefing materials) at the NR Standards intranet site from January 2020 and has the same compliance date of 6th June 2020.

***Question: What is the difference between Flame Retardant PPE and Arc Flash PPE?***

**Answer:** The main difference between Flame Retardant PPE and Arc Flash PPE is that all Arc Flash PPE is inherently Flame Retardant, however not all flame retardant PPE can protect from an Arc Flash. This is due to the testing process which determines the protective rating of PPE garments.

Purely flame retardant garments are not exposed to electrical arcs when tested so therefore cannot be classified as protecting against an Arc Flash.

***Question: Can I wear my own underwear with the main layer of Arc Flash PPE?***

**Answer: YES**, as long as it is 100% cotton (no synthetics/polyesters/nylons) and contains no metallic fasteners. The Elastic or Lycra used on underwear can be considered as ‘incidental’ and providing the rest of the material on the garment is 100% cotton, then these are acceptable to be worn.

Bra’s should not contain underwire or metal fasteners but if this cannot be avoided, you must wear the flame retardant base layer over the top.

***Question: Do I need to wear the base layer items to achieve the arc flash protection levels?***

**Answer: NO**. Each arc flash rated garment is tested and rated individually and not as a layer. If staff want to wear additional layers, they should not assume that the calorific values are added together and that the protection level provided will be at the value of the lowest rated item.

***Question: Can I wear my NR fleece or HV vest over the top or underneath my arc flash PPE when performing work activities?***

**Answer: NO.** Any non-flame retardant or non-arc flash rated garments such as fleeces or HV vests, must not be worn over the top or underneath the arc flash rated garments, as this dramatically reduces the protection levels afforded by the arc flash PPE.

The highest rated arc flash PPE garment must be worn as the outermost layer.

***Question:  Why do I need to always wear the balaclava with the Arc Flash helmet and visor?***

**Answer**:  The helmet and visor will provide arc flash protection for your face, eyes and the top of your head, however you need the balaclava to protect the rest your head and neck and therefore is recommended.

***Question: Do I still need to wear my safety glasses when wearing the Arc Flash helmet and visor?***

**Answer**: **NO**, unless you need to wear your glasses normally to improve your sight.

***Question: If I already have an Arc Flash boiler suit, does this still meet the requirements of the 16 cal/cm2 rating activities?***

**Answer**: Firstly, you will need to check the calorific rating on the label of the garment as some of the previously purchased boiler suits were to a lower rating (12 cal/cm2). If you are still required to carry out the activity requiring the 16 cal/cm2 rating, then you either procure a new suitably rated Arc Flash boiler suit from the PPE catalogue, or wear the 41 cal/cm2 Arc Flash rated items.

We have instructed the PPE catalogue team to remove the 12 cal/cm2 boiler suit from the system.

***Question: In my role as a NR Telecoms technician, I use my Level C to access the substation to test the telephone so do I need to wear Arc Flash PPE?***

Answer: **NO**. We have risk assessed the routine work activities carried out by NR Telecoms in the substation environment and there is no risk of arc flash when testing the telephone.

However, if your work could result in either persons, materials or tools being above distribution equipment, then this requires an approved risk assessment by either the E&PME or RAM E&P.

***Question: In my role as a Buildings Engineer, I use my Level C to access the substation to survey the building or domestic supplies so do I need to wear Arc Flash PPE?***

Answer: **NO**, providing it is a visual survey only and not above any distribution equipment.

For any intrusive maintenance or fault rectification of the building fabric or domestic supplies will require an approved risk assessment to be agreed by either the E&PME or E&P RAM. This shall detail any arc flash PPE requirements.

***Question: If I am undertaking a work activity which requires me to wear the Arc Flash outer layer and I have non Distribution & Plant staff in the building, do they need wear the main and outer layers too?***

**Answer**: It is recommended that while undertaking the work activity, the non-Distribution & Plant staff are asked to vacate the building or area (for outdoor switchgear) temporarily until the task is completed. If this is not practicable, a risk assessment should be carried out prior to the work to determine the level of arc flash PPE required for the non-Distribution staff.

***Question: If I am showing a Distribution & Plant apprentice or new starter how to carry out a task which requires me to wear the Arc Flash outer layer, should they also wear the outer layer?***

Answer: **YES**.

However, if they do not have the required Arc Flash outer layer items, they should be asked to vacate the building or area (for outdoor switchgear) and not shown the task.

***Question: If the substation is completely isolated from all high voltage and/or DC traction supplies, do I still need to wear my Arc Flash PPE?***

Answer: For Distribution & Plant staff (either Maintenance, Works Delivery or Projects) the requirement to wear the main layer of Arc Flash polo shirt and cargo trousers at all times will still remain as your work activity is still considered as either ‘*Inspection / Maintenance / Faulting / Renewal of Distribution Equipment within a traction or HV non-traction Distribution location*’.

***Question: What are the Arc Flash PPE requirements when undertaking Isolation & Earthing (I&E) of 25 kV SMOS equipment and SMOS pallets?***

Answer:  The minimum requirements are as per the Class 1 (4kA) main layer.

Due to the distance between the 25 kV conductors and the competent person carrying out the isolation & earthing activities from ground level, there is no requirement for Arc Flash rated hand and face protection, though it is still recommended that the normal PPE hard hat and safety glasses are worn.

***Question: I currently work in the RAM E&P team and was wondering what are requirements when either attending a substation with my team members or attending with the maintenance teams?***

Answer:  Firstly, dealing with attending a substation with fellow RAM E&P team members only; Providing either you or one your team are competent to access & egress (Distribution Level C) and you are only carrying out visual surveys only, then there is no requirement to wear Arc Flash PPE.

When attending the substation with Distribution & Plant staff (either Maintenance, Works Delivery or Projects) especially when you are involved or over-seeing the work activity, you will wear the required Arc Flash PPE determined by that activity.

***Question: I currently work in the EPME team and was wondering what are requirements when either attending a substation with my team members or attending with the maintenance teams?***

Answer:  Firstly, dealing with attending a substation with fellow EPME team members only; Providing either you or one your team are competent to access & egress (Distribution Level C) and you are only carrying out visual surveys, then there is no requirement to wear Arc Flash PPE.

When attending the substation with Distribution & Plant staff (either Maintenance, Works Delivery or Projects) especially when you are involved or over-seeing the work activity, you will wear the required Arc Flash PPE determined by that activity.

Also, if you carry out any work activity (other than visual only surveys) on the electrical protection & control equipment within the substation, you will wear the Class 1 (4kA) main layer, as your work activity is still considered as either ‘*Inspection / Maintenance / Faulting / Renewal of Distribution Equipment within a traction or HV non-traction Distribution location*’.