

REVIEW / COMMENT DOCUMENTATION

Commenter: Dr. Hajime KABASHIMA **Phone:** _____ **Document #, Rev:** SAND2018-0706 O, DRAFT 0002
Discipline/Department: Secretariat of Nuclear Regulation Authority **Date:** 3/9/2018 **Title:** Aluminum High Energy Arc Fault (HEAF) Particle Size Characterization Test Plan - DRAFT
Comments shall be: * CLEARLY STATED AS A MATTER OF FACT (OR A SPECIFIC QUESTION) * COMPLETE AND INCLUDE A REFERENCE TO THE AFFECTED DOCUMENT
 * LEGIBLE AND REPRODUCIBLE * FOCUSED TO A SPECIFIC PROBLEM OR DEFICIENCY

Comment No.	Document Number Section / Paragraph	Review Comments (Print)/Basis for Comment	Comment Disposition / Resolution	Change to Document
1	General	The PMMA enclosure, is it only for surrounding as side wall? If so, what is the property of the bottom base? Is the upper side open?	Side and top are PMMA bottom is metal base. Enclosure is to protect instruments. Upper side is closed with PMMA.	Photo added.
2	General	Are the aerogel components and the PMMA enclosures removed and analyzed for each test?	Aerogels will be analyzed for each test. PMMA enclosure is not removed or analyzed.	No Change
3	General	What about the bus bars? Don't you measure the mass loss of them?	Bus bars are removed after each test and mass loss is measured.	No Change
4	General	How do you estimate the contribution of the oxidation energy of aluminum for the arc energy?	We will be using SEM and other spectroscopy methods to measure the level of oxidation.	No Change
5	General	Do you do the post-mortem forensics analyses such as SEM in case of the copper bus bar tests?	Yes	No Change
6	General	Do you think it is possible to evaluate the contaminated ratio of aluminum vapor in the arcing atmosphere by this experiment?	Unclear what is meant by "contaminated ratio." Clarification requested. No response received.	No Change
7	General	It is important to conduct the both tests with aluminum and copper bus bars. They could show the effects of aluminum vapor for the arcing energy.	We plan to test both aluminum and copper.	No Change
8	General	Test parameters of voltages and currents covers the operating conditions of Japanese utilities. They are welcomed for us.	Ok	No Change

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9	General	It should be measured the mass loss of the bus bars because it is impossible to capture all the ejected particles.	Agreed	No Change
10	General	We hope you could propose the mechanistic modeling for the phenomena of energy contribution of aluminum vapor in the arcing.	This is the desire and that work will be performed subsequent to the testing. Any modeling results will be made publically available after they are reviewed and vetted.	No Change