MEMORANDUM

To: expartecommunications@hq.doe.gov
From: Jason Friedrich and Jennifer Sanford
Date: August 8, 2014
Re: Ex parte communication
Department of Energy
Docket Number EERE-2014-BT-NOA-0012
Meeting of August 7, 2014

This memorandum for the record provides a summary of an August 7, 2014 meeting with U.S. Department of Energy staff concerning DOE's Notice of Data Availability for Energy Conservation Standards and Test Procedure for Battery Chargers, 79 Fed. Reg. 27774 (May 15, 2014).

Meeting attendees:

Jeremy Dommu (DOE Office of Energy Efficiency and Renewable Energy)
Daniel Cohen (DOE Office of General Counsel)
Douglas Rawald (DOE Office of General Counsel)
Michael Kido (DOE Office of General Counsel)
Jason Friedrich (ARRIS)
Tom Kelleher (ARRIS)
Jennifer Sanford (Cisco)
John Hodges (Wiley Rein)

The parties discussed issues raised in a letter submitted by ARRIS on July 18, 2014, a copy of which is attached as Appendix A; and a PSU-battery charger-modem interface block diagram, a copy of which is attached as Appendix B.

The industry representatives voiced their strong support for energy efficiency. This has included, for example, participation in the Voluntary Agreement on energy efficiency of set-top boxes, including on the Steering Committee.

They stressed the importance of a proper handling by DOE of Continuous Use Products. These products are increasingly more integrated, with more functionality being performed by a system chip or chip set. Backup battery charging is not the primary function of the product. There is no ability to "turn off" the rest of the product or chip and leave only the battery charging function on while testing. As a result, the DOE test procedure overstates the energy used, by including not only the energy usage of the backup battery charging system but also the energy usage of the rest of the product. It is not feasible to add off switches to disable the non-charging

functionality where the charging functionality is integrated at the system chip or chip set level. Hence, the test procedure runs contrary to the fundamental purpose under the Energy Policy and Conservation Act to test a product in a manner representative of its true energy consumption characteristics.

While the industry representatives urged that Continuous Use Products not be included in the scope of DOE regulation, they urged that changes to the test procedure are necessary in order to accommodate such products if they are included. ARRIS's comments of June 30, 2014 recommend appropriate technical changes to the test procedure that would estimate the energy consumption of the battery backup system in a reasonable and cost effective manner if Continuous Use Products are included in the scope of DOE regulation.

The parties discussed the technical changes set forth in the ARRIS comments. These would involve modification of the test procedure to isolate the normal operating power of the device where the battery is only utilized as an emergency backup. The comments propose the addition of a "normalization" process to determine what portion of normal operating power is associated with the charging function. This process would allow the battery charging energy consumption to be quantified and compared regardless of the product type and intended use. This approach enables the energy consumption of the battery charging functionality to be calculated while the product is being used as intended and without requiring special test fixtures, device modifications, or specialized software.

The practicability of the suggested test procedure changes was further discussed. The industry representatives indicated that batteries can generally be removed or otherwise disconnected from the product; the changes also provide a way to address situations where the battery cannot be removed or otherwise disconnected. In addition, the suggested test procedure changes are broadly applicable and do not relate only to ARRIS products. Hence, there would be no need to write different test methods for different Continuous Use Products. Further, the suggested test procedure changes are not burdensome to conduct.

The industry representatives also urged that Continuous Use Products be excluded from the scope of DOE regulation. Including these products in battery charger regulations adds additional regulatory burdens and costs to manufacturers and consumers without providing meaningful energy savings.

DOE indicated that it would consider this matter further. The industry representatives indicated that they would likely provide additional information for the record for DOE's consideration, and they expressed a desire to further cooperate in resolving the issues.

APPENDIX A

July 18, 2014

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy
U.S. Department of Energy
EE-5
1000 Independence Avenue, SW
Washington, DC 20508

Re: Docket Number EERE-2014-BT-NOA-0012

Dear Ms. Hogan:

ARRIS Group, Inc. ("ARRIS") has reviewed the comments submitted in response to the Department of Energy's ("DOE") Notice of Data Availability ("NODA") for Energy Conservation Standards and Test Procedure for Battery Chargers.[1] ARRIS believes that it is important to bring certain matters to DOE's attention concerning those comments.

ARRIS strongly disagrees with the small minority of the comments claiming that the DOE test procedure as applied to "Continuous Use Products," products that use battery power only in the event of power outages or similar emergency conditions, is sufficient and that it is up to manufacturers to modify such products so that they can be tested. These include comments of the Natural Resources Defense Council ("NRDC") and California Investor Owned Utilities ("CA IOUs").

NRDC asserts (Comments at 3) that the DOE test procedure as applied to applications equipped with backup batteries does not require modification and that it is manufacturers' responsibility to design products that minimize other functions in maintenance mode, or to provide a mechanism to turn off these functions for the purpose of efficiency testing. Similarly, CA IOUs assert (Comments at 3) that manufacturers can either minimize standby power of additional functionalities or incorporate an off switch to turn these functions off. These comments do not withstand analysis and should be rejected.

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[1] Dep't of Energy, Energy Conservation Program, Energy Conservation Standards and Test Procedure for Battery Chargers: Availability of Data, 79 Fed. Reg. 27774 (May 15, 2014).

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To begin with, DOE in the NODA acknowledges that the "results [of its testing] suggest that the current test procedure, which is intended to measure battery charging energy consumption, may be unable to isolate and measure the energy usage of these particular products."[2] The NRDC and CA IOUs comments seem to completely disregard this DOE analysis.

Continuous Use Products are becoming increasingly more integrated. That is, more functionality is performed by a system chip or chip set. Backup battery charging is not the primary function of the product. There is no ability to "turn off" the rest of the product or chip and leave only the backup battery charging function on while testing. As a result, the DOE test procedure overstates the energy used, by including not only the energy usage of the backup battery charging system but also the energy usage of the rest of the product. It is not feasible to add off switches to disable the non-charging functionality where the charging functionality is integrated at the system chip or chip set level.

Thus, while ARRIS believes that Continuous Use Products should not be included in the proposed regulations (as discussed below), we agree with comments that changes to the test procedure are necessary in order to accommodate such products if they are included. Our comments of June 30, 2014 recommend appropriate technical changes to the test procedure that would estimate the energy consumption of the battery backup system in a reasonable and cost effective manner if Continuous Use Products are included in the scope of DOE regulation.

ARRIS agrees with comments that Continuous Use Products should be excluded from the scope of DOE regulation. Including these products in battery charger regulations adds additional regulatory burdens and cost to manufacturers and consumers without providing meaningful energy savings. Hence, DOE should determine that no standard is justified for them. In that regard, we extract below our original comment on this point, submitted as Motorola Mobility, Inc., on May 29, 2012:

> Motorola urges that DOE not include continuous use products – such as answering machines, home security systems, modems, and LAN/WAN adapters – in the standards for battery chargers. The very low frequency of charge combined with the relatively high ongoing power requirements of continuous use, or "always on," products means that, as a percentage of product power, the battery charging represents a very small fraction and a very small amount of energy. Therefore, little or no value is to be gained from including such products in the DOE standard for battery chargers.

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2 Id. at 27776.

In an example of a typical modem, Motorola measured normal power at approximately 6 watts. This translates to a UEC of 53 kWh/yr (i.e., 6*24*365). At n = 0.1 charges per day (Class 3 BCS) and measured battery charge energy of 21 Wh, the UEC for the battery would be 0.766 kWh (i.e., 0.1*365*21) or 1.4% of the product UEC. The actual UEC is even lower considering that the actual charge frequency is closer to that published in the Technical Support Document ("TSD") for a home security system of n = 0.02 or roughly 7 charge cycles per year.

ARRIS requests that this letter be included in the record of this proceeding.

Sincerely,

/s/ Jason E. Friedrich

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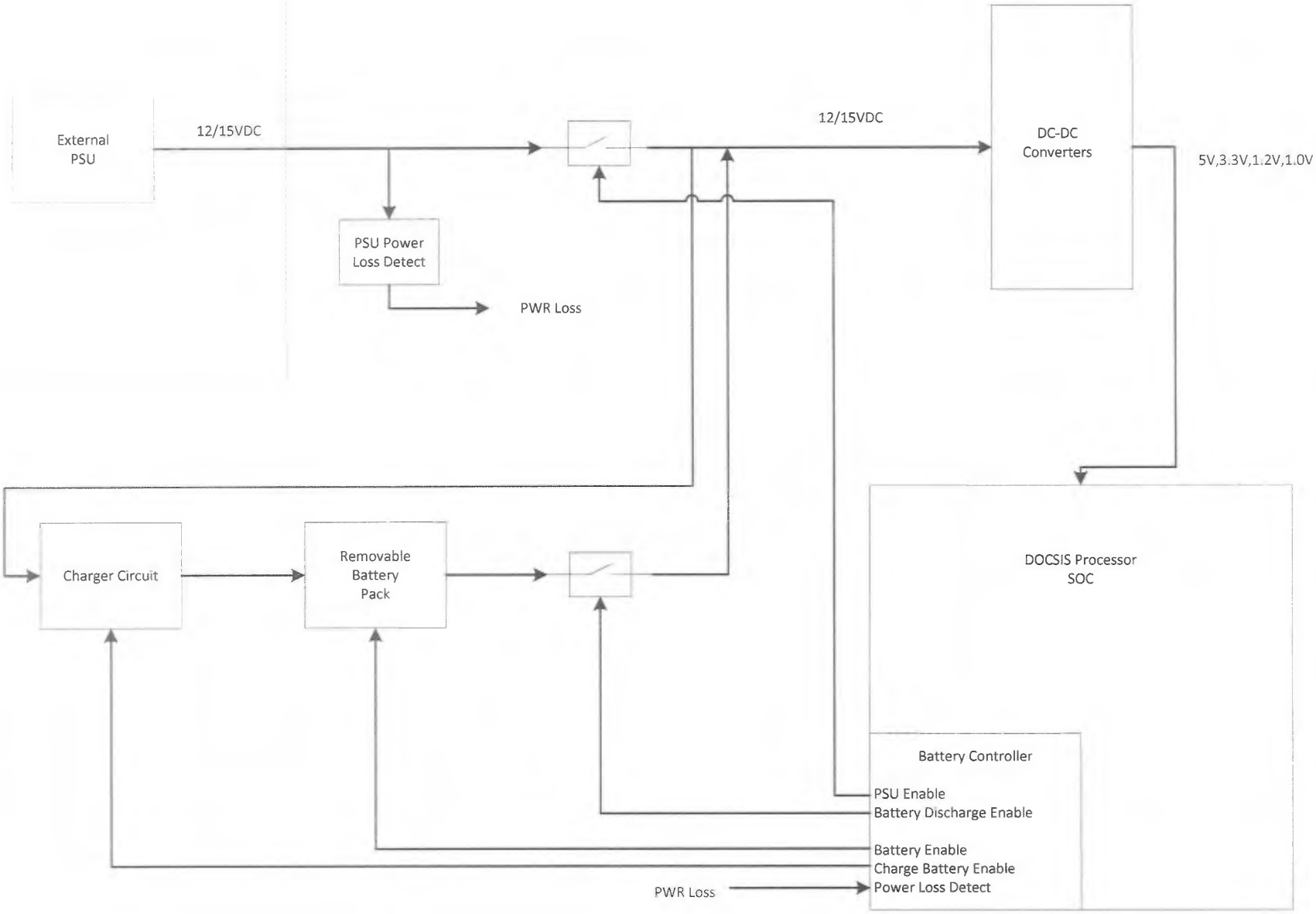
cc: Jeremy Dommu, DOE

APPENDIX B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PWR Loss
12/15VDC
DC-DC Converters
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Charger Circuit
Removable Battery Pack
DOCSIS Processor SOC
Battery Controller
PSU Enable
Battery Discharge Enable
Battery Enable
Charge Battery Enable
Power Loss Detect
PWR Loss