BEFORE THE
U.S. DEPARTMENT OF ENERGY
Washington, D.C. 20585

In the Matters of:	)	
	)	
ABB, Inc.	)	Case Numbers: 2016-SE-47001 and
(distribution transformers)	)	2016-SE-47002
	)	
	)	

Issued: December 22, 2016

NOTICE OF NONCOMPLIANCE DETERMINATION

Liquid-immersed distribution transformers are covered equipment subject to federal energy conservation standards. 10 C.F.R. § 431.196. Manufacturers and private labelers are prohibited from distributing covered equipment in the United States that do not comply with applicable federal energy conservation standards. 10 C.F.R. § 429.102(a)(6).

ABB VOLUNTARY REPORT OF NON-COMPLIANCE

First Disclosure

On February 17, 2016, ABB, Inc. ("ABB") provided the U.S. Department of Energy ("DOE") a Voluntary Report of Non-Compliance With Energy Conservation Standards Applicable to Distribution Transformers ("Report"), informing DOE that ABB determined that ABB had distributed in commerce 96 units of non-compliant dual voltage liquid-immersed distribution transformers from its Jefferson City, Missouri manufacturing plant ("Jefferson City plant"). ABB informed DOE that the Jefferson City plant had applied an alternative efficiency determination method ("AEDM") to determine whether the liquid-immersed distribution transformers it manufactured between January 1, 2010, and early November 2015 complied with the applicable DOE standards. However, while the Jefferson City plant applied an AEDM to substantiate the efficiency of both the single and dual voltage liquid-immersed distribution transformers it manufactured, the plant erroneously did not test dual voltage liquid-immersed distribution transformers as part of its AEDM validation. ABB also informed DOE that the engineering staff at ABB's Jefferson City plant occasionally performed a limited amount of random testing of its dual voltage distribution transformer units and determined that some units tested below the AEDM prediction and did not meet the applicable standard. ABB admitted that its Jefferson City plant failed to recognize that DOE regulations prohibit reliance on an AEDM

where actual testing has shown that the AEDM does not accurately and consistently reflect the efficiency of the units to which the AEDM is being applied.

Per ABB, in 2013 the Jefferson City plant identified that one dual voltage design might be subject to validation testing for annual certification under its AEDM, and undertook an analysis of the results of the random testing of dual voltage liquid-immersed distribution transformers it had been conducting since 2010 in comparison to the applicable standards. This analysis was completed in early November 2015 and demonstrated that the AEDM that the Jefferson City plant had been using could not accurately determine whether numerous units of dual voltage liquid-immersed distribution transformers complied with the applicable standards.

ABB further informed DOE that ABB stopped shipment of all dual voltage liquid-immersed distribution transformers on November 9, 2015, and directed an independent team from ABB to review the issue. Based on this review, ABB determined that the company distributed in commerce 96 units of various dual voltage liquid-immersed distribution transformer units (out of 442 such units for which ABB had sufficient testing data) that did not meet the applicable standards. ABB further informed DOE that ABB distributed a total of 15,185 units of dual voltage liquid-immersed distribution transformers in commerce in the U.S. between January 1, 2010 and November 9, 2015.

Upon request from DOE, ABB provided additional information and data to DOE via email and on the phone in March 2016. ABB informed DOE that the 96 non-compliant units it distributed in commerce belong to 29 different design numbers of liquid-immersed distribution transformers that ABB manufactures[1] and identified the design number to which each of the 96 non-compliant units belongs. ABB also provided DOE information identifying the amount by which each of the 96 non-compliant units failed to meet the applicable DOE standards. ABB further informed DOE that ABB had not previously certified compliance to DOE for any of the 96 distribution transformer units.

After further discussion with DOE in April 2016 regarding the Report and subsequent information provided, ABB provided DOE with an Analysis of ABB Dual Voltage Transformers Manufactured Between 2010 and 2015 for Compliance with DOE 2010 Efficiency Standards ("Analysis"). In the Analysis, ABB informed DOE that ABB re-reviewed the population of dual voltage distribution transformers it manufactured at Jefferson City between January 1, 2010, to December 31, 2015, and found the total number of units to be 15,091 (as opposed to 15,185). ABB reported that the 15,091 transformers belonged to 1,497 different unique designs. ABB reviewed records and reported that for the vast majority of dual voltage transformers Jefferson City produced from 2010 to 2015, ABB did not have complete test data. Given the absence of test data, ABB developed two methodologies to estimate the likely levels of compliance and non-compliance with the applicable 2010 efficiency standards. The methodologies were described in detail in the Analysis. Based on these methodologies, ABB reported that 38% of all

[1] According to ABB, the 96 non-compliant units of liquid-immersed distribution transformers it distributed in commerce belong to the following 29 design numbers: JC33666; JC34048; JC56482; JC56488; JC56491; JC59155; JC66714; JC68855; JC68856; JC74432; JC75123; JC75470; JC75478; JC75814; JC75815; JC76081; JC76112; JC76114; JC76618; JC76625; JC76904; JC77150; JC77296; JC77394; JC77414; JC77423L JC78328; JC78863; and, JC78942.

units of dual voltage distribution transformers it manufactured at Jefferson City between January 1, 2010, and December 31, 2015, likely did not meet the applicable efficiency standards at 10 C.F.R. § 431.196(b)(1).[2]

Second Disclosure

On May 31, 2016, ABB provided DOE a Voluntary Report of Non-Compliance with 2016 Energy Conservation Standards Applicable to Distribution Transformers ("Second Report"). The Second Report indicated that in April 2016, ABB discovered that 6 transformers that it believed to be non-compliant with applicable efficiency standards (at 10 C.F.R. § 431.196(b)(2)) had been shipped from Jefferson City. ABB indicated that the potential

[2] According to ABB, the 38% percent of total units of liquid-immersed distribution transformers are comprised of the following design numbers: JC30897;JC31118;JC32553;JC32746;JC32827;JC33539;JC33666;JC34048; JC34195;JC34265;JC34505;JC35053;JC35201;JC35228;JC35231;JC35282;JC35289;JC35388;JC35471;JC35509; JC35521;JC35592;JC35719;JC35827;JC35870;JC40136;JC40431;JC40432;JC40433;JC40436;JC40439;JC40440; JC40447;JC50068;JC50071;JC50443;JC50481;JC50541;JC50723;JC50767;JC50768;JC50775;JC50804;JC50839; JC50847;JC50977;JC50979;JC50981;JC51119;JC51120;JC51186;JC51407;JC51447;JC51509;JC51534;JC51594; JC51608;JC51664;JC51680;JC51763;JC51764;JC51779;JC51787;JC51809;JC51830;JC51843;JC51927;JC51967; JC51969;JC51970;JC51995;JC52046;JC52050;JC52098;JC52107;JC52419;JC52459;JC52567; JC52731;JC52738; JC52797;JC52960;JC53016;JC53042;JC53125;JC53142;JC53202;JC53215;JC53216;JC53224;JC53249;JC53328; JC53343;JC53478;JC53497;JC53571;JC53580;JC53584;JC53585;JC53586;JC53622;JC53637;JC53653;JC53693; JC53947;JC54108;JC54131;JC54233;JC54234;JC54235;JC54236;JC54308;JC54366;JC54368;JC54369;JC54409; JC54414;JC54428;JC54740;JC54897;JC54922;JC54926;JC54929;JC54930;JC54931;JC55018;JC55044;JC55115; JC55117;JC55131;JC55194;JC55257;JC55354;JC55441;JC55735;JC55862;JC55863;JC55893;JC55894;JC55905; JC55931;JC55932;JC56012;JC56014;JC56055;JC56056;JC56070;JC56256;JC56469;JC56470;JC56471;JC56472; JC56473;JC56474;JC56475;JC56476;JC56479;JC56480;JC56482;JC56483;JC56484;JC56485;JC56487;JC56488; JC56489;JC56491;JC56492;JC56493;JC56494;JC56707;JC56709;JC56729;JC56730;JC56790;JC56794;JC56994; JC57128;JC57129;JC57140;JC57141;JC57275;JC57474;JC57475;JC57538;JC57663;JC57810;JC57811;JC57842; JC58141;JC58365;JC58422;JC58776;JC59100;JC59119;JC59155;JC59212;JC59288;JC59299;JC59520;JC59680; JC59783;JC60044;JC60066;JC60068;JC60180;JC60368;JC60441;JC60526;JC60552;JC60623;JC60933;JC60992; JC61080;JC61085;JC61091;JC61139;JC61163;JC61663;JC61682;JC61744;JC61777;JC61813;JC61862;JC61964; JC62007;JC62197;JC62199;JC62232;JC62233;JC62243;JC62256;JC62257;JC62344;JC62393;JC62402;JC62497; JC62771;JC62853;JC62861;JC62934;JC62935;JC63087;JC63088;JC63089;JC63094;JC63160;JC63283;JC63312; JC63377;JC63378;JC63380;JC63381;JC63382;JC63441;JC63495;JC63549;JC63620;JC63629;JC63662;JC65356; JC65392;JC65534;JC65637;JC65638;JC65639;JC65645;JC65677;JC65678;JC65689;JC65744;JC65824;JC66015; JC66064;JC66227;JC66242;JC66609;JC66612;JC66613;JC66634;JC66679;JC66713;JC66714;JC66891;JC66961; JC67120;JC67121;JC67122;JC67140;JC67141;JC67142;JC67154;JC67159;JC67160;JC67161;JC67168;JC67173; JC67341;JC67437;JC67541;JC67545;JC67773;JC67966;JC68107;JC68211;JC68336;JC68448;JC68647;JC68855; JC68856;JC69146;JC69147;JC69148;JC69284;JC69310;JC69344;JC69680;JC69837;JC70090;JC70119;JC70649; JC70847;JC71061;JC71199;JC71224;JC71450;JC71466;JC71679;JC71763;JC71769;JC71770;JC71771;JC71774; JC71775;JC71999;JC72498;JC72562;JC72575;JC72585;JC72617;JC72627;JC72672;JC72718;JC72877;JC73101; JC73206;JC73234;JC73268;JC73269;JC73270;JC73297;JC73414;JC73415;JC73627;JC73796;JC73860;JC73917; JC73919;JC73925;JC73939;JC73971;JC74029;JC74037;JC74096;JC74158;JC74228;JC74365;JC74366;JC74367; JC74427;JC74429;JC74430;JC74432;JC74487;JC74837;JC74904;JC74927;JC74976;JC74998;JC75000;JC75039; JC75123;JC75165;JC75175;JC75230;JC75239;JC75249;JC75250;JC75330;JC75353;JC75470;JC75471;JC75472; JC75477;JC75478;JC75710;JC75814;JC75815;JC75824;JC75995;JC76032;JC76081;JC76099;JC76112;JC76114; JC76117;JC76245;JC76274;JC76331;JC76418;JC76455;JC76470;JC76473;JC76484;JC76540;JC76543;JC76618; JC76622;JC76625;JC76638;JC76699;JC76718;JC76719;JC76720;JC76765;JC76904;JC76936;JC77078;JC77088; JC77104;JC77150;JC77296;JC77297;JC77394;JC77395;JC77413;JC77414;JC77417;JC77423;JC77437;JC77475; JC77560;JC77562;JC77590;JC77592;JC77677;JC77680;JC77684;JC77695;JC77757;JC78292;JC78328;JC78366; JC78508; JC78863;and JC78942.

noncompliance was not detected prior to distribution of the transformers due to an error in new software that was installed subsequent to the events underlying the first disclosure of non-compliance to DOE. The new software, which was intended to verify compliance with applicable standards at the testing station, was designed to exclude from testing units that did not meet the definition of distribution transformer at 10 C.F.R. § 431.192 and units that were designated for export. Inadvertently, the software also excluded the small number of units ABB manufactured pursuant to catalog specifications. Upon further follow-up and analysis, ABB concluded that three non-compliant distribution transformers were in fact distributed in commerce in the United States.[3] ABB reported that those units were recalled and returned to Jefferson City prior to being energized or going into service. In addition to the Second Report, additional information and data regarding ABB's investigation and determinations of noncompliance for the 3 units were provided to DOE.

FINDINGS

Based on ABB's Report, Second Report, Analysis, and the various data reports provided in support of their non-compliance disclosures as discussed above, DOE finds that the following liquid-immersed distribution transformer design numbers distributed in commerce in the United States were not in compliance with the applicable energy efficiency standards:

JC30897	JC35521	JC50768	JC51764	JC52797
JC31118	JC35592	JC50775	JC51779	JC52960
JC32553	JC35719	JC50804	JC51787	JC53016
JC32746	JC35827	JC50839	JC51809	JC53042
JC32827	JC35870	JC50847	JC51830	JC53125
JC33539	JC40136	JC50977	JC51843	JC53142
JC33666	JC40431	JC50979	JC51927	JC53202
JC34048	JC40432	JC50981	JC51967	JC53215
JC34195	JC40433	JC51119	JC51969	JC53216
JC34265	JC40436	JC51120	JC51970	JC53224
JC34505	JC40439	JC51186	JC51995	JC53249
JC35053	JC40440	JC51407	JC52046	JC53328
JC35201	JC40447	JC51447	JC52050	JC53343
JC35228	JC50068	JC51509	JC52098	JC53478
JC35231	JC50071	JC51534	JC52107	JC53497
JC35282	JC50443	JC51594	JC52419	JC53571
JC35289	JC50481	JC51608	JC52459	JC53580
JC35388	JC50541	JC51664	JC52567	JC53584
JC35471	JC50723	JC51680	JC52731	JC53585
JC35509	JC50767	JC51763	JC52738	JC53586

[3] According to ABB, the 3 units of liquid-immersed distribution transformers belonged to design numbers JC79743 and JC80970. The tested average efficiency for all units of design number JC79743 was 98.42%, which failed to meet the applicable DOE standard (98.95%). The tested average efficiency for all units of design number JC80970 was 99.26%, which failed to meet the applicable DOE standard (99.35%).

JC53622	JC56070	JC59100	JC62861	JC67120
JC53637	JC56256	JC59119	JC62934	JC67121
JC53653	JC56469	JC59155	JC62935	JC67122
JC53693	JC56470	JC59212	JC63087	JC67140
JC53947	JC56471	JC59288	JC63088	JC67141
JC54108	JC56472	JC59299	JC63089	JC67142
JC54131	JC56473	JC59520	JC63094	JC67154
JC54233	JC56474	JC59680	JC63160	JC67159
JC54234	JC56475	JC59783	JC63283	JC67160
JC54235	JC56476	JC60044	JC63312	JC67161
JC54236	JC56479	JC60066	JC63377	JC67168
JC54308	JC56480	JC60068	JC63378	JC67173
JC54366	JC56482	JC60180	JC63380	JC67341
JC54368	JC56483	JC60368	JC63381	JC67437
JC54369	JC56484	JC60441	JC63382	JC67541
JC54409	JC56485	JC60526	JC63441	JC67545
JC54414	JC56487	JC60552	JC63495	JC67773
JC54428	JC56488	JC60623	JC63549	JC67966
JC54740	JC56489	JC60933	JC63620	JC68107
JC54897	JC56491	JC60992	JC63629	JC68211
JC54922	JC56492	JC61080	JC63662	JC68336
JC54926	JC56493	JC61085	JC65356	JC68448
JC54929	JC56494	JC61091	JC65392	JC68647
JC54930	JC56707	JC61139	JC65534	JC68855
JC54931	JC56709	JC61163	JC65637	JC68856
JC55018	JC56729	JC61663	JC65638	JC69146
JC55044	JC56730	JC61682	JC65639	JC69147
JC55115	JC56790	JC61744	JC65645	JC69148
JC55117	JC56794	JC61777	JC65677	JC69284
JC55131	JC56994	JC61813	JC65678	JC69310
JC55194	JC57128	JC61862	JC65689	JC69344
JC55257	JC57129	JC61964	JC65744	JC69680
JC55354	JC57140	JC62007	JC65824	JC69837
JC55441	JC57141	JC62197	JC66015	JC70090
JC55735	JC57275	JC62199	JC66064	JC70119
JC55862	JC57474	JC62232	JC66227	JC70649
JC55863	JC57475	JC62233	JC66242	JC70847
JC55893	JC57538	JC62243	JC66609	JC71061
JC55894	JC57663	JC62256	JC66612	JC71199
JC55905	JC57810	JC62257	JC66613	JC71224
JC55931	JC57811	JC62344	JC66634	JC71450
JC55932	JC57842	JC62393	JC66679	JC71466
JC56012	JC58141	JC62402	JC66713	JC71679
JC56014	JC58365	JC62497	JC66714	JC71763
JC56055	JC58422	JC62771	JC66891	JC71769
JC56056	JC58776	JC62853	JC66961	JC71770

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JC77437
JC77475
JC77560
JC77562
JC77590
JC77592
JC77677
JC77680
JC77684
JC77695
JC77757
JC78292
JC78328
JC78366
JC78508
JC78863
JC78942
JC79743
JC80970

MANDATORY ACTIONS BY ABB

In light of the above findings, ABB must take the following steps in accordance with 10 C.F.R. § 429.114(a):

> (1) Immediately cease distribution in commerce in the United States of all of the noncompliant design numbers listed above;
>
> (2) Provide immediate written notification of this noncompliance determination to all persons in the United States to whom ABB (or any affiliated or parent company) has distributed units within the noncompliant design numbers since January 1, 2010;
>
> (3) Provide to DOE within 15 calendar days of the date of this Notice a copy of the written notification required by paragraph (2) and a list of the parties ABB notified; and
>
> (4) Provide to DOE within 30 calendar days of the date of this Notice any and all records, reports, and other documentation pertaining to the acquisition, ordering, storage, shipment, or sale of the noncompliant design numbers in the United States since January 1, 2010.[4]

If you claim that any of the information sought by this Notice constitutes confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or is protected from disclosure pursuant to 18 U.S.C. § 1905, you must (1) provide one complete and full copy and one copy with the confidential information deleted and (2) submit supporting information together with the materials that are the subject of the confidentiality request. *See* 10 C.F.R. § 429.7. Failure to adhere to these procedures will result in a rejection of your request for confidential treatment.

OPTIONAL ACTIONS BY ABB

In addition to the mandatory steps listed above that ABB must complete, ABB may elect to modify a design number to bring it into compliance with the applicable standard. The modified design number shall be treated as a new design number under the regulations and must be certified in accordance with the provisions of 10 C.F.R. Part 429. Prior to distribution in commerce in the United States, ABB must provide to DOE test data demonstrating that the modified design number complies with the applicable standard.[5] All units must be tested in accordance with DOE regulations, and ABB shall bear the costs of all such testing that is conducted.

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[4] Please note that "[t]he terms 'to distribute in commerce' and 'distribution in commerce' mean to sell in commerce, to import, to introduce or deliver for introduction into commerce, or to hold for sale or distribution after introduction into commerce." 42 U.S.C. § 6291(16). Accordingly, units manufactured and held in inventory must be reported.

[5] DOE may require that this testing be performed at an independent, third-party testing facility.

If, after this testing, DOE determines that the modified design number complies with the applicable standard, DOE shall issue a Notice of Allowance to permit ABB to resume the distribution of the modified design number in the United States. Until DOE determines that the modified design number complies with the applicable standard, ABB is prohibited from selling or otherwise distributing units belonging to the noncompliant design numbers in commerce in the United States.

CONSEQUENCES FOR FAILURE TO COMPLY WITH THIS NOTICE

Should ABB fail to cease immediately the distribution in the United States of all units within the noncompliant design numbers, this letter serves as notice that DOE may seek a judicial order within 30 calendar days to restrain further distribution. If, however, ABB provides DOE with a satisfactory statement within that 30-day period detailing the steps that ABB will take to ensure that units of the noncompliant design numbers will no longer be distributed in commerce in the United States, DOE may elect to defer seeking such an order until a more appropriate time, if needed.

The distribution of any units of the noncompliant design numbers may result in DOE seeking all appropriate legal remedies available under federal law, including injunctive relief and civil penalties with respect to each unit of the noncompliant design numbers distributed in violation of federal law.

__/S/_____
Laura L. Barhydt
Assistant General Counsel
for Enforcement