UNITED STATES OF AMERICA CONSUMER PRODUCT SAFETY COMMISSION

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In the Matter of)	CPSC Docket No. 12-2
ZEN MAGNETS, LLC,)	
)	Hon. Dean C. Metry
)	Administrative Law Judge
Respondent.)	
)	

COMPLAINT COUNSEL'S MEMORANDUM IN SUPPORT OF MOTION TO STRIKE RESPONDENT'S PROPOSED EXPERTS DAVID A. RICHTER AND BOYD EDWARDS

Introduction

Respondent Zen Magnets, Inc. has identified two witnesses, David A. Richter, Ph.D., and Boyd Edwards, Ph.D., as potential experts in this litigation. Dr. Richter is a math professor, and Dr. Edwards is a college administrator and physicist. Although Dr. Richter states that he will offer testimony on "the utility of magnets," his testimony and report focus almost exclusively on the educational value of small rare earth magnets (SREMs). Similarly, Dr. Edwards states that he wishes to be an expert on "the educational value and utility of Zen Magnets." Therefore, for purposes of this motion, we treat their proffered expert opinions as limited to that area.³

A review of the qualifications and experience of Dr. Richter and Dr. Edwards illustrates that they do not possess the necessary knowledge, skill, experience, training or education to be qualified as experts to assist the Court in understanding the evidence or determine a fact in issue.

¹ Richter Depo. at 42-43. Excerpts of Dr. Richter's Deposition are attached as Exhibit 1 to the Declaration of Ray M. Aragon (Aragon Declaration), filed herewith.

² Edwards Depo. at 4-5. Excerpts of Dr. Edwards's Deposition are attached as Exhibit 2 to the Aragon Declaration.

³ Dr. Richter's Report ("Richter Report" is attached as Exhibit 3 to the Aragon Declaration; Dr. Edwards' Report ("Edwards Report") is attached as Exhibit 4 to the Aragon Declaration (voluminous exhibits omitted).

The opinions of these witnesses are not based on sufficient facts or data; rather, they are personal opinions and speculation and are not grounded in any scientific, technical or specialized knowledge. As a result, their opinions are not the product of reliable principles and methods, and are not properly received as expert testimony. Accordingly, Complaint Counsel respectfully submits that the Court preclude the testimony of these witnesses at the hearing of this matter.

FACTUAL BACKGROUND

The Witnesses

David Richter. David Richter is a professor of mathematics at Western Michigan University, where he has taught geometry and algebra since 2002. He is a self-described magnet enthusiast who first learned about SREMs in early 2012. In August 2012 he entered what he called an "essay contest" sponsored by Zen Magnets that encouraged participants to draft letters to the Consumer Product Safety Commission (CPSC) protesting against a potential ban of SREMs. In his August 9, 2012 essay to the CPSC and several United States Senators, Dr. Richter states that SREMs "appeal[] to the aesthetic senses and mental habits of technical professionals (i.e. nerds) like me. Dr. Richter also supports legislation restricting the sale of magnets to adults, and states that "[w]hen a child is injured" by SREMs, "we should punish the individual who allowed the child to access them."

In exchange for entering the essay contest, Dr. Richter was given a set of Zen magnets.9

⁴ Dr. Richter's CV is attached as Exh. 5 to the Aragon Declaration.

⁵ Richter Depo. at 13.

⁶ Richter Depo. at 12.

⁷ Aug. 9, 2012 David Richter letter to the Commission at 1, attached as Exh. 6 to the Aragon Declaration.

⁸ *Id.* at 1. Dr. Richter does refer to SREMs as an "educational product and artistic medium," *id.* at 2, but his belief in 2012 that legislation should be passed to restrict child access to SREMs seems wholly inconsistent with his hypothetical belief that they would be of value in classroom use.

⁹ Richter Depo. at 15.

Zen selected Dr. Richter as one of the contest winners and awarded him a Zen Magnets Mandela Set, which contains 1,728 magnets in a wooden box.¹⁰

In his deposition, Dr. Richter admits he has never used SREMs as part of his formal teaching. 11 Rather, he has used SREMs "mainly for making geometrical models in my office." 12 In his report for this litigation, "Teaching Geometry with Magnet Sphere Kits," he admits on the very first page that "I have not yet had the opportunity to use magnet spheres in a classroom setting." 13 In addition:

- His academic research to date has not involved SREMs or the physical properties of magnets;¹⁴
- None of the more than 60 "Presentations" listed on his professional C.V. involve SREMs; 15
- His ongoing grant/funding proposals do not involve SREMs; 16 and
- His only experiences involving SREMs used with students were "several informal discussions with students once in a while."¹⁷

At the conclusion of his report, Dr. Richter concedes that "[w]e don't yet know the value of magnet spheres in collegiate mathematics education," and that he is "not aware of anyone even attempting to use magnet spheres for teaching the [mathematical] concepts described

¹⁰ Richter Depo. at 12-13.

¹¹ Richter Depo. at 50.

¹² Richter Depo. at 16.

¹³ Richter Report at 1.

¹⁴ Richter Depo. at 50.

¹⁵ Richter Depo. at 49.

¹⁶ Richter Depo. at 47.

¹⁷ Dr. Richter characterized these "once in a while" informal discussions as "Well, more often than not, it's like, what an awesome thing, you can make the platonic solids very quickly using these magnet balls." Richter Depo. at 51.

¹⁸ Richter Report at 6.

above."¹⁹ Dr. Richter's report on SREMs cites to math and geometry resources, but does include any studies or sources of information on SREMs.²⁰ He states that he may teach with magnets at some time in the future, when he is again assigned to teach Introduction to Geometry or Modern Algebra; however, he is not certain how SREMs will enhance the curriculum. He states, "I will craft instruction of a few concepts with the use of magnet sphere kits *and gain a better understanding of their value.*"²¹ (Emphasis added).

Boyd Edwards. Boyd Edwards is a university administrator and physicist at Utah State University, Uintah Basin.²² He describes himself as a magnet enthusiast and creator of videos about SREMs that he posts on YouTube. He first learned about SREMs in late 2012, and "quickly became fascinated by their magnetic properties."²³ He has participated in photography contests sponsored by Zen Magnets, placing second in one contest, and he won Zen Magnets' "Flagship Video" contest in May 2014.²⁴ Dr. Edwards has posted 64 photographs of his magnet sculptures on Zen Magnets' web gallery, and has authored many YouTube videos using Zen Magnets.²⁵ Zen has paid Dr. Edwards more than \$2500 in winnings in Zen-sponsored contests,²⁶ and has awarded or given him the equivalent of 50 "booster sets" of magnets (i.e., more than 10,000 individual magnets).²⁷

Although Dr. Edwards clearly enjoys building and sculpting with SREMs, he:

¹⁹ *Id*.

²⁰ Richter Report at 6 (References).

²¹ Richter Report at 6.

²² Dr. Edwards' CV is attached as Exh. 7 to the Aragon Declaration.

²³ Edwards August 28, 2014 Report ("Edwards Report") at 1.

²⁴ *Id.* at 2.

²⁵ *Id.* at 2.

²⁶ Edwards Depo. at 17; Edwards Report at 2.

²⁷ Edwards Report at 2.

- Has never published any papers on educational uses of magnets;²⁸
- Has never published any papers about any aspect of solid magnets;²⁹
- Has never used Zen Magnets in a classroom setting, nor is he aware of anyone ever conducting the exercises he proposes in his expert report;³⁰ and
- Is not an expert on educational theory.³¹

In his report prepared for this litigation, titled "Educational Value of Neodymium Magnet Spheres," Dr. Edwards discusses his views of the educational uses of magnets in a number of areas.³² He also discusses alternative scientific modeling products and compares them to Zen Magnets, even though he has never used solid magnets or SREMs in the classroom.³³ Dr. Edwards states that at some future time he *may use* magnets in the classroom, and states that he is interested in writing about SREMs in the future.³⁴ Dr. Edwards has not tested or implemented any of the ideas he asks the Court to accept as expert opinions, and none of the statements in his report about the educational uses of SREMs has been peer reviewed or disclosed outside this litigation.³⁵ In addition to his lack of expertise on SREMS, Dr. Edwards admits he is not an expert in marketing,³⁶ medical issues,³⁷ comparative risk,³⁸ child development,³⁹ warnings,⁴⁰ magnet safety.⁴¹ public polling,⁴² or packaging,⁴³

²⁸ Edwards Depo. at 157.

²⁹ Edwards Depo. at 105.

³⁰ Edwards Depo. at 30, 153.

³¹ Edwards Depo. at 218-19.

³² Edwards Report, Exh. 4 at 1-14.

³³ *Id.* at 16-22. Dr. Edwards admits that his own tests confirm that "Zen Magnets and Neoballs qualify as hazardous magnets." Edwards Report at 19.

³⁴ *Id.* at 28.

³⁵ Edwards Depo. at 157.

³⁶ Edwards Depo. at 44.

³⁷ Edwards Depo. at 110.

Dr. Edwards' report is based on his review of more than 400 statements from nonexperts supporting magnet use and public statements supporting Zen Magnets' views. Included in this collection are summaries of interviews he conducted with individuals who had previously spoken out against a magnet ban. Dr. Edwards does not identify how he selected the persons whose interviews were included in his report (or whether he may have eliminated others whose statements were not included), so his methodology, other than appearing to select only persons who support Zen Magnets' views, is unknown and unreviewable by the Court.

ARGUMENT

Under the Commission's Rules of Practice for Adjudicative Proceedings, an expert is a witness:

who, by reason of education, training, experience, or profession, has peculiar knowledge concerning the subject matter to which his/her testimony relates and from which he/she may draw inferences based upon hypothetically stated facts or offer opinions from facts involving scientific or technical knowledge.

16 C.F.R. § 1025.44.

This standard is consistent with Rule 702 of the Federal Rules of Evidence, which states:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;

³⁸ *Id*.

³⁹ Edwards Depo. at 120-21.

⁴⁰ Edwards Depo. at 128-29.

⁴¹ Edwards Depo. at 138.

⁴² Edwards Depo. at 147.

⁴³ Edwards Depo. at 157.

⁴⁴ Edwards Report at 22-27.

- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

F. Rules Evid. 702.45

Expert testimony is admissible under Rule 702 if it concerns scientific, technical or other specialized knowledge that will aid the jury or other trier of fact to understand or resolve a fact in issue. *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 592 (1993). In making this determination, the Court has the task of "ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." 509 U.S. 579, 597. In general, scientific testimony that is both relevant and reliable must be admitted, while testimony that is irrelevant or unreliable must be excluded. *Id.* In particular, an expert's testimony must be based on "more than subjective belief and unsupported speculation." *Id.* at 590.

In reviewing the admissibility of the testimony of potential experts, the Court has a crucial role as "gatekeeper" to exclude unreliable expert testimony allegedly based on scientific, technical or other specialized knowledge. *See Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 153 (1999). As the United States Court of Appeals for the Fourth Circuit has held, "[t]he first prong of this inquiry necessitates an examination of whether the reasoning or methodology underlying the expert's proffered opinion is reliable—that is, whether it is supported by adequate validation to render it trustworthy," and "[t]he second prong of the inquiry requires an analysis of whether the opinion is relevant to the facts at issue." *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 260 (4th Cir. 1999), citing *Daubert*, 509 U.S. at 590-92 & n.9.

⁴⁵ According to the Commission's Rules for Adjudicatory Proceedings, "the Federal Rules of Evidence shall apply to all proceedings held pursuant to these Rules," but the Rules "may be relaxed by the Presiding Officer if the ends of justice will be better served by so doing," 16 C.F.R. § 1025.43(a).

The Court has broad latitude to consider any factors it finds useful in evaluating the validity of an expert's opinion. *Westbury* at 261. Factors that may be valuable in assessing the reliability of expert opinions are: whether the reasoning or methodology underlying the opinion has been or could be tested; whether the reasoning or methodology has been subjected to peer review and publication; the known or potential rate of error; and the level of acceptance of the reasoning or methodology in the relevant professional community. *Westberry* at 261 & n. 1, citing *Kumho Tire*, 526 U.S. at 149-50.

Although agencies in administrative litigation may not be wholly bound by the evidentiary strictures of *Daubert*, a litigant proffering experts must still satisfy the Administrative Law Judge that its experts are qualified by knowledge, training, or experience, and have applied recognized and accepted scientific and medical principles in a reliable way. *Consolidation Coal Co. v. Dir., OWCP*, 294 F.3d 885, 893 (7th Cir. 2002).

A. Respondents' Proposed Experts Are Not Qualified By Knowledge, Skill, Experience, Training or Education To Provide Expert Opinions

Under the standards set forth in 16 C.F.R. § 1025.44, Federal Rule of Evidence 702, and *Daubert*, Respondent's proposed experts do not possess sufficient "knowledge, skill, experience, training or education" to testify as to the educational value of SREMs. Dr. Richter and Dr. Edwards are both magnet enthusiasts, but neither has ever used magnets as a teaching tool in the classroom, or used magnets in any formal teaching whatsoever. Their paucity of experience is evidenced by the candid admission of Dr. Richter, who stated that "we don't know the value of magnet spheres in collegiate mathematics education." The sum total of Dr. Richter's teaching experience with magnets involves several conversations in his office. When asked by his own

⁴⁶ Richter Report at 5.

⁴⁷ Richter Depo. at 50-51.

counsel whether "the magnet spheres are better, worse, [or] the same as" other modeling tools, Dr. Richter said "I don't know, because I haven't used them yet. 48

Dr. Edwards' experience is similarly limited. By his own account, his teaching with magnets involves using SREMs with his immediate family, a presentation on Zen Magnets he made to family and friends at a New Year's Eve party, one experience teaching some family friends, and helping his wife in a chemistry course by showing her a magnet model.⁴⁹

In addition to having little or no experience teaching with magnets, Dr. Richter and Dr. Edwards have no academic background to support their opinions that SREMs have use in an educational setting. Dr. Richter is a math professor and Dr. Edwards is physicist, but both admit that they should not be considered experts in pedagogy or education. Moreover, neither has published papers regarding the use of SREMs, nor subjected his opinions to peer review. Therefore, it is impossible to determine if their opinions have any validity or could be scientifically tested.

This lack of experience disqualifies Dr. Richter and Dr. Edwards from being accepted by the Court as persons "who, by reason of education, training, experience, or profession, ha[ve] peculiar knowledge concerning the subject matter to which [their] testimony relates and from which [they] may draw inferences based upon hypothetically stated facts or offer opinions from facts involving scientific or technical knowledge." *See* 16 C.F.R. § 1025.44. They are magnet enthusiasts, but both lack the background to be considered "experts" on the educational utility of magnets because they have little or no practical expertise in the area.

Courts "look[] to the qualifications of the witness in determining whether his proffered opinions are reliable. *See* Committee Notes On Rule 702-2000 (Rule 702 "affirms the trial

⁴⁸ Richter Depo. at 80.

⁴⁹ Edwards Depo. at 115-16, 62-63.

court's role as gatekeeper" to exclude unreliable expert testimony). *See also Welhling v. Sandoz Pharms. Corp.*, 1998 U.S. App. LEXIS 38866 (4th Cir. 1998) (experienced toxicologist found unqualified as an expert in schizophrenia drug product liability case where he had no experience in treatment of the disease and "ha[d] not published articles or conducted research" in the areas addressed in his testimony. 1998 U.S. App. LEXIS 38866 at.*10-11. A significant fact weighing against admission of proposed expert testimony is where, as in this case, the opinions being expressed were developed expressly for the purposes of testifying. *Id.* at *9.

B. Respondents Do Not Use "Reliable Principles and Methods" To Reach Their Conclusions

1. The Experts Have Not Used Scientific Methods to Reach Their Opinions

Because the Federal Rules of Evidence apply to these proceedings,⁵⁰ experts must meet the standards of Rule 702 of the Federal Rules of Evidence. Thus, Respondent must still satisfy the Court not only that Dr. Richter and Dr. Edwards are "qualified by knowledge, training, or experience" to be experts, but that they "have in fact applied recognized and accepted [scientific or] medical principles in a reliable way." *Consolidation Coal*, 294 F.3d 885 at 893.

Respondent's proposed experts cannot withstand such scrutiny. Dr. Richter admits that "[w]e don't yet know" about the value of SREMs in college education, ⁵¹ which is the only area of education in which he has specialized. ⁵² Likewise, Dr. Edwards has many ideas for potential uses of magnets, and is "looking forward" to returning to the classroom to "exploit the unique educational possibilities of [SREMs]." This is a frank admission that Dr. Edwards has never tested these ideas, never tried to implement them, never subjected them to peer review, and, until

⁵⁰ 16 C.F.R. § 1025.43(a).

⁵¹ Richter Report at 5.

⁵² Richter Depo. at 60.

⁵³ Edwards Report at 28.

this litigation, had never even committed his ideas to writing. Because there is no "reliable method" at all to either expert's opinions, they cannot be tested or evaluated, and thus fall well short of the standards of 16 C.F.R. § 1025.44, of Rule 702, and fail the "reliability" prong of *Daubert*.

2. Dr. Edward's Selection of Sources Illustrates That He Is Not An Unbiased Expert

Dr. Edwards' report, which contains a selection of statements made by others about the educational value of SREMs, also undermines any trust the Court would place in his opinions.

In sections of his report titled "Public Statements" and "Interviews," Dr. Edwards cites at great length supportive statements about the educational value of magnets by people who use or like magnets. Dr. Edwards admits that the "public statements" section of his report is based on statements "that were written to protest CPSC's administrative complaints against magnet companies and CPSC's proposed ban on these spheres." In his deposition, Dr. Edwards confirms that his sources were from "[I]etters written to legislators, comments made during the public comment period [during the magnet rulemaking,] and comments made by signers of a [magnet] petition." Some of the writers, including Dr. Richter, were compensated (in free magnets) for writing these letters to the Commission opposing restrictions in magnet use.

The dwards freely quotes these "paid" statements to the Court.

⁵⁴ Edwards Report at 24-27.

⁵⁵ Edwards Report at 24.

⁵⁶ Edwards Depo. at 204.

⁵⁷ Richter Depo. at 15.

⁵⁸ See Edwards Report Exh. E, p. 6, ¶ 21 (quoting Dr. Richter's letter to the Commission), excerpt attached as Exhibit 8 to the Aragon Declaration.

In further support of his conclusions, Dr. Edwards also presents selected interviews from persons who submitted statements protesting the proposed magnet regulation.⁵⁹ Not surprisingly, these statements, composed entirely of hearsay and drawn from people who are actively protesting any limitations in the sales or use of SREMs, support Dr. Edwards' view that SREMs have educational value. That Dr. Edwards selectively advanced such statements illustrates that Dr. Edwards is not an objective scientist whose opinions are based on a comprehensive body of reliable data.⁶⁰

Moreover, in citing these statements, Dr. Edwards is merely repeating the opinions of others, without analysis or review, and the Court should reject his citations on that basis alone. Additionally, however, because Dr. Edwards does not qualify as an expert, his uncritical citation of these supportive sources is simply the introduction of wholly unfiltered hearsay which also should be rejected by the Court.

In short, Dr. Edwards' witness statements are a collection of biased and significantly inaccurate personal opinions that are of little "expert" value to the Court and should not be admitted.⁶¹

C. The Opinions of Respondents' Proposed Experts Will Not Assist the Court

A final, crucial aspect of the Court's analysis is to determine whether the proposed opinions of Dr. Richter and Dr. Edwards will "help the trier of fact to understand the evidence or

⁵⁹ Edwards Report at 24-27.

⁶⁰ The bias shown in Dr. Edwards' collection of witness statements should also undermine any confidence the Court can place in his conclusions. For example, he cites as guidance for the Court several extensive communications with a witness named Michele LaForge, who states: "For the last ten years I have used buckyballs [sic] consistently in my classroom and at home." By including this statement, Dr. Edwards endorses it as an example of the long-term educational value of SREMs. However, he is aware that this representation is inaccurate, as he testified that Buckyballs did not even exist ten years ago. Cf. Edwards Depo. at 215.

⁶¹ Dr. Edwards also cites random statements that are of no possible value to the Court, including an opinion that a sales ban on SREMs "is exactly the sort of thing that will leave america [sic] weak, stranded and stupid." Edwards Exh. E at 16, ¶ 318, attached as Exh. 8 to the Aragon Declaration.

to determine a fact in issue." Fed. R. Evid. 702(a). Complaint Counsel submits that the testimony will not assist the Court.

1. The Proposed Experts Lack the Actual Experience To Assist the Court

Although a qualified expert is entitled to discuss hypothetical situations based on his expertise, neither Dr. Richter nor Dr. Edwards has any practical experience that will assist the Court. They can speculate about the "potential" educational value of magnets, and their opinions seem to be based on personal enthusiasm, ungrounded in any real experience, academic knowledge, or studies.

Dr. Edwards' testimony, which is based on the selected statements of biased nonexperts, would amount to the introduction of unfiltered hearsay from individuals who have opinions about the rulemaking, and about magnets in general. Because Dr. Edwards is not qualified as an expert, and has not indicated that he has performed an analysis of such information and/or reached a conclusion based upon the data collected, his testimony as to what others said or believe would constitute nothing more than a comprehensive presentation of inadmissible hearsay. Moreover, public opinion about the Commission's rulemaking activity, which is prospective in nature and involves a class of products, has absolutely no bearing on the issue before this court—whether Zen magnets presents a substantial product hazard. Thus, the testimony would not assist in the Court in deciding an issue relevant in this proceeding.

CONCLUSION

The experts proposed by Respondent have prepared reports and opinions attempting to convince the Court of the educational value magnets. However, neither is qualified to offer such

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⁶² The Commission's rulemaking is conducted under a separate provision of the Consumer Product Safety Act, using separate standards. *See* 15 U.S.C. §§ 2056-58.

opinions, as neither has ever used magnets in the classroom, done research or published anything on the issue of the educational value of SREMs. Because the opinions and reports are unqualified, speculative, and lack the indicia of reliable science, these proposed experts should be disqualified by the Court. Their reports and depositions should be stricken and they should not be permitted to testify as experts.

Respectfully submitted,

Mary B. Murphy, Assistant General Counsel

Jennifer Argabright, Trial Attorney

Daniel Vice, Trial Attorney

Ray M. Aragon, Special Attorney

Division of Compliance

Office of the General Counsel

U.S. Consumer Product Safety Commission

Bethesda, MD 20814

Tel: (301) 504-7809

Complaint Counsel for U.S. Consumer Product Safety Commission Bethesda, MD 20814

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