

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBALFOUNDRIES U.S., INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG, and
THE GILLETTE COMPANY,
Petitioners,

v.

Zond, LLC.
Patent Owner of U.S. Patent No. 6,806,652
Trial No. IPR2014-01088¹

**PETITIONER'S RESPONSE TO PATENT OWNER'S MOTION FOR
OBSERVATION ON CROSS-EXAMINATION OF PETITIONER'S REPLY
WITNESS DR. UWE KORTSHAGEN**

¹ Case IPR2014-01000 has been joined with the instant proceeding.

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I. INTRODUCTION

Petitioner submits this response to Patent Owner Zond's Observations on Cross-Examination of Dr. Kortshagen, Paper No. 32 ("Observation"). Patent Owner presents six observations on Dr. Kortshagen's testimony. While Petitioner believes that the testimony will be appropriately viewed and weighed by the Board, the specific observations presented by Patent Owner are irrelevant and mischaracterize the testimony of Dr. Kortshagen, as specified below, and therefore are not probative of any material issue before the Board.

II. RESPONSES TO OBSERVATIONS ON DR. KORTSHAGEN'S TESTIMONY

A. Response to Observation 1

Patent Owner's contention that Dr. Kortshagen's testimony indicates Mozgrin "is further ionizing an already high-density plasma" is irrelevant because it wholly ignores the plasma created in Mozgrin's regime 1. The testimony cited by Patent Owner merely indicates that the plasma densities eventually achieved in Mozgrin's regimes 2 and 3 qualify as "high-density plasma" as described by the '652 Patent. *Id.* at 3-4. Additionally, Patent Owner incorrectly states that Petitioners rely on Mozgrin's plasma in regime 2 as the "initial plasma" to be super-ionized when in fact Petitioners rely on *Fahey* for generating and transporting an initial plasma, and Mozgrin's and Kudryavtsev's disclosures for super-ionizing an initial plasma, such as Fahey's. *See* IPR2014-01088 Petition for

Inter Partes Review at 57 (Paper No. 2); IPR2014-01088 Institution Decision at p. 22-26 (Paper No. 16).

Patent Owner's focus on Dr. Kortshagen's testimony regarding the plasma in Mozgrin's regime 2 mischaracterizes the language of claim 1. Claim 1 recites "super-ionizing the initial plasma so as *to generate a high-density plasma.*" See '652 Patent at claim 1 (emphasis added). Put another way, claim 1 requires that a high-density plasma ultimately be generated from an initial plasma, **but there is no requirement that the initial plasma instantly transition to a final high-density plasma.** The '652 Patent further explains that the plasma density of the initial plasma increases over time until it reaches a peak plasma density corresponding to a high-density plasma. See '652 Patent at col. 14:19-23 (describing the "*eventual* increase in the density of the high-density plasma") (emphasis added) (Ex. 1001); *see also id.* at 10:58-63. This is the proper read of the claims applied by Dr. Kortshagen in his deposition.² It is, therefore, inconsequential that Mozgrin transitions from the initial "pre-ionized plasma" of regime 1 through the "high current magnetron discharge" of regime 2 when

² ". . . I do believe what Figure 3b shows is the *evolution* from one quasi-stationary state, which is the pre-ionized plasma to another quasi-stationary state, which is the high-density plasma in Part 3." Kortshagen Dep. at 105:18 - 106:11(emphasis added) (Ex. 2003).

generating the “high-current diffuse discharge” of regime 3. Accordingly, Patent Owner's observation is irrelevant to the instant proceeding.

B. Response to Observation 2

Observation 2 is repetitious of Observation 1. Patent Owner contends that Dr. Kortshagen's testimony indicates Mozgrin “is not super-ionizing an initial, *i.e.*, weakly-ionized plasma, as required by claim 4, rather it is further ionizing an already high-density plasma.” Observation at 6. Similar to Patent Owner's Observation 1, above, the testimony cited by Patent Owner merely indicates that the plasma densities in Mozgrin's regimes 2 and 3 are within the same range of plasma densities that the '652 Patent describes to be “high-density plasma.” *Id.* at 5-6.

Patent Owner's observation is irrelevant for two reasons. First, Patent Owner takes Dr. Kortshagen's testimony entirely out of context as Dr. Kortshagen never testified that the “initial plasma” of claim 1 corresponds to Mozgrin's regime 2 plasma. Second, Patent Owner's observation misreads the language of claim 1 and requires that the initial plasma instantly transition to a final high-density plasma. Claim 4 also does not impose any such limitation. Rather, Dr. Kortshagen's testimony is based on Mozgrin's plasma transitions from the initial “pre-ionized plasma” of regime 1 through the “high current magnetron discharge” of regime 2 when generating the “high-current diffuse discharge” of regime 3.

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