

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TOPSOE, INC.,

Petitioner

v.

L'AIR LIQUIDE, SOCIÉTÉ ANONYME POUR L'ETUDE ET  
L'EXPLOITATION DES PROCÉDÉS GEORGES CLAUDE,

Patent Owner

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Case IPR2025-01173  
Patent No 11,673,805

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**PATENT OWNER PRELIMINARY SUR-REPLY<sup>1</sup>**

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<sup>1</sup> Authorized by email dated October 29, 2025.

On Reply, Petitioner (1) objects to the POPR's use of "convert," (2) contends Reinertsen and Rytter disclose CO<sub>2</sub> in a first synthesis gas stream, and (3) objects to the POPR's cites to *Rinkevich*. None of these can cure the Petition's defects.

### **I. "Convert" Is Used In the '805 Patent's Specification**

As explained in the POPR, PO "does not believe formal constructions are necessary to understand what is claimed." Paper 10, 4. The comments to which Petitioner objects were simply "included to illuminate certain features of the claims." *Id.* In any event, Petitioner does not explain any purported inaccuracy. Indeed, the "converted" language Petitioner dislikes is from the specification's description of claimed process steps. *See, e.g.*, EX1001, 11:23-25 ("In the endothermic reforming unit 200, the first substream of the feed gas stream FG is *converted*<sup>2</sup> to a synthesis gas stream SG1."); *id.*, 12:65-67 ("The synthesis gas stream SG1 is *converted* to a synthesis gas stream SG3 in the autothermal reforming unit 201." Paper 10, 5 (quoting EX1001, 11:23-25 and 12:65-67). Thus, Petitioner is inexplicably objecting to use of the specification as an aid to understanding what is claimed.

### **II. The Petition Failed to Show Disclosure or Obviousness of Element [1.2.1]**

For Reinertsen, the Preliminary Reply contends that Reinertsen discloses a first synthesis gas stream containing CO<sub>2</sub> because "Reinertsen describes GHR-only embodiments (¶ [0075]) and states the reformer reactor output contains mainly CO,

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<sup>2</sup> All emphasis added unless otherwise indicated.

H<sub>2</sub>, H<sub>2</sub>O, CO<sub>2</sub> and some CH<sub>4</sub> (§ [0076]).” Paper 16, 1-2. Neither the Petition nor Petitioner’s expert supported that contention—neither even cited Reinertsen’s paragraph [0075]. *See* Pet., 25-26; EX1003, §§121-123. And the Petition explicitly relies on a dual-reformer configuration—*not* a “GHR-only” one—meaning the Petition needed to show CO<sub>2</sub> in the output of the GHR of the relied-upon dual-reformer configuration. For that reason alone, this theory is untimely and cannot save the Petition. Regardless, Petitioner’s new interpretation of Reinertsen’s paragraphs [0075] and [0076] “together” is also facially incorrect: Paragraph [0074] describes the configuration of Reinertsen’s FIG. 1, paragraph [0075] notes there are alternative configurations, and paragraph [0076] returns to describing Reinertsen’s primary configuration on which Petitioner relies. Indeed, Petitioner’s own expert explains that the output of a GHR reactor need not include CO<sub>2</sub>. Paper 10, 10-12.

For Rytter, the Preliminary Reply *still* neglects that the quoted language relates to an output of Rytter’s dual-reformer configuration—*i.e.*, stream [22] exiting the autothermal reactor [ATR 2], *not* the “partially reformed gas in stream 21 [exiting the GHR].” EX1009, 10:23-24, 10:30-35, 11:1-3. Thus, that language cannot show that the output of the GHR includes CO<sub>2</sub>. *See* Paper 10, 26-28.

For Darde, the Petition referenced it only generically for Ground 2 (Pet., 47) and did not do so at all for Ground 3 (Pet., 69-70). Thus, despite the Preliminary Reply’s grouping of Darde with Rytter (Paper 16, 2), Darde’s disclosure cannot save

Ground 3. Similarly, Ground 2's passing mention of Darde's syngas with CO<sub>2</sub> (in a system without the claimed dual-reformer configuration) **does not** explain why that would have been indicative of the composition of the output of Reinertsen's GHR. Pet., 69-70. The Petition's failure to do so is fatal given Dr. Klein's concession that CO<sub>2</sub> need not be present in the output of a GHR. Paper 10, 10-12.

Dr. Klein's testimony in certain places that CO<sub>2</sub> would necessarily be present cannot save Petitioner's theories because Dr. Klein also concedes that the output of a GHR need not include CO<sub>2</sub>. Paper 10, 10-12; EX1003, ¶28; *Interactive Commc 'ns Int'l v. Blackhawk Network Inc.*, IPR2024-00465, Paper 40 (Oct. 9, 2025).

### **III. The Petition Failed to Show Disclosure or Obviousness of Element [1.2.1]**

Petitioner's quibble with *Rinkevich* is not entirely clear. The panel in *Vimeo* criticized "exclusive reliance on *Rinkevich* [a]s misplaced" seemingly because it "differ[ed] from [that] case in at least two significant aspects." *Vimeo, Inc. v. British Telecommc 'ns PLC*, IPR2019-00833, Paper 20, 22 (Aug. 5, 2020). But Petitioner offers no explanation of why the circumstances *here* differ from *Rinkevich*. Indeed, the POPR's citations to *Rinkevich* are but small parts of detailed explanations of why: (a) Reinertsen and Rytter already solve the generic issues allegedly motivating Petitioner's theories, and (b) a POSITA would have expected the modified systems to perform worse for some of the same issues. POPR, 14-22, 29-35.

Dated: November 6, 2025

Respectfully submitted,

/Eagle H. Robinson/

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Reg. No. 61,361

*Lead Counsel for Patent Owner*

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on November 6, 2025, a complete copy of the foregoing Patent Owner's Preliminary Sur-Reply was served on Petitioner via email (by consent), at the following email address(s):

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/Eagle H. Robinson/

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