

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION

COMMISSIONERS: Joseph J. Simons, Chairman
Noah Joshua Phillips
Rohit Chopra
Rebecca Kelly Slaughter
Christine S. Wilson

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In the Matter of)	
)	
Linde AG)	
a corporation,)	
)	Docket No. C-4660
Praxair, Inc.)	
a corporation, and)	
)	
Linde PLC)	
a corporation.)	
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COMPLAINT

Pursuant to the Clayton Act and the Federal Trade Commission Act (“FTC Act”), and its authority thereunder, the Federal Trade Commission (“Commission”), having reason to believe that Respondent Linde AG (“Linde”), a corporation subject to the jurisdiction of the Commission, and Praxair, Inc. (“Praxair”), a corporation subject to the jurisdiction of the Commission, have entered into an agreement and plan of merger to form Linde PLC, a corporation subject to the jurisdiction of the Commission, in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, and it appearing to the Commission that a proceeding in respect thereof would be in the public interest, hereby issues its Complaint, stating its charges as follows:

I. RESPONDENTS

1. Respondent Linde is a corporation organized, existing, and doing business under, and by virtue of, the laws of Germany, with its office and principal place of business located at Klosterhofstrasse 1, 80331 Munich, Germany. Linde’s United States address for service of process, the Complaint, Decision and Order, and Order to Hold Separate and Maintain Assets is Linde North America, Inc., 200 Somerset Corporate Boulevard, Bridgewater, New Jersey 08807 (attention: Greg Schuetz, Esq.).

2. Respondent Praxair is a corporation organized, existing, and doing business under, and by virtue of, the laws of the State of Delaware, with its office and principal place of business located at 10 Riverview Drive, Danbury, Connecticut 06810.

3. Respondent Linde PLC is a corporation organized, existing, and doing business under and by virtue of the laws of Ireland with its executive office located at The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey GU2 7XY, United Kingdom. Linde PLC's United States address for service of process, the Complaint, Decision and Order, and Order to Hold Separate and Maintain Assets is Praxair, Inc., 10 Riverview Drive, Danbury, Connecticut 06810 (attention: Guillermo Bichara, Esq.).

4. Respondents are engaged in, among other things, the production and sale of industrial gases, including, but not limited to, bulk liquid oxygen, bulk liquid nitrogen, bulk liquid argon, bulk liquid carbon dioxide, bulk liquid hydrogen, bulk refined helium, on-site hydrogen, on-site carbon monoxide, and excimer laser gases.

5. The Respondents are, and at all times relevant herein have been, engaged in commerce, as "commerce" is defined in Section 1 of the Clayton Act as amended, 15 U.S.C. § 12, and is a company whose business is in or affects commerce, as "commerce" is defined in Section 4 of the FTC Act, as amended, 15 U.S.C. § 44.

II. THE PROPOSED MERGER

6. Pursuant to a Business Combination Agreement dated June 1, 2017, the Respondents will come together under a new holding company through an all-stock merger of equals transaction valued at approximately \$80 billion (the "Merger"). The Merger is subject to Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18.

III. THE RELEVANT MARKETS

7. For the purposes of this Complaint, the relevant lines of commerce in which to analyze the effects of the Merger are the manufacture and sale of:

- a. bulk liquid oxygen;
- b. bulk liquid nitrogen;
- c. bulk liquid argon;
- d. bulk liquid carbon dioxide;
- e. bulk liquid hydrogen;
- f. bulk refined helium;
- g. on-site hydrogen;

- h. on-site carbon monoxide; and
- i. excimer laser gases (“ELGs”).

8. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the bulk liquid oxygen and bulk liquid nitrogen markets are:

- a. the Northeast;
- b. the Mid-Atlantic;
- c. Upstate and Western New York;
- d. the Carolinas;
- e. Northern Florida and Surrounding Areas;
- f. Atlanta and Surrounding Areas;
- g. the Pacific Northwest;
- h. Northern California;
- i. Southern California;
- j. Arkansas and Surrounding Areas;
- k. Northern Texas and Surrounding Areas;
- l. Southern Texas;
- m. the Central Gulf Coast;
- n. the Eastern Midwest;
- o. Greater Chicago;
- p. Missouri and Surrounding Areas; and
- q. Puerto Rico.

9. For purposes of this Complaint, the relevant geographic area in which to analyze the effects of the Merger on the bulk liquid argon market is the United States.

10. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the bulk liquid carbon dioxide market are:

- a. Northern California;
- b. Southern California;
- c. the Southeast;
- d. the Mid-Atlantic;
- e. the Rocky Mountains;
- f. the Plains;
- g. Southern Texas;
- h. the Eastern Midwest; and
- i. Greater Chicago.

11. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the bulk liquid hydrogen market is the United States.

12. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the bulk refined helium market is the world.

13. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the on-site hydrogen market is the United States.

14. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the on-site carbon monoxide market is the United States.

15. For purposes of this Complaint, the relevant geographic areas in which to analyze the effects of the Merger on the ELG market is the United States.

IV. THE STRUCTURE OF THE MARKETS

16. Respondents Linde and Praxair are two of a limited number of significant participants in each of the relevant markets for bulk liquid oxygen, nitrogen, argon, carbon dioxide, and hydrogen; bulk refined helium; on-site hydrogen and carbon monoxide; and ELGs, and each relevant market is highly concentrated, as measured by the Herfindahl-Hirschman Index. The Merger would result in Respondents becoming one of the largest suppliers in each relevant area and significantly increase concentration levels in each relevant market.

V. ENTRY CONDITIONS

17. New entry into the relevant markets would not occur in a timely manner sufficient to deter or counteract the likely adverse competitive effects of the Merger.

18. Entry into the bulk liquid oxygen, nitrogen, and argon markets is costly, difficult, and unlikely because of, among other things, the time and cost required to construct the air separation units that produce these products. Constructing an air separation unit at a scale sufficient to be viable in the market would cost at least \$30 to \$100 million, most of which is sunk costs. In addition, argon is only produced at large ASUs that are equipped with specialized equipment capable of capturing argon, which adds millions of dollars to the cost of the plant. The required investment can only be justified if a substantial portion of the plant's capacity is pre-sold prior to construction, either to an on-site customer or to customers with commitments under contract. Such pre-sale opportunities occur infrequently and can take several years to secure.

19. Entry into the bulk liquid carbon dioxide market is not likely to be timely or sufficient to deter or counteract the likely adverse competitive effects of the Merger. Entry into the market requires access to raw carbon dioxide supply sources, which are typically unavailable due to long-term contracts with incumbent liquid carbon dioxide suppliers. In most instances, a supplier must have access to multiple raw carbon dioxide sources to ensure that it is able to supply its customers consistently. In addition, entry requires constructing a plant capable of producing bulk liquid carbon dioxide takes over a year and costs \$5 to \$30 million.

20. Entry into the bulk liquid hydrogen market would also not be likely, timely, or sufficient to deter or counteract the likely adverse competitive effects of the Merger. Constructing a hydrogen production facility capable of producing liquid hydrogen at a scale sufficient to be viable in the market requires a capital investment of \$75 to \$100 million. In addition, an entrant would need to acquire distribution assets and build a network of distribution facilities.

21. Entry into the bulk refined helium market is also costly, difficult, and unlikely, because of, among other things, the time and cost required to gain access to a source of crude helium, acquire helium distributions assets, and build a distribution network. Significant sources of crude helium are limited and all sources of refined helium are committed to long-term contracts. A new entrant would need to locate a new source of crude helium and build a refinery, or rely on a supply agreement with a competitor. Both options require an investment of several million dollars. In addition, millions of dollars would be needed to acquire the necessary infrastructure and distribution assets, including transfill facilities, cryogenic storage containers, and high-pressure tube trailers and liquid dewars capable of transporting helium from the source to customers.

22. Entry into the on-site hydrogen and carbon monoxide markets would not be likely, timely, or sufficient to deter or counteract the adverse competitive effects of the Merger. Entry into the on-site hydrogen and carbon monoxide markets requires sophisticated engineering capabilities, operational expertise, and significant capital resources. The investment necessary to

participate in the markets for on-site hydrogen and carbon monoxide is also a significant obstacle for new entrants. A new facility costs between \$30 and \$300 million to build, depending on the product mix and capacity, and requires years to construct. To participate in the Gulf Coast, a new entrant would need to gain access to a hydrogen pipeline. It is crucial to have access to a hydrogen pipeline in the Gulf Coast to be competitive for on-site opportunities in the region, since pipelines are the only way to monetize excess or by-product hydrogen not sold to the on-site customer. The time, cost, and regulatory hurdles associated with building a pipeline make de novo entry into this region highly unlikely.

23. It is unlikely that there would be entry into the ELG market that is timely and sufficient to deter or counteract the likely adverse competitive effects of the Merger. The largest barrier a new entrant would face is obtaining access to a substantial and reliable source of neon. Neon is a very scarce gas that is produced only at the largest air separation units that are equipped with a specialized neon column. Developing such an air separation unit would take several years and cost hundreds of million dollars, and cannot be justified on the basis of extracting neon. In addition to developing a source of neon, an entrant into the ELG market would also need to construct a plant that is capable of precisely mixing neon with other gases to produce ELGs. Such a facility would cost between \$8 and \$12 million and take approximately one year to eighteen months to construct. Once the facility comes on line, the new entrant must begin the process of qualifying its ELGs with OEMs and customers, which can take an additional year or more to complete. Only after completing all of these steps could the entrant begin selling ELGs to customers.

VI. EFFECTS OF THE MERGER

24. The effects of the Merger may be to substantially lessen competition and to tend to create a monopoly in the relevant markets in violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45, in the following ways, among others:

- a. by eliminating actual, direct, and substantial competition between Respondents Linde and Praxair;
- b. by increasing the likelihood that Respondents would unilaterally exercise market power in the bulk liquid oxygen, bulk liquid nitrogen, bulk liquid argon, bulk liquid carbon dioxide, bulk liquid hydrogen, bulk refined helium, on-site hydrogen, on-site carbon monoxide, and ELG markets in the relevant geographic areas;
- c. by enhancing the likelihood of collusion or coordinated interaction between or among the remaining firms in the bulk liquid oxygen, bulk liquid nitrogen, bulk liquid argon, bulk liquid carbon dioxide, bulk liquid hydrogen, bulk refined helium, on-site hydrogen, on-site carbon monoxide, and ELG markets in the relevant geographic areas; and

- d. by increasing the likelihood that consumers would be forced to pay higher prices for bulk liquid oxygen, bulk liquid nitrogen, bulk liquid argon, bulk liquid carbon dioxide, bulk liquid hydrogen, bulk refined helium, on-site hydrogen, on-site carbon monoxide, and ELG gases in the relevant geographic areas.

VII. VIOLATIONS CHARGED

25. The Merger described in Paragraph 5, if consummated, would constitute a violation of Section 7 of the Clayton Act, as amended, 15 U.S.C. § 18, and Section 5 of the FTC Act, as amended, 15 U.S.C. § 45.

WHEREFORE, THE PREMISES CONSIDERED, the Federal Trade Commission on this nineteenth day of October, 2018, issues its Complaint against said Respondents.

By the Commission, Commissioner Chopra dissenting.

Donald S. Clark
Secretary

SEAL: