

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE
SECURITIES ACT OF 1933

Sunoco Logistics Partners L.P.
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

1801 Market Street
Philadelphia, Pennsylvania
(Address of Principal Executive Offices)

23-3096839
(I.R.S. Employer
Identification No.)

19103
(Zip Code)

SUNOCO PARTNERS LLC LONG-TERM INCENTIVE PLAN
(Full title of plan)

JEFFREY W. WAGNER, ESQ.
Sunoco Partners LLC
1801 Market Street
Philadelphia, PA 19103
(215) 977-3868
(Name, address and telephone number of agent for service)

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered/1/	Proposed Maximum Offering Price Per Unit/2/	Proposed Maximum Aggregate Offering Price/2/	Amount of Registration Fee
Common Units, representing limited partnership interests	1,250,000	\$21.88	\$27,350,000	\$2,516.20

Notes:

- In addition, pursuant to Rule 416(c) under the Securities Act of 1933, as amended, this Registration Statement also covers an indeterminate amount of Common Units or other interests that may become issuable by reason of adjustments pursuant to the anti-dilution provisions of the employee benefit plan described herein.
- Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) and Rule 457(c), under the Securities Act of 1933, as amended, based on the average of the high and low prices per unit of Sunoco Logistics Partners L.P. Common Units on July 17, 2002, as reported in the New York Stock Exchange Composite Transactions quotations published by the Wall Street Journal on July 18, 2002.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

ITEM 1. PLAN INFORMATION

Information required by this Item to be contained in the Section 10(a) prospectus is omitted from this registration statement on Form S-8 (the "Registration Statement") in accordance with Rule 428 under the Securities Act of 1933, as amended (the "Securities Act"), and the Note to Part I of Form S-8.

ITEM 2. REGISTRANT INFORMATION AND EMPLOYEE PLAN ANNUAL INFORMATION

Information required by this Item to be contained in the Section 10(a) prospectus is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act, and the Note to Part I of Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The following documents filed with the Securities and Exchange Commission (the "Commission") by the Registrant are hereby incorporated by reference and made a part of this Registration Statement:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2001;
- (b) The Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2002;
- (c) The Registrant's Registration Statement on Form S-1/A filed February 4, 2002 and Prospectus filed pursuant to Rule 424(b) filed February 5, 2002; and
- (d) The description of the Registrant's Common Units contained in its Registration Statement on form 8-A filed January 28, 2002.

In addition, all documents subsequently filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, prior to the filing with the Commission of a post-effective amendment which: (i) indicates that all securities offered hereby have been sold; or (ii) de-registers all securities then remaining unsold, shall be deemed to be incorporated herein by reference and to be part hereof from the date of filing of such documents.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

The validity of the issuance of the Common Units registered hereby is being passed upon by Jeffrey W. Wagner, General Counsel and Secretary of Sunoco Partners LLC, (the "General Partner"), the General Partner of the Registrant. Mr. Wagner beneficially owns one thousand (1,000) Common Units.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The General Partner is empowered by the Pennsylvania Limited Liability Company Law of 1994, as amended (15 PA. CONS. STAT. ANN. ss. 8945 (West 1995 & Supp. 2002)), subject to the limitations stated therein, and by its Second Amended and Restated Limited Liability Company Agreement to indemnify and hold harmless any person from and against any and all losses, claims, damages, liabilities, joint or several, expenses (including legal fees and expenses), judgments, fines, penalties, interest, settlements or other amounts arising from any and all claims, demands, actions, suits or proceedings, whether civil, criminal, administrative or investigative, in which any person may be involved,

or is threatened to be involved, as a party or otherwise, by reason of the person being, subject to certain exceptions: (1) an affiliate of the General Partner; (2) a member, partner, officer, director, employee, agent or trustee of the General Partner, or any affiliate thereof; or (3) any person who is or was serving at the request of the General Partner, or any affiliate thereof, as an officer, director, employee, member, partner, agent, fiduciary or trustee of another person.

The Registrant maintains policies of insurance under which the directors and officers of the Registrant and its affiliates are insured, within the limits and subject to the limitations of the policies, against certain expenses in connection with the defense of actions, suits or proceedings, and certain liabilities which might be imposed as a result of such actions, suits or proceedings, to which they are parties by reason of being or having been such directors or officers.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not Applicable.

ITEM 8. EXHIBITS

- 4.1 Sunoco Partners LLC Long-Term Incentive Plan (amended and re-stated as of July 22, 2002)
- 4.2 Amendment No. 1 to First Amended and Restated Agreement of Limited Partnership of Sunoco Logistics Partners L.P., dated as of February 8, 2002
- *4.3 Second Amended and Restated Limited Liability Company Agreement of Sunoco Partners LLC, dated April 30, 2002 (incorporated by reference to Exhibit 3.1 to the Form 10-Q, File No. 1-31219, filed May 15, 2002)
- 5.1 Opinion of Jeffrey W. Wagner as to legality of securities being registered
- 23.1 Consent of Ernst & Young LLP
- 23.2 Consent of Jeffrey W. Wagner (contained in opinion filed as Exhibit 5.1 to this Registration Statement)
- 24.1 Power of Attorney (included on the signature page of this Registration Statement)
- 24.2 Secretary's Certificate (certifying resolution authorizing certain officers to sign and file the registration statement on behalf of Sunoco Partners LLC, the General Partner of Sunoco Logistics Partners L.P.)

- * Each such exhibit has heretofore been filed with the Securities and Exchange Commission as part of the filing indicated and is incorporated herein by reference.

ITEM 9. UNDERTAKINGS.

(a) Rule 415 offering.

The Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement;
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration

statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) Filings Incorporating Subsequent Exchange Act Documents by Reference.

The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a

3

new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(h) Request for Acceleration of Effective Date or Filing of Registration Statement on Form S-8.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

4

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Philadelphia, Commonwealth of Pennsylvania on the 22nd day of July, 2002.

SUNOCO LOGISTICS PARTNERS L.P.

By: Sunoco Partners LLC

its General Partner

By: /s/ DEBORAH M. FRETZ

Name: Deborah M. Fretz
Title: President and
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Deborah M. Fretz and Colin A. Oerton and each of them, any one of whom may act without the joinder of the others, as his true and lawful attorney-in-fact to sign on his behalf and in the capacity stated below and to file any and all amendments and post-effective amendments to this Registration Statement, with all exhibits thereto, with the Securities and Exchange Commission, which amendment or amendments may make such changes and additions in this Registration Statement as such attorney-in-fact may deem necessary or appropriate.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities indicated and on the dates indicated.

Signature -----	Title -----	Date ----
/s/ DEBORAH M. FRETZ ----- Deborah M. Fretz	President, Chief Executive Officer and Director (Principal Executive Officer)	July 22, 2002
/s/ CYNTHIA A. ARCHER ----- Cynthia A. Archer	Director	July 22, 2002
/s/ STEPHEN L. CROPPER ----- Stephen L. Cropper	Director	July 22, 2002
/s/ MICHAEL H. R. DINGUS ----- Michael H. R. Dingus	Director	July 22, 2002
/s/ JOHN G. DROSDICK ----- John G. Drosdick	Chairman of the Board	July 22, 2002
/s/ GARY W. EDWARDS ----- Gary W. Edwards	Director	July 22, 2002
/s/ BRUCE G. FISCHER ----- Bruce G. Fischer	Director	July 22, 2002
/s/ THOMAS W. HOFMANN ----- Thomas W. Hofmann	Director	July 22, 2002
/s/ COLIN A. OERTON ----- Colin A. Oerton	Vice President and Chief Financial Officer (Principal Financial Officer)	July 22, 2002
/s/ SEAN P. MCGRATH ----- Sean P. McGrath	Comptroller (Principal Accounting Officer)	July 22, 2002

Exhibit Number	Description
4.1	Sunoco Partners LLC Long-Term Incentive Plan (amended and re-stated as of July 22, 2002)
4.2	Amendment No. 1 to First Amended and Restated Agreement of Limited Partnership of Sunoco Logistics Partners L.P., dated as of February 8, 2002
*4.3	Second Amended and Restated Limited Liability Company Agreement of Sunoco Partners LLC, dated April 30, 2002 (incorporated by reference to Exhibit 3.1 to the Form 10-Q, File No. 1-31219, filed May 15, 2002)
5.1	Opinion of Jeffrey W. Wagner as to legality of securities being registered
23.1	Consent of Ernst & Young LLP.
23.2	Consent of Jeffrey W. Wagner (contained in opinion filed as Exhibit 5.1 to this Registration Statement)
24.1	Power of Attorney (included on the signature page for this Registration Statement)
24.2	Secretary's Certificate (certifying resolution authorizing certain officers to sign and file the registration statement on behalf of Sunoco Partners LLC, the General Partner of Sunoco Logistics Partners L.P.)

* Each such exhibit has heretofore been filed with the Securities and Exchange Commission as part of the filing indicated and is incorporated herein by reference.

SUNOCO PARTNERS LLC
LONG-TERM INCENTIVE PLAN

SECTION 1. Purpose of the Plan.

The Sunoco Partners LLC Long-Term Incentive Plan (the "Plan") is intended to promote the interests of Sunoco Logistics Partners L.P., a Delaware limited partnership (the "Partnership"), by providing to employees and directors of Sunoco Partners LLC, a Pennsylvania limited liability company (the "Company"), and its Affiliates who perform services for the Partnership and its subsidiaries, incentive awards for superior performance that are based on Units. The Plan is also intended to enhance the ability of the Company and its Affiliates to attract and retain employees whose services are key to the growth and profitability of the Partnership, and to encourage them to devote their best efforts to the business of the Partnership and its subsidiaries, thereby advancing the Partnership's interests.

SECTION 2. Definitions.

As used in the Plan, the following terms shall have the meanings set forth below:

2.1 "Affiliate" means, with respect to any Person, any other Person that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with, the Person in question. As used herein, the term "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities, by contract or otherwise.

2.2 "Award" means a grant of one or more Options or Restricted Units pursuant to the Plan, and shall include any tandem DERs granted with respect to such Award.

2.3 "Board" means the Board of Directors of the Company.

2.4 "Cause" means:

- (i) fraud or embezzlement on the part of the Participant;
- (ii) conviction of or the entry of a plea of nolo contendere by the Participant to any felony;
- (iii) the willful and continued failure or refusal by the Participant to perform substantially the Participant's duties with the Company or an Affiliate thereof (other than any such failure resulting from incapacity due to physical or mental illness, or death, or following notice of employment termination by the Participant for Good Reason) within thirty (30) days following the delivery of a written demand for substantial performance to the Participant by the Board, or any employee of the Company or an Affiliate with supervisory authority over the Participant, that specifically identifies the manner in which the Board or such supervising employee believes that the Participant has not substantially performed the Participant's duties; or
- (iv) any act of willful misconduct by the Participant which:
 - (a) is intended to result in substantial personal enrichment of the Participant at the expense of the Partnership, the Company or any of their Affiliates; or

- (b) has a material adverse impact on the business or reputation of the Partnership, the Company or any Affiliate thereof (such determination to be made by the Partnership, the Company or any such Affiliate in the good faith exercise of its reasonable judgment).

2.5 "Change of Control" means, and shall be deemed to have occurred upon the occurrence of one or more of the following events:

(i) the consolidation, reorganization, merger or other transaction pursuant to which more than 50% of the combined voting power of the outstanding equity interests in the Company cease to be owned by Sunoco and its Affiliates;

(ii) a "Change in Control" of Sunoco, as defined from time to time in the Sunoco stock plans; or

(iii) the general partner (whether the Company or any other Person) of the Partnership ceases to be an Affiliate of Sunoco.

2.6 "Committee" means the Compensation Committee of the Board, such subcommittee thereof, or such other committee of the Board appointed to administer the Plan.

2.7 "DER" or "Distribution Equivalent Right" means a contingent right, granted in tandem with a specific Restricted Unit, to receive an amount in cash equal to the cash distributions made by the Partnership with respect to a Unit during the period such Restricted Unit is outstanding.

2.8 "Director" means a member of the Board who is not an Employee.

2.9 "Employee" means any employee of the Company or an Affiliate, who performs services for the Partnership.

2.10 "Exchange Act" means the Securities Exchange Act of 1934, as amended.

2.11 "Fair Market Value" means, as of any date and in respect of any Unit, the opening price of a Unit on such date (which price shall be the closing price of a Unit on the previous trading day, as reflected in the consolidated trading tables of The Wall Street Journal or any other publication selected by the Committee). If there is no sale of Units on the New York Stock Exchange for more than ten (10) days immediately preceding such date, or if deemed appropriate by the Committee for any other reason, the Fair Market Value of such Units shall be as determined in good faith by the Committee in such other manner as it may deem appropriate.

2.12 "Good Reason" means:

(i) a reduction in the Participant's annual base salary;

(ii) failure to pay the Participant any compensation due under an employment agreement, if any;

(iii) failure to continue to provide benefits substantially similar to those then enjoyed by the Participant unless the Partnership, the Company or their Affiliates provide aggregate benefits equivalent to those then in effect;

(iv) failure to continue a compensation plan or to continue the Participant's participation in a plan on a basis not materially less favorable to the Participant, subject to the power of the Partnership, the Company or their Affiliates to amend such plans in their reasonable discretion, including, without limitation, providing a replacement plan; or

2

(v) the Partnership, the Company or their Affiliates purported termination of the Participant's employment for Cause not pursuant to a procedure indicating the specific provision of the definition of Cause contained in this Plan as the basis for such termination of employment;

The Participant may not terminate for Good Reason unless he has given written notice delivered to the Partnership, the Company or their Affiliates, as appropriate, of the action or inaction giving rise to Good Reason, such notice to state with specificity the nature of the breach,

failure or refusal, and such action or inaction is not corrected within thirty (30) days thereafter.

2.13 "Member" means, as of any date, any Person that has executed the limited liability company operating agreement of the Company (the "LLC Agreement") as a member of the Company, and thereafter been admitted to the Company as a member as provided in the LLC Agreement, but such term does not include any Person who has ceased to be a member in the Company.

2.14 "Option" means an option to purchase Units granted under the Plan.

2.15 "Participant" means any Employee or Director granted an Award under the Plan.

2.16 "Partnership Agreement" means the Amended and Restated Agreement of Limited Partnership of the Partnership.

2.17 "Person" means an individual or a corporation, limited liability company, partnership, joint venture, trust, unincorporated organization, association, government agency or political subdivision thereof or other entity.

2.18 "Restricted Period" means the period established by the Committee with respect to an Award during which the Award either remains subject to forfeiture or is not exercisable by the Participant.

2.19 "Restricted Unit" means a phantom, or notional, unit granted under the Plan which is equivalent in value and in distribution rights to a Unit and which, upon vesting, entitles the Participant to receive a Unit or its Fair Market Value in cash, whichever is determined by the Committee.

2.20 "Rule 16b-3" means Rule 16b-3 promulgated by the SEC under the Exchange Act, or any successor rule or regulation thereto as in effect from time to time.

2.21 "SEC" means the Securities and Exchange Commission, or any successor thereto.

2.22 "Sunoco" means Sunoco, Inc.

2.23 "Unit" means a Common Unit of the Partnership.

SECTION 3. Administration.

The Plan shall be administered by the Committee. A majority of the Committee shall constitute a quorum, and the acts of the members of the Committee who are present at any meeting thereof at which a quorum is present, or acts unanimously approved by the members of the Committee in writing, shall be the acts of the Committee. Annual grant levels for Participants will be recommended to the Committee by the Chief Executive Officer of the Company.

3

Subject to the terms of the Plan and applicable law, and in addition to other express powers and authorizations conferred on the Committee by the Plan, the Committee shall have full power and authority to:

- (i) designate Participants;
- (ii) determine the type or types of Awards to be granted to a Participant;
- (iii) determine the number of Units to be covered by Awards;
- (iv) determine the terms and conditions of any Award;
- (v) determine whether, to what extent, and under what circumstances Awards may be settled, exercised, canceled, or forfeited;
- (vi) interpret and administer the Plan and any instrument or agreement relating to an Award made under the Plan

(vii) establish, amend, suspend, or waive such rules and regulations and appoint such agents as it shall deem appropriate for the proper administration of the Plan; and

(viii) make any other determination and take any other action that the Committee deems necessary or desirable for the administration of the Plan.

Unless otherwise expressly provided in the Plan, all designations, determinations, interpretations, and other decisions under or with respect to the Plan or any Award shall be within the sole discretion of the Committee, may be made at any time and shall be final, conclusive, and binding upon all Persons, including the Company, the Partnership, any Affiliate, any Participant, and any beneficiary of any Award.

Subject to the following and any applicable law, the Committee, in its sole discretion, may delegate any or all of its powers and duties under the Plan to the Chief Executive Officer of the Company, including the power to grant Awards under the Plan, provided the Chief Executive Officer is also a member of the Board, subject to such limitations on such delegated powers and duties as the Committee may impose, if any. Upon any such delegation all references in the Plan to the "Committee", other than in Section 7 ("Amendment and Termination"), shall be deemed to include the Chief Executive Officer; provided, however, that such delegation shall not limit the Chief Executive Officer's right to receive Awards under the Plan. Notwithstanding the foregoing, the Chief Executive Officer may not grant Awards to, or take any action with respect to any Award previously granted to, a person who is an officer subject to Rule 16b-3 or a member of the Board.

SECTION 4. Units Available for Awards.

4.1 Units Available. Subject to adjustment as provided in Section 4.3, the number of Units with respect to which Awards may be granted under the Plan is one million two hundred fifty thousand (1,250,000). If any Award is forfeited or otherwise terminates or is canceled without the delivery of Units, then the Units covered by such Award, to the extent of such forfeiture, termination, or cancellation, shall again be Units with respect to which Awards may be granted.

4.2 Sources of Units Deliverable Under Awards. Any Units delivered pursuant to an Award shall consist, in whole or in part, of Units acquired in the open market, from any Affiliate, the Partnership or any other Person, or any combination of the foregoing, as determined by the Committee in its discretion.

4.3 Adjustments. If the Committee determines that any distribution (whether in the form of cash, Units, other securities, or other property), re-capitalization, split, reverse split,

4

reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Units or other securities of the Partnership, issuance of warrants or other rights to purchase Units or other securities of the Partnership, or other similar transaction or event affects the Units such that an adjustment is determined by the Committee to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in such manner as it may deem equitable, adjust any or all of:

(i) the number and type of Units (or other securities or property) with respect to which Awards may be granted;

(ii) the number and type of Units (or other securities or property) subject to outstanding Awards; and

(iii) if deemed appropriate, make provision for a cash payment to the holder of an outstanding Award; provided, that the number of Units subject to any Award will always be a whole number.

SECTION 5. Eligibility.

Any Employee or Director will be eligible to be designated a Participant and receive an Award under the Plan.

SECTION 6. Awards.

6.1 Options. The Committee shall have the authority to determine the Employees and Directors to whom Options will be granted, the number of Units to be covered by each Option, the purchase price therefor and the conditions and limitations applicable to the exercise of the Option, including the following terms and conditions and such additional terms and conditions, as the Committee shall determine, that are not inconsistent with the provisions of the Plan.

(i) Exercise Price. The purchase price per Unit purchasable under an Option shall be determined by the Committee at the time the Option is granted but shall not be less than its Fair Market Value as of the date of grant.

(ii) Time and Method of Exercise. The Committee shall determine the Restricted Period, i.e., the time or times at which an Option may be exercised in whole or in part, and the method or methods by which payment of the exercise price with respect thereto may be made or deemed to have been made which may include, without limitation, cash, check acceptable to the Company, a "cashless-broker" exercise (through procedures approved by the Company), other securities or other property, a note from the Participant (in a form acceptable to the Company), or any combination thereof, having a Fair Market Value on the exercise date equal to the relevant exercise price.

(iii) Forfeiture. Except as otherwise provided in the terms of the Option grant, upon termination of a Participant's employment with Company and its Affiliates or membership on the Board, whichever is applicable, for any reason during the applicable Restricted Period, all Options shall be forfeited by the Participant, unless otherwise provided in a written employment agreement (if any) between the Participant and the Company or one or more of its Affiliates. The Committee may, in its discretion, waive in whole or in part such forfeiture with respect to a Participant's Options.

5

6.2 Restricted Units. The Committee shall have the authority to determine the Employees and Directors to whom Restricted Units shall be granted, the number of Restricted Units to be granted to each such Participant, the duration of the Restricted Period, the conditions under which the Restricted Units may become vested or forfeited, and such other terms and conditions as the Committee may establish respecting such Awards, including whether DERs are granted with respect to such Restricted Units.

(i) DERs. To the extent provided by the Committee, in its discretion, a grant of Restricted Units may include a tandem DER grant, which may provide that such DERs shall be paid directly to the Participant, be credited to a bookkeeping account (with or without interest in the discretion of the Committee) subject to the same restrictions as the tandem Award, or be subject to such other provisions or restrictions as determined by the Committee in its discretion.

(ii) Forfeiture. Except as otherwise provided in the terms of the Award agreement, upon termination of a Participant's employment with the Company and its Affiliates or membership on the Board, whichever is applicable, for any reason during the applicable Restricted Period, all Restricted Units shall be forfeited by the Participant, unless otherwise provided in a written employment agreement (if any) between the Participant and the Company or one or more of its Affiliates. The Committee may, in its discretion, waive in whole or in part such forfeiture with respect to a Participant's Restricted Units.

(iii) Lapse of Restrictions. Upon, or as soon as reasonably practicable following, the vesting of each Restricted Unit, the Participant shall be entitled to receive from the Company one Unit or its Fair Market Value, in cash, as determined by the Committee, subject to the provisions of Section 8.2.

6.3 General.

(i) Awards May Be Granted Separately or Together. Awards may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with, or in substitution for any other Award granted under the Plan or any award granted under any other plan of the Company or any Affiliate. Awards granted in addition to or in tandem with other Awards or awards granted under any other plan of the Company or any Affiliate may be granted either at the same time as or at a different time from the grant of such other Awards or awards.

(ii) Limits on Transfer of Awards.

(a) Except as provided in (b) below:

(1) no Award and no right under any such Award may be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by a Participant and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable against the Company or any Affiliate

(2) each Option shall be exercisable only by the Participant during the Participant's lifetime, or by the person to whom the Participant's rights shall pass by will or the laws of descent and distribution; and

(b) To the extent specifically provided by the Committee with respect to an Option grant, an Option may be transferred by a Participant without consideration to immediate family members or related family trusts, limited partnerships or similar entities or on such terms and conditions as the Committee may from time

6

to time establish. In addition, Awards may be transferred by will and the laws of descent and distribution.

(iii) Term of Awards. The term of each Award shall be for such period as may be determined by the Committee.

(iv) Unit Certificates. All certificates for Units or other securities of the Partnership delivered under the Plan pursuant to any Award or the exercise thereof shall be subject to such stop transfer orders and other restrictions as the Committee may deem advisable under the Plan or the rules, regulations, and other requirements of the SEC, any stock exchange upon which such Units or other securities are then listed, and any applicable federal or state laws, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate reference to such restrictions.

(v) Consideration for Grants. Awards may be granted for such consideration as the Committee determines including, without limitation, services or such minimal cash consideration as may be required by applicable law.

(vi) Delivery of Units or other Securities and Payment by Participant of Consideration. Notwithstanding anything in the Plan or any grant agreement to the contrary, delivery of Units pursuant to the exercise or vesting of an Award may be deferred for any period during which, in the good faith determination of the Committee, the Company is not reasonably able to obtain Units to deliver pursuant to such Award without violating the rules or regulations of any applicable law or securities exchange. No Units or other securities shall be delivered pursuant to any Award until payment in full of any amount required to be paid pursuant to the Plan or the applicable Award agreement (including, without limitation, any exercise price or any tax withholding) is received by the Company. Such payment may be made by such method or methods and in such form or forms as the Committee shall determine, including, without limitation, cash, other Awards, withholding of Units, cashless broker exercises with immediate sale, or any combination thereof; provided, however, that the combined value, as determined by the Committee, of all cash and cash equivalents and the Fair Market Value of any such Units or other property so tendered to

the Company, as of the date of such tender, is at least equal to the full amount required to be paid to the Company pursuant to the Plan or the applicable Award agreement.

(vii) Change in Control. Upon a Change in Control, or such period prior thereto as may be established by the Committee, all Awards shall automatically vest and become payable or exercisable, as the case may be, in full. In this regard, all Restricted Periods shall terminate and all performance criteria, if any, shall be deemed to have been achieved at the maximum level.

(viii) Sale of Significant Assets. In the event the Company or the Partnership sells or otherwise disposes of, other than to an Affiliate, a significant portion of the assets under its control, (such significance to be determined by action of the Board of the Company in its sole discretion), and as a consequence of such disposition:

(a) a Participant's employment is terminated by the Partnership, the Company or their Affiliates without Cause or by the Participant for Good Reason; provided, however, that in the case of any such termination by the Participant under this subparagraph 6.3(viii)(a), such termination shall not be deemed to be for Good Reason unless the termination occurs within 180 days after the occurrence of the applicable sale or disposition constituting the reason for the termination; or

7

(b) as a result of such sale or disposition, the Participant's employer shall no longer be the Partnership, the Company or one of their Affiliates,

then all of such Participant's Awards shall automatically vest and become payable or exercisable, as the case may be, in full. In this regard, all Restricted Periods shall terminate and all performance criteria, if any, shall be deemed to have been achieved at the maximum level.

SECTION 7. Amendment and Termination.

Except to the extent prohibited by applicable law and unless otherwise expressly provided in an Award agreement or in the Plan:

(i) Amendments to the Plan. Except as required by applicable law or the rules of the principal securities exchange on which the Units are traded and subject to Section 7(ii) below, the Board or the Committee may amend, alter, suspend, discontinue, or terminate the Plan in any manner; provided, however, that neither the Board nor the Committee may increase the number of Units available for Awards under the Plan, without the express prior written consent of the Members of the Company.

(ii) Amendments to Awards. The Committee may waive any conditions or rights under, amend any terms of, or alter any Award theretofore granted, provided no change, other than pursuant to Section 7(iii), in any Award shall materially reduce the benefit to Participant without the consent of such Participant.

(iii) Adjustment of Awards Upon the Occurrence of Certain Unusual or Nonrecurring Events. The Committee is hereby authorized to make adjustments in the terms and conditions of, and the criteria included in, Awards in recognition of unusual or nonrecurring events (including, without limitation, the events described in Section 4.3 of the Plan) affecting the Partnership or the financial statements of the Partnership, or of changes in applicable laws, regulations, or accounting principles, whenever the Committee determines that such adjustments are appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan.

SECTION 8. General Provisions.

8.1 No Rights to Awards. No Person shall have any claim to be granted any Award, and there is no obligation for uniformity of treatment of Participants. The terms and conditions of Awards need not be the same with respect to each Participant.

8.2 Withholding. The Company or any Affiliate is authorized to withhold from any Award, from any payment due or transfer made under any Award or from any compensation or other amount owing to a Participant the amount (in cash, Units, other securities, Units that otherwise would be issued pursuant to such Award or other property) of any applicable taxes payable in respect of the grant of an Award, its exercise, the lapse of restrictions thereon, or any payment or transfer under an Award or under the Plan and to take such other action as may be necessary in the opinion of the Company to satisfy its withholding obligations for the payment of such taxes.

8.3 No Right to Employment. The grant of an Award shall not be construed as giving a Participant the right to be retained in the employment of the Company or any Affiliate or to

8

remain on the Board, as applicable. Further, the Company or an Affiliate may at any time dismiss a Participant from employment, free from any liability or any claim under the Plan, unless otherwise expressly provided in the Plan or in any Award agreement.

8.4 Governing Law. The validity, construction, and effect of the Plan and any rules and regulations relating to the Plan shall be determined in accordance with the laws of the Commonwealth of Pennsylvania and applicable federal law.

8.5 Severability. If any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal, or unenforceable in any jurisdiction or as to any Person or Award, or would disqualify the Plan or any Award under any law deemed applicable by the Committee, such provision shall be construed or deemed amended to conform to the applicable laws, or if it cannot be construed or deemed amended without, in the determination of the Committee, materially altering the intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction, Person or Award and the remainder of the Plan and any such Award shall remain in full force and effect.

8.6 Other Laws. The Committee may refuse to issue or transfer any Units or other consideration under an Award if, in its sole discretion, it determines that the issuance or transfer of such Units or such other consideration might violate any applicable law or regulation, the rules of the principal securities exchange on which the Units are then traded, or entitle the Partnership or an Affiliate to recover the entire then Fair Market Value thereof under Section 16(b) of the Exchange Act, and any payment tendered to the Company by a Participant, other holder or beneficiary in connection with the exercise of such Award shall be promptly refunded to the relevant Participant, holder or beneficiary.

8.7 No Trust or Fund Created. Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or a fiduciary relationship between the Company or any Affiliate and a Participant or any other Person. To the extent that any Person acquires a right to receive payments from the Company or any Affiliate pursuant to an Award, such right shall be no greater than the right of any general unsecured creditor of the Company or any Affiliate.

8.8 No Fractional Units. No fractional Units shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine whether cash, other securities, or other property shall be paid or transferred in lieu of any fractional Units or whether such fractional Units or any rights thereto shall be canceled, terminated, or otherwise eliminated.

8.9 Headings. Headings are given to the Sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

8.10 Facility Payment. Any amounts payable hereunder to any person under legal disability or who, in the judgment of the Committee, is unable to properly manage his financial affairs, may be paid to the legal representative of such person, or may be applied for the benefit of such

person in any manner which the Committee may select, and the Company shall be relieved of any further liability for payment of such amounts.

8.11 Gender and Number. Words in the masculine gender shall include the feminine and the neuter, the plural shall include the singular and the singular shall include the plural.

SECTION 9. Term of the Plan.

The Plan shall be effective on the date of its approval by the Board and shall continue until the date terminated by the Board or Units are no longer available for grants of Awards under the Plan, whichever occurs first. However, unless otherwise expressly provided in the Plan or in an applicable Award Agreement, any Award granted prior to such termination, and the authority of the Board or the Committee to amend, alter, adjust, suspend, discontinue, or terminate any such Award or to waive any conditions or rights under such Award, shall extend beyond such termination date.

AMENDMENT NO. 1 TO
FIRST AMENDED AND RESTATED AGREEMENT OF LIMITED PARTNERSHIP
OF
SUNOCO LOGISTICS PARTNERS L.P.

This Amendment No. 1 (this "Amendment No. 1") to the First Amended and Restated Agreement of Limited Partnership of Sunoco Logistics Partners L.P. (the "Partnership") is entered into effective as of February 8, 2002, by Sunoco Partners LLC, a Pennsylvania limited liability company (the "General Partner"), as general partner of the Partnership. Capitalized terms used but not defined herein are used as defined in the Partnership Agreement.

WHEREAS, the General Partner and the Limited Partners of the Partnership entered into that certain First Amended and Restated Agreement of Limited Partnership of the Partnership dated as of February 8, 2002 (the "Partnership Agreement");

WHEREAS, Section 13.1(d)(iv) of the Partnership Agreement provides that the General Partner may amend any provision of the Partnership Agreement without the approval of any Partner or Assignee to reflect a change that, in the discretion of the General Partner, is required to effect the intent expressed in the Registration Statement on Form S-1, as amended (No. 333-71968) as filed under the Securities Act of 1933, as amended (the "Registration Statement");

WHEREAS, acting pursuant to the power and authority granted to it under Section 13.1(d)(iv) of the Partnership Agreement, the General Partner has determined that the following amendments to the Partnership Agreement are required to effect the intent expressed in the Registration Statement.

NOW THEREFORE, the General Partner does hereby amend the Partnership Agreement as follows:

Section 1. Amendment.

(a) The last sentence in the definition of "Adjusted Operating Surplus" in Section 1.1 is hereby amended in its entirety to read as follows:

"Adjusted Operating Surplus does not include the \$15.0 million portion of Operating Surplus included in clause (a)(i) of the definition of Operating Surplus."

(b) Paragraph (a) of the definition of "Operating Surplus" in Section 1.1 is hereby amended in its entirety to read as follows:

"Operating Surplus" means, with respect to any period ending prior to the Liquidation Date, on a cumulative basis and without duplication,

(a) the sum of (i) \$15.0 million, (ii) all cash and cash equivalents of the Partnership Group on hand as of the close of business

1

on the Closing Date, (iii) all cash receipts of the Partnership Group for the period beginning on the Closing Date and ending with the last day of such period, other than cash receipts from Interim Capital Transactions (except to the extent specified in Section 6.5) and (iv) all cash receipts of the Partnership Group after the end of such period but on or before the date of determination of Operating Surplus with respect to such period resulting from Working Capital Borrowings, less"

Section 2. Ratification of Partnership Agreement. Except as expressly modified and amended herein, all of the terms and conditions of the Partnership Agreement shall remain in full force and effect.

Section 3. Governing Law. This Amendment No. 1 will be governed by and construed in accordance with the laws of the State of Delaware.

IN WITNESS WHEREOF, the General Partner has executed this Amendment No. 1
as of the date first set forth above.

GENERAL PARTNER:

SUNOCO PARTNERS LLC

By: /s/ Deborah M. Fretz

Name: Deborah M. Fretz

Title: President and Chief Executive

Opinion of Jeffrey W. Wagner

July 22, 2002

Sunoco Partners LLC
Ten Penn Center - 3rd Floor
1801 Market Street
Philadelphia, PA 19103-1699

Re: Sunoco Partners LLC. Long-Term Incentive Plan

Ladies and Gentlemen:

I am General Counsel and Secretary of Sunoco Partners LLC, a Pennsylvania limited liability company that is the general partner of Sunoco Logistics Partners L.P., a Delaware limited partnership (the "Partnership"). This opinion is being delivered in connection with the preparation of the Partnership's registration statement on Form S-8 (the "Registration Statement"), filed by the Partnership under the Securities Act of 1933, as amended (the "Securities Act"), in connection with the offering and sale by the Partnership of up to one million two hundred fifty thousand (1,250,000) common units representing limited partnership interests in the Partnership (the "Common Units"), and related interests to be issued under the Sunoco Partners LLC Long-Term Incentive Plan, attached to the Registration Statement as Exhibit 4.1 (the "Plan"). Capitalized terms used but not otherwise defined herein have the meanings ascribed to them in the Registration Statement. This opinion is being delivered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

In connection with this opinion, I or members of my staff have examined originals or copies, certified or otherwise identified to my satisfaction, of: (a) the relevant minutes of the proceedings of Sunoco Partners LLC and resolutions adopted by its Board of Directors in connection with matters related to the authorization of the Plan and the issuance of the Common Units and other interests thereunder; (b) the Registration Statement; and (c) the Plan.

I or members of my staff also have made such examination of law and examined originals, or copies certified or otherwise authenticated to my satisfaction, of all such other company records, instruments, certificates of public officials and/or bodies, certificates of officers and representatives of Sunoco Partners LLC, and such other documents, and discussed with officers and representatives of Sunoco Partners LLC such questions of fact as I have deemed necessary or appropriate as to form a basis for rendering the opinion hereinafter expressed.

1

In my examination, I have assumed the legal capacity of all natural persons, the genuineness of all signatures, the authenticity of all documents submitted to me as originals, the conformity to original documents of all documents submitted to me as certified or photostatic copies and the authenticity of the originals of such copies. In making my examination of documents executed by parties other than Sunoco Partners LLC, I have assumed that such parties had the power, corporate or other, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and execution and delivery by such parties of such documents and that such documents constitute valid and binding obligations of such parties. As to any facts material to the opinion expressed herein which were not independently established or verified, I have relied upon oral or written statements and representations of officers, trustees and other representatives of Sunoco Partners LLC, and others.

Based on and subject to the foregoing and to the other qualifications and limitations set forth herein, I am of the opinion that:

1. The Partnership has been duly formed and is validly existing as a limited partnership under the Delaware Revised Uniform Limited Partnership Act.
2. The Common Units will, when issued and paid for in accordance with the terms of the Plan, be duly authorized, validly issued, fully paid and nonassessable, except as such nonassessability may be affected by the matters described in the prospectus included in the Partnership's registration statement on Form S-1 filed under the Securities Act on October 22, 2001 (File No. 333-71968) under the Caption "Description of the Partnership Agreement - Limited Liability".

The foregoing opinion is based on and is limited to the Revised Uniform Limited Partnership Act of the State of Delaware and the relevant federal laws of the United States of America, and I render no opinion with respect to the laws of any other jurisdiction.

I hereby consent to: (a) being named as counsel for Sunoco Partners LLC in the Registration Statement and in any amendment thereto; (b) the use of this opinion in connection with the registration of the Common Units and other interests to be distributed under the Plan, and the making in the Registration Statement (and in any amendments thereto) of statements now appearing therein under the caption "Interests of Named Experts and Counsel" or other similar heading, only insofar as such statements are applicable to me; and (c) the filing of this opinion with the Securities and Exchange Commission as Exhibit 5.1 to the Registration Statement. In giving such consent, I do not hereby admit that I am in the category of persons whose consent is required under Section 7 of the Securities Act.

This opinion is furnished solely for the benefit of, and reliance shall be limited to, the addressee hereof, and may not be relied upon in any manner by any other person or entity without my express written consent. This opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. I make no undertaking to supplement this opinion letter if facts or circumstances come to my attention or if any change in law occurs after the date hereof which could affect this opinion letter.

Sincerely,

/s/ Jeffrey W. Wagner

Jeffrey W. Wagner

Consent of Independent Auditors

We consent to the incorporation by reference of our report dated March 15, 2002 in the Registration Statement (Form S-8) pertaining to the Sunoco Partners LLC Long-Term Incentive Plan, with respect to the combined financial statements of Sunoco Logistics Partners L.P. incorporated by reference in its Annual Report on Form 10-K for the year ended December 31, 2001, and our reports dated:

- . December 14, 2001 with respect to the combined balance sheets of Sunoco Logistics (Predecessor), as of December 31, 2000 and 1999 and the related combined statements of income and net parent investment and of cash flows for each of the three years in the period ended December 31, 2000;
- . October 19, 2001 with respect to the balance sheet of Sunoco Logistics Partners L.P. as of October 18, 2001; and
- . October 19, 2001 with respect to the balance sheet of Sunoco Partners LLC as of October 18, 2001

in the Registrant's Registration Statement on Form S-1/A filed February 4, 2002 and related Prospectus filed pursuant to Rule 424(b) filed February 5, 2002 by Sunoco Logistics Partners L.P.

/s/ ERNST & YOUNG LLP

Ernst & Young LLP

Philadelphia, Pennsylvania

July 22, 2002

Consent of Counsel

The consent of Jeffrey W. Wagner, Esq., General Counsel and Secretary of Sunoco Partners LLC, the general partner of the Registrant, is included in his opinion filed as Exhibit 5.1 to this Registration Statement on Form S-8.

Power of Attorney

The power of attorney is set forth on the signature page contained in Part II of this Registration Statement on Form S-8.

Secretary's Certificate
of

SUNOCO PARTNERS LLC

I Jeffrey W. Wagner, General Counsel and Secretary of Sunoco Partners LLC
(the "Company"), DO HEREBY CERTIFY THAT:

The following is a true, correct and complete copy of a resolution adopted at a meeting of the Board of Directors of Sunoco Partners LLC, duly called and legally held on July 22, 2002, at which a quorum was present and acting throughout, and that no action has been taken to rescind or amend said resolution and that the same is now in full force and effect:

RESOLVED, that the Chief Executive Officer and President, the Vice President and Chief Financial Officer, and the Comptroller of the Sunoco Partners LLC (the "Company"), the general partner of Sunoco Logistics Partners L.P. (the "Partnership"), are each hereby authorized to sign and file with the Securities and Exchange Commission a registration statement, and amendments or supplements thereto, on behalf of the Partnership, registering interests to be awarded under the Sunoco Partners LLC Long-Term Incentive Plan (the "Plan"), and up to 1.25 million common units representing limited partnership interests in the Partnership, to be issued in accordance with the Plan (or such number of common units as may be authorized by adjustments under Section 4.3 of the Plan), and to take such further action to register or qualify the offer, sale and issuance of the foregoing interests and common units in accordance with the securities laws and regulations of any state or foreign country as may be required; and

FURTHER RESOLVED, that the Chief Executive Officer and President, and any delegate thereof (each such officer and/or delegate being an "Authorized Officer") be, and each hereby is, authorized, empowered and directed, on behalf of the Company and in its name, to sign any and all agreements and amendments thereto evidencing unit options and/or restricted units to be awarded under the Plan, and any other agreements, notes or instruments of any kind whatsoever, to take such other action as the board of directors, or compensation committee, may authorize or direct, and to do all acts and things whatsoever as may be in any way necessary or desirable in order to effectuate or carry out the purposes and intent of the foregoing resolutions.

/s/ JEFFREY W. WAGNER

Jeffrey W. Wagner
General Counsel and Secretary

[CORPORATE SEAL]

Philadelphia, PA
July 22, 2002