

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

POST EFFECTIVE AMENDMENT NO. 1
TO

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ENTERPRISE GP HOLDINGS L.P.

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

13-4297064

*(I.R.S. Employer
Identification Number)*

**1100 Louisiana, 10th Floor
Houston, Texas 77002
(713) 381-6500**

*(Address, including zip code, and telephone
number, including area code, of registrant's
principal executive offices)*

**Richard H. Bachmann
1100 Louisiana, 10th Floor
Houston, Texas 77002
(713) 381-6500**

*(Name, address, including zip code, and telephone
number, including area code,
of agent for service)*

With a copy to:

**David C. Buck
Andrews Kurth LLP
600 Travis, Suite 4200
Houston, Texas 77002
(713) 220-4200**

Approximate date of commencement of proposed sale to the public: Not applicable. Termination of Registration Statement and deregistration of related securities that were not sold pursuant to the Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

**TERMINATION OF REGISTRATION STATEMENT AND
DEREGISTRATION OF SECURITIES**

On September 21, 2007, Enterprise GP Holdings L.P., a Delaware limited partnership (the "Partnership"), filed a Registration Statement on Form S-3, Registration No. 333-146236 (the "Registration Statement") with the Securities and Exchange Commission (the "Commission"), registering up to 20,134,220 units ("Units") representing limited partner interests in the Partnership (the "Registered Securities"). The Registration Statement was declared effective by the Commission on October 5, 2007.

The Partnership has decided to deregister all of the Registered Securities which are authorized for sale under the Registration Statement but which remain unsold to date. Pursuant to the undertaking made by the Partnership in Part II, Item 17(a)(3) of the Registration Statement, the Partnership hereby amends the Registration Statement to deregister all Units remaining unsold as of the date hereof and files this Post-Effective Amendment No. 1 to remove all such unsold Units from registration and to terminate the effectiveness of the Registration Statement.

TABLE OF CONTENTS

[SIGNATURES](#)

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-3 and has duly caused this Post-Effective Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned thereunto duly authorized in the City of Houston, State of Texas, on October 5, 2010.

ENTERPRISE GP HOLDINGS L.P.

(a Delaware limited partnership)

By: EPE Holdings, LLC, its general partner

By: /s/ Ralph S. Cunningham
Dr. Ralph S. Cunningham
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Post-Effective Amendment No. 1 to the Registration Statement on Form S-3 has been signed below by the following persons on behalf of the registrant and in the capacities indicated below on October 5, 2010

<u>Name</u>	<u>Title (Position with EPE Holdings, LLC)</u>
<u>/s/ Ralph S. Cunningham</u> Dr. Ralph S. Cunningham	Director, President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ W. Randall Fowler</u> W. Randall Fowler	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ Michael J. Knesek</u> Michael J. Knesek	Senior Vice President, Controller and Principal Accounting Officer
<u>/s/ Richard H. Bachmann</u> Richard H. Bachmann	Director, Executive Vice President
<u>*</u> O.S. Andras	Director
<u>*</u> Charles E. McMahan	Director
<u>*</u> Edwin E. Smith	Director
<u>*</u> Thurmon Andress	Director
<u>*</u> Randa Duncan Williams	Director
<u>B.W. Waycaster</u>	Director
<u>/s/ Richard H. Bachmann</u> Richard H. Bachmann, Attorney in Fact	