Claims

1. A computer implemented blend control system for preparation of a hydrocarbon blend from a plurality of component streams, said system comprising:
    a) a product tank for receiving a mixture comprising the plurality of component streams;
    b) at least one sensing and analyzing means adapted to sense and analyze a first attribute of the received mixture for obtaining a first attribute data; and
    c) at least one optimizing means having,
        i) data storage means for storing attribute based model data,
        ii) receiving means for receiving said first attribute data, and
        iii) comparator means adapted to compare the first attribute data with the model data, the comparator means further adapted to compute an optimized proportion data between each of streams in the plurality of component streams to enable selective drawing of the component streams into the product tank for preparing the hydrocarbon blend.

2. The blend control system as claimed in claim 1, further comprising a flow regulating means cooperating with the at least one optimizing means and to the product tank, the flow regulating means adapted to control the flow of the component streams into the product tank based on the optimized proportion data.

3. The blend control system as claimed in claim 1, further comprising at least one processing means operatively connected to the at least one sensing and analyzing means and adapted to process the first attribute data to derive a second attribute data to be transmitted to the comparator means for comparing the second attribute data with the model data, the first and the second attributes being same or different from each other.

4. The blend control system as claimed in claim 1, wherein said first attribute data is the data corresponding to the mixture comprising the plurality of component streams.

5. The blend control system as claimed in claim 3, wherein the first attribute of said mixture is a composition attribute, the first attribute data is composition data, the second attribute of said mixture is a property attribute, and the model data is property based model data.

6. The blend control system as claimed in claim 3, wherein the second attribute of said mixture is a composition attribute, and the model data is composition based model data.

7. The blend control system as claimed in claim 1, further comprising a plurality of component tanks operatively connected to the product tank and adapted to store the plurality of component streams therein.

8. The blend control system as claimed in claim 2, wherein said flow regulating means is adapted to adjust at least one control valve.

9. The blend control system as claimed in claim 2, wherein said flow regulating means comprises at least one flow sensor.

10. The blend control system as claimed in claim 1, wherein said at least one sensing and analyzing means comprises a combination of a separating means and at least one detector means.

11. The blend control system as claimed in claim 1, wherein said at least one sensing and analyzing means is adapted to sense the first attribute at pre-determined time intervals, said time intervals ranging between 1 hour and 24 hours.

12. A computer implemented method for preparation of a hydrocarbon blend from a plurality of component streams, said method comprising the following steps:

    a) dispensing a mixture comprising the plurality of component streams, to a product tank;
    b) sensing and analyzing a first attribute of the mixture and computing a first attribute data;

c) comparing the first attribute data with pre-stored model data;

d) computing optimized values of proportions based on the comparison of the first attribute data to determine proportion data between each of the component streams; and

e) controlling flow of the component streams based on the proportion data for preparing the hydrocarbon blend.

13. The method as claimed in claim 12, further comprising the steps of:

- processing the first attribute data to derive a second attribute data;
- comparing the second attribute data with the pre-stored model data and computing optimized values of proportions based on the comparison of second attribute data with the pre-stored model data;

14. The method as claimed in claim 12, wherein the first attribute and the second attribute are the same.

15. The method as claimed in claim 12, wherein the first attribute and the second attribute are different from one another.

Claims

1. A computer implemented blend control system for preparation of a hydrocarbon blend from a plurality of component streams, said system comprising:
   a) a product tank for receiving a mixture comprising said plurality of component streams;
   b) at least one sensing and analyzing means adapted to sense and analyze a first attribute of said mixture for obtaining a first attribute data;
   c) at least one processing means operatively connected to said at least one sensing and analyzing means and adapted to process said first attribute data to derive a second attribute data to be transmitted to a comparator means for comparing said second attribute data with a pre-stored model data; and
   d) at least one optimizing means having,
      i) data storage means for storing attribute based model data,
      ii) receiving means for receiving said second attribute data, and
      iii) comparator means adapted to compare said second attribute data with said pre-stored model data, said comparator means further adapted to compute an optimized proportion data between each of the streams in said plurality of component streams to enable selective drawing of said component streams into said product tank for preparing said hydrocarbon blend.

2. The blend control system as claimed in claim 1, further comprising a flow regulating means cooperating with at least one optimizing means, and operatively connected to said product tank, said flow regulating means adapted to control the flow of said component streams into said product tank based on the optimized proportion data.

3. The blend control system as claimed in claim 1, wherein said first attribute of said mixture is a composition attribute, said first attribute data is composition data, said second attribute of said mixture is a property attribute, and said model data is property based model data.

4. The blend control system as claimed in claim 1, wherein said first attribute of said mixture is a property attribute, said second attribute of said mixture is a composition attribute, and said model data is composition based model data.

5. The blend control system as claimed in claim 1, further comprising a plurality of component streams operatively connected to said product tank.

6. The blend control system as claimed in claim 2, wherein said flow regulating means is adapted to control at least one control valve.

7. The blend control system as claimed in claim 2, wherein said flow regulating means comprises at least one flow sensor.

8. The blend control system as claimed in claim 1, wherein said at least one sensing and analyzing means comprises a combination of a separating means and at least one detector means.

9. The blend control system as claimed in claim 1, wherein said at least one sensing and analyzing means is adapted to sense said first attribute at predetermined time intervals, said time intervals ranging between 1 hour and 24 hours.

10. A computer implemented method for preparation of a hydrocarbon blend from a plurality of component streams, said method comprising the following steps:
    a) dispensing a mixture comprising the plurality of component streams, to a product tank;
    b) sensing and analyzing a first attribute of the mixture and computing a first attribute data;
    c) processing said first attribute data to derive a second attribute data;
    d) comparing said second attribute data with a pre-stored model data;
    e) computing optimized values of proportions based on the comparison of said second attribute data with said pre-stored model data to determine a proportion data between each of the component streams; and

f) controlling the flow of the component streams based on the proportion data for preparing the hydrocarbon blend.