Start

Is the site located in the Houston/Galveston/Brazoria area and has a vent gas stream containing highly-reactive volatile organic compounds (HRVOC) or a flare that has the potential to emit HRVOC?

§115.720(a)

Yes

Do all individual gas streams routed to a flare contain < 5% by weight of HRVOC at all times AND do all individual vent gas streams not routed to a flare contain less than 100 ppmv HRVOC at all times?

§115.727(a)

Yes

Is the unit a flare?

§115.722(d)

Yes

Was the flare permanently out of service on or before April 1, 2006?

§115.727(e)

No

End

All requirements are contained in the Operating Permit’s Special Terms and Conditions.

Yes

Is the unit a pressure relief valve not controlled by a flare?

§115.725(c)

No

Comply with the following:

§115.727(e)

Recordkeeping

§115.726(f)

Yes

No

1

2
1

Does the flare receive a total gas stream with > 100 ppmv HRVOC at any time?

Yes

§115.727(d)

No

Comply with the following:
Standard
§115.727(d)
Recordkeeping
§115.726(e)(3)(B), (j)(2)

Does the flare receive a gas stream containing 5% or greater HRVOC by weight at any time?

Yes

§115.727(b)

No

Comply with the following:
Standard
§115.727(b)(2)
§115.727(b)
Recordkeeping
§115.726(e)(2), (j)(2)

Did the flare become exempt after 12/31/05?

No

§115.726(f)

Yes

Comply with the following:
Recordkeeping
§115.726(j)(1)

End

Comply with the following:
Standard
§115.722(d)
§115.722(d)(1), (d)(2)
§115.725(l)
Monitoring/Testing
§115.725(l), (n)
Recordkeeping
§115.726(d)(1)-(4)
§115.726(i), (j)(1), (j)(2)
Reporting
§115.725(n)
Does the vent gas stream have the potential to emit HRVOCs? §115.727(c)(1)

Yes

Is the vent gas stream from a source as described in §115.727(c)(3)(A)-(H)? §115.727(c)(3)

No

Does the vent gas stream have a HRVOC concentration < 100 ppmv at all times or have a maximum potential flow rate < 100 dry standard cubic feet per hour (ft³/hr)? §115.727(c)(2)

No

Yes

Did the vent gas stream become exempt after 12/31/05? §115.726(j)(1)

No

Comply with the following: Recordkeeping §115.726(j)(1)

End

Comply with the following: Standard §115.727(c)(2) Recordkeeping §115.726(e)(3)(A), (j)(2)

All requirements are contained in the Operating Permit's Special Terms and Conditions.

End
Is your site located in Harris County?

- Yes: Comply with the following:
  - Standard §115.722(c)(1), (c)(3)
  - Monitoring/Testing §115.725(n)
  - Recordkeeping §115.726(h), (i), (j)(1), (j)(2)
  - Reporting §115.725(n)

- No: Is the vent gas stream controlled by a flare?
  - Yes: Comply with the following:
    - Standard §115.722(d), (d)(1)-(2)
    - Recordkeeping §115.726(d)(1)-(4)
    - Monitoring/Testing See flare for monitoring requirements
    - All requirements for the flare are captured on OP-UA7.

End
Are you using alternative monitoring and testing methods approved by the executive director?

Yes

§115.725(m)

No

Are you using any minor modifications to the monitoring and testing methods approved by the executive director?

Yes

Comply with the following:

Monitoring/Testing §115.725(m)

No

Provide the TCEQ APD with a copy of the approval letter.
Are you using process knowledge and engineering calculations to determine HRVOC emissions during emission events and scheduled startup, shutdown, and maintenance activities?

No

Comply with the following:
Standard §115.725(a)(3)
Monitoring/Testing §115.725(a)(3), (a)(3)(A)

Yes

§115.725(a)(3)(B)

Comply with the following:
Standard §115.725(a)(3)
Monitoring/Testing §115.725(a)(3), (a)(3)(A)

Comply with the following:
Standard §115.725(a)(3)
Monitoring/Testing §115.725(a)(3), (a)(3)(B)
Has the executive director waived testing for identical vents?

Yes

§115.725(a)(7)

No

Were testing procedures in §115.125 conducted prior to December 31, 2004, and are they being used in lieu of conducting new tests?

Yes

[§115.725(a)(6)]

No

Are you using a continuous emissions monitoring system in lieu of testing requirements in §115.725(a)?

Yes

§115.725(b)(1)

No

7

Comply with the following:

Standard

§115.725(a)(7), (a)(7)(C)

Monitoring/Testing

[§115.725(a)(7)(A), (a)(7)(B)-(C)]

Reporting

[§115.725(a)(7)(A), (a)(7)(B)]

Comply with the following:

Standard

[§115.725(b)(1)]

Monitoring/Testing

§115.725(b), [§115.725(b)(1)]

Recordkeeping

§115.726(b)(4)-(6)

Comply with the following:

Standard

[§115.726(a)(2)]

Monitoring/Testing

[T]§115.725(a), [G](a)(6)

Recordkeeping

§115.726(b)(1)

Reporting

[§115.726(a)(2)]

Comply with the following:

Standard

[§115.725(b)(1)]

Monitoring/Testing

§115.725(b), [G](b)(1)

Recordkeeping

§115.726(b)(4)-(6)

End

Comply with the following:

Standard

§115.725(a)(7), (a)(7)(C)

Monitoring/Testing

[§115.725(a)(7)(A), (a)(7)(B)-(C)]

Reporting

[§115.725(a)(7)(A), (a)(7)(B)]

Comply with the following:

Standard

[§115.725(b)(1)]

Monitoring/Testing

§115.725(b), [G](b)(1)

Recordkeeping

§115.726(b)(4)-(6)

End
Are you using process knowledge to determine maximum potential HRVOC hourly emissions for analyzer vents, steam system vents, vent gas streams with no HRVOC except during emission event or degassing safety device in lieu of testing?

Yes

§115.725(b)(2)

Comply with the following:
Standard
[G]§115.726(a)(2)
Monitoring/Testing
[T]§115.725(a)
Recordkeeping
§115.726(b)(7)
Reporting
[G]§115.726(a)(2)

No

Comply with the following:
Standard
[G]§115.726(a)(2)
Monitoring/Testing
[T]§115.725(a)
Recordkeeping
§115.726(b)(1)
Reporting
[G]§115.726(a)(2)
Comply with the following:
Standard
§115.725(a)(4)
Monitoring/Testing
[§115.725(a)(4)]
Recordkeeping
§115.726(b)(2)-(3)
Reporting
[§115.725(a)(4)]

Is the vent gas stream uncontrolled?

Yes

Comply with the following:
Standard
§115.725(a)(1)(A)-(C)
Monitoring/Testing
§115.725(a)(1)(A)-(C)

End

No

§115.725(a)(1)

Comply with the following:
Standard
§115.725(a)(2)(A)-(D)
Monitoring/Testing
§115.725(a)(2)(A)-(D)
Is an alternative monitoring (AM) approach not required to be approved by the executive director being used?

- Yes
  - §115.725(m)
    - Is the alternative approach described in §115.725(m)(1) being used?
      - Yes
        - Comply with the following:
          - Standard
            - §115.725(m)(1)
          - Monitoring/Testing
            - §115.725(m), (m)(1)
          - Recordkeeping
            - §115.725(m)(1)
      - No
        - Comply with the following:
          - Standard
            - §115.725(m)(2)(A)-(B)
          - Monitoring/Testing
            - §115.725(m), (m)(2)(A)-(B)

- No
  - §115.725(m)
    - Are you using alternative monitoring and testing methods approved by the executive director?
      - Yes
        - Comply with the following:
          - Monitoring/Testing
            - §115.725(m)
      - No
        - Provide the TCEQ APD with a copy of the approval letter.

- Are you using any minor modifications to the monitoring and testing methods approved by the executive director?
  - Yes
    - §115.725(m)
  - No
    - 10
Is the flare in multi-purpose service?

§115.725(k)

Yes

Comply with the following:
Recordkeeping
§115.726(d)(10)

Are you complying with the continuous monitoring requirements in §115.725(d)?

§115.725(k)(1)

No

Comply with the following:
Monitoring/Testing
§115.725(k)(2)

Yes

Comply with the following:
Monitoring/Testing
§115.725(k)(1)

12

10

No

13

11

Is the flare used for abatement of emissions from marine loading operations or transport vessel loading and unloading operations?

Yes

§115.725(k)(2)(B)(ii)(I)

Comply with the following:
Standard
§115.725(e)(1)-(3)
Monitoring/Testing
§115.725(e)(1)-(3)
Recordkeeping
[G]§115.726(d)(5)

No

14
Is the flare used for abatement of emissions from scheduled or unscheduled maintenance, startup, or shutdown activities?

Comply with the following:
Standard §115.725(f)(1)-(3), (f)(5)
Monitoring/Testing §115.725(f)(1)-(3), (f)(5)

Is the flow rate of the gas routed to the flare determined by using process knowledge and engineering calculations?

Comply with the following:
Standard [G]§115.725(d)(1)
Monitoring/Testing [G]§115.725(d)(1)
§115.725(f)(4)(A)

Comply with the following:
Monitoring/Testing §115.725(f)(4)(B)

14

Yes

No

15
Is the flare equipped with a physical seal?

Yes

Comply with the following:
- Standard
  - §115.725(g)(2)(C), (g)(2)(D)
  - Monitoring/Testing
  - §115.725(g)(2)(C), (g)(2)(D)
  - Recordkeeping
  - §115.726(d)(7)

No

End

Is the flare used as an emergency flare?

Yes

Comply with the following:
- Standard
  - §115.725(k)(2)(B)(iv)

No

Comply with the following:
- Standard
  - §115.725(g)(2)(B)(i)
  - Monitoring/Testing
  - §115.725(g)(2)(B)(i)-(ii)
Is the flare used solely for abatement of emissions from marine loading operations or transport vessel loading and unloading operations?

Yes ➔ §115.725(e)

No ➔ Is the flare used solely for abatement of emissions from scheduled or unscheduled maintenance, startup, or shutdown activities?

Yes ➔ §115.725(f)

No ➔ 17

Is the flare complying with the requirements in §115.725(e)?

Yes ➔ Comply with the following:

- Standard §115.725(e), (e)(1)-(4)
- Monitoring/Testing §115.725(e), (e)(1)-(4)
- Recordkeeping [G]§115.726(d)(5)

No ➔ 12

End

13

16

17

These flowcharts are for use by sources subject to the Texas Federal Operating Permits Program only and are subject to change.   ***
Is the flare complying with the continuous monitoring requirements in §115.725(d)?

Yes → $\text{§115.725(f)}$

No

Comply with the following:
Standard
§115.725(f)(1)-(6)
Monitoring/Testing
§115.725(f)(1)-(6)
Recordkeeping
[G]§115.726(d)(6)

Is the flow rate of the gas routed to the flare determined by using process knowledge and engineering calculations?

Yes → Comply with the following:
Monitoring/Testing
§115.725(f)(4)(B)

No → Comply with the following:
Standard
[G]§115.725(d)(1)
Monitoring/Testing
[G]§115.725(d)(1), (f)(4)(A)

End
Is the flare an emergency flare? [§115.725(g)]

- Yes: Is the flare complying with the continuous monitoring requirements in §115.725(d)? [§115.725(g)(2)]
  - No: Comply with the following:
    - Standard §115.725(g)(2), [G](g)(2)(C)
    - Monitoring/Testing §115.725(g)(2)(D)
    - Recordkeeping §115.725(g)(2)(C)
    - Monitoring/Testing §115.725(g)(2)(D)-(E)
    - Recordkeeping §115.726(d)(7)(A)-(E)

- Yes: Comply with the following:
  - Monitoring/Testing §115.725(g)(1)
  - Recordkeeping §115.726(d)(7)(A)-(C)

Is the emergency flare equipped with a physical seal? [§115.725(g)(2)(A)]

- No: Comply with the following:
  - Standard §115.725(g)(2)(B)(i)
  - Monitoring/Testing §115.725(g)(2)(B)(i)-(ii)

- Yes: Comply with the following:
  - Standard [G]§115.725(g)(2)(A)
  - Monitoring/Testing [G]§115.725(g)(2)(A)
**Comply with the following:**

<table>
<thead>
<tr>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\S,115.725(h)(1)-(2),,(h)(5)$</td>
</tr>
<tr>
<td>Monitoring/Testing</td>
</tr>
<tr>
<td>$\S,115.725(g)(2)(E)$</td>
</tr>
<tr>
<td>$\S,115.725(h)(1)-(2),,(h)(5)$</td>
</tr>
<tr>
<td>Recordkeeping</td>
</tr>
<tr>
<td>[G]$\S,115.726(d)(8)$</td>
</tr>
</tbody>
</table>

**Comply with the following:**

<table>
<thead>
<tr>
<th>Monitoring/Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\S,115.725(g)(2)(E),,(i)$</td>
</tr>
<tr>
<td>Recordkeeping</td>
</tr>
<tr>
<td>[G]$\S,115.726(d)(8)$</td>
</tr>
</tbody>
</table>
Are you choosing to use any of the monitoring options in §115.725(h)(3)(A)-(C) in lieu of the flow monitoring requirements in §115.725(d)(1) to demonstrate compliance with §115.722(a)-(d)?

- Yes
  - §115.725(h)(3)
  - Are you using process knowledge to demonstrate compliance with §115.722(a)-(d)?
    - Yes
      - §115.725(h)(3)(A)
    - No
      - Are you using actual measurements to demonstrate compliance with §115.722(a)-(d)?
        - Yes
          - §115.725(h)(3)(B)
        - No
          - Comply with the following:
            Monitoring/Testing
            §115.725(h)(3)(C)
  - No
    - Comply with the following:
      Monitoring/Testing
      §115.725(d)(1)

Comply with the following:
Standard
§115.725(d)(1)
Monitoring/Testing
[G]§115.725(d)(1)
Are you choosing to implement monitoring options in §115.725(h)(4)(A) or (h)(4)(B) in lieu of continuous monitoring requirements in §115.725(d)(2)?

Yes

Comply with the following: Monitoring/Testing
§115.725(h)(4)(A)-(B)

End

No

Comply with the following:
Standard
§115.725(d)(2), (d)(2)(A)(i)
[G]§115.725(d)(2)(A)(ii)
§115.725(d)(2)(A)(iii)-(iv)
§115.725(d)(2)(B), (d)(2)(B)(i)-(iv)
Monitoring/Testing
§115.725(d)(2), (d)(2)(A)(i)
[G]§115.725(d)(2)(A)(ii)
§115.725(d)(2)(A)(iii)-(iv)
§115.725(d)(2)(B), (d)(2)(B)(i)-(iv)

Is the flare in dedicated service for storage tanks with 95% or greater of an individual HRVOC?

Yes

Comply with the following:
Standard
§115.725(m)(3)
Monitoring/Testing
§115.725(m)(3)

End

No

§115.725(m)(3)
20

Is the flare used to control vent gases from metal alkyl production processes?

Yes

Comply with the following:

Monitoring/Testing
§115.725(j)

No

§115.725(j)

22

Is the flare complying with the continuous monitoring requirements in §115.725(d)?

Yes

Comply with the following:

Monitoring/Testing
§115.725(j)

No

Comply with the following:

Standard

[G]§115.725(d)(1), (j)(1)-(2)
Monitoring/Testing
[G]§115.725(d)(1), (g)(2)(E)
§115.725(j)(1)-(2)
Recordkeeping
[G]§115.725(d)(9)
Reporting
§115.725(j)(1)

End

12
Comply with the following:

**Standard**

- §115.725(d)(1), (d)(2), (d)(2)(A)(i)
- §115.725(d)(2)(B), (d)(2)(B)(i)-(iv)
- §115.726(a)(2)

**Monitoring/Testing**

- §115.725(d)(1), (d)(2), (d)(2)(A)(i)
- §115.725(d)(2)(B), (d)(2)(B)(i)-(iv)
- §115.725(d)(3)-(7)

**Recordkeeping**

- §115.726(a)(1), (a)(1)(A)

**Reporting**

- §115.726(a)(1)(B), [G](a)(2)

Is the flare in dedicated service for storage tanks with 95% or greater of an individual HRVOC?

- Yes: §115.725(m)(3)

Comply with the following:

- **Standard**
  - §115.725(m)(3)
- **Monitoring/Testing**
  - §115.725(m)(3)

End