Below is a flowchart describing 30 TAC Chapter 115, Subchapter H, Division 2. It will likely not be accessible using a screen reader. For the text of the statute/rule, please go to 30 TAC Chapter 115, Subchapter H, Division 2 (1 of 24)

Start

Does your site operate a cooling tower heat exchange system in the Houston/Galveston/Brazoria area and emits or has the potential to emit highly-reactive volatile organic compounds (HRVOCs)? §115.760(a)

- Yes
  - Comply with the following:
    - Standard §115.767(4)
    - Reporting §115.766(j)

- No
  - No
  - Yes
    - April 29, 2010
    - From 30 TAC Chapter 115, Effective 12/23/2004

These flowcharts are for use by sources subject to the Texas Federal Operating Permits Program only and are subject to change.
Is each individual heat exchanger with greater than 100 ppmw HRVOC in the process side fluid operated with the minimum pressure on the cooling water side at least 5 psig greater than the maximum pressure on the process side?

Yes → §115.767(1)

No → §115.767(1)

Do any of the individual heat exchangers of the cooling tower heat exchange system have > 100 ppmw HRVOCs in the process side fluid?

Yes → §115.767(2)

No → §115.766(b), (b)(1), (c) §115.767(1)

Comply with the following:
Standard
§115.767(1)
Monitoring/Testing
§115.767(1)
Recordkeeping
§115.766(b), (b)(1), (c) §115.767(1)

End

Comply with the following:
Standard
§115.766(b) §115.766(b)(2) §115.766(c)
Does the cooling tower heat exchange system have an intervening cooling fluid containing < 100 ppmw HRVOCs between the process and the cooling water? Comply with the following:
- Standard §115.767(5)
- Recordkeeping §115.766(b), (b)(2), (c)

End

Does your site have a stream directed to a cooling tower heat exchange system which contains 5.0% or greater by weight HRVOC? Comply with the following:
- Standard §115.767(3)
- Monitoring/Testing §115.764(c)
- Recordkeeping §115.766(c), (i)(1)
- Reporting §115.766(i)(2)

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Is your site located in Harris County?

- Yes
  - Comply with the following:
    - Standard
      - §115.761(c)(1)
      - §115.761(c)(3)
      - §115.766(i)
    - Monitoring/Testing
      - §115.764(c)
    - Recordkeeping
      - §115.766(a)(1)-(3)
      - §115.766(a)(5)-(6)
      - §115.766(c)
      - [G]§115.766(g), [G](h)
      - §115.766(i)(1)
    - Reporting
      - §115.766(i)(2)

- No
  - Comply with the following:
    - Standard
      - §115.767(6)
    - §115.766(i)
    - Monitoring/Testing
      - §115.764(c)
    - Recordkeeping
      - §115.766(a)(1)-(3)
      - §115.766(a)(5)-(6)
      - §115.766(c)
      - [G]§115.766(g)
    - Reporting
      - §115.766(i)(1)
      - §115.766(i)(2)
Are you using any alternative monitoring and testing methods approved by the executive director?

Yes → Comply with the following: Monitoring/Testing §115.764(f)

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 §115.764(f)

No → Provide the TCEQ APD with a copy of the approval letter.
Do you own or operate a cooling tower heat exchange system that can circulate > 8,000 gallons per minute of cooling water?

§115.764(a)

Yes

In lieu of monitoring locations in §115.764(b), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?

§115.764(g)

Yes

Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

§115.764(g)(2)

No

Comply with the following:

Standard
§115.764(b)(1)

Monitoring/Testing
§115.764(b)(1), [G](g)(1)

Yes

Comply with the following:

Standard
§115.764(b)(1)

Monitoring/Testing
§115.764(b)(1), (g)(2)
Are you choosing to use a continuous flow monitor?

- Yes
  
  Comply with the following:
  
  **Standard**
  
  §115.764(b)(1)

- No
  
  §115.764(b)(1)

Are you using the maximum potential flow rate based on the manufacturer’s pump performance data?

- Yes
  
  §115.764(e)(1)

- No
  
  Comply with the following:
  
  **Standard**
  
  §115.764(e)(2)

  **Monitoring/Testing**
  
  §115.764(e)(2)

  **Recordkeeping**
  
  [G]§115.766(f)

Comply with the following:

**Monitoring/Testing**

§115.764(e)(1)

**Recordkeeping**

[G]§115.766(e)
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Comply with the following:
Monitoring/Testing
§115.764(b)(3)

Are you using a continuous on-line monitor?

Yes

§115.764(b)(6)

No

Comply with the following:
Monitoring/Testing
§115.764(b)(2), (b)(4)-(5)

Comply with the following:
Monitoring/Testing
§115.764(b)(6)

End
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Yes → Comply with the following:
Monitoring/Testing
§115.764(d)

No → Are you using a continuous on-line monitor?

Yes → Comply with the following:
Monitoring/Testing
§115.764(b)(6)

No → Comply with the following:
Monitoring/Testing
§115.764(b)(2), (b)(4)-(5)

End

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Comply with the following:
Monitoring/Testing
§115.764(b)(3)
Are you electing to comply with the requirements in §115.764(h) in lieu of the requirements in §115.764(a) for a cooling tower heat exchange system in dedicated service to a finite volume system?

No

In lieu of monitoring locations in §115.764(a), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?

No

Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

Yes

Comply with the following:
Standard §115.764(a)(1)
Monitoring/Testing §115.764(a)(1), (a)(3), [G]g(1)

No

Comply with the following:
Standard §115.764(a)(1)
Monitoring/Testing §115.764(a)(1), (a)(3), (g)(2)
Comply with the following:

**Standard**
§115.764(a)(1).
**Monitoring/Testing**
§115.764(a)(1), (a)(3).

Are you choosing to use a continuous flow monitor?

Yes

§115.764(b)(1).

No

Are you using the maximum potential flow rate based on the manufacturer’s pump performance data?

Yes

§115.764(e).

No

Comply with the following:

**Standard**
§115.764(e)(2).
**Monitoring/Testing**
§115.764(a)(3), (e)(2).
**Recordkeeping**
[G]§115.766(f).
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Yes

Comply with the following:
Monitoring/Testing
§115.764(d)
Recordkeeping
§115.766(d)

No

Are you using a continuous on-line monitor?

Yes

Comply with the following:
Monitoring/Testing
§115.764(a)(6)

No

Comply with the following:
Standard
§115.764(a)(2)
Monitoring/Testing
§115.764(a)(2), (a)(4)-(5)

End
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Yes

§115.764(d)

Comply with the following:
Monitoring/Testing
§115.764(d)
Recordkeeping
§115.766(d)

No

Are you using a continuous on-line monitor?

Yes

§115.764(a)(6)

Comply with the following:
Monitoring/Testing
§115.764(a)(3), [G](a)(6)

No

Comply with the following:
Standard
§115.764(a)(2)
Monitoring/Testing
§115.764(a)(2), (a)(4)-(5)

End
Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

- Yes
  - In lieu of monitoring locations in §115.764(h), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?
    - Yes
      - $\text{Comply with the following:}$
        - Standard
          - §115.764(h)(1), [G](h)(6), (h)(8)
        - Monitoring/Testing
          - §115.764(h)(1)-(5), (h)(7)
        - Reporting
          - §115.764(h)(8)
    - No
      - $\text{Comply with the following:}$
        - Standard
          - §115.764(h)(1), [G](h)(6), (h)(8)
        - Monitoring/Testing
          - §115.764(g)(2)
        - §115.764(h)(1)-(5), (h)(7)
        - Reporting
          - §115.764(h)(8)

- No
  - $\text{Comply with the following:}$
    - Standard
      - §115.764(h)(1), [G](h)(6), (h)(8)
    - Monitoring/Testing
      - §115.764(g)(1)
      - §115.764(h)(1)-(5), (h)(7)
    - Reporting
      - §115.764(h)(8)

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

Yes $\rightarrow$ Comply with the following: Monitoring/Testing §115.764(f)

$\rightarrow$ Provide the TCEQ APD with a copy of the approval letter.

No

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

Yes $\rightarrow$ Comply with the following: Monitoring/Testing §115.764(f)

$\rightarrow$ Provide the TCEQ APD with a copy of the approval letter.

No $\rightarrow$ 21
Is the cooling tower heat exchange system in dedicated service to a jacketed reactor?

No

§115.764(b)

Do you own or operate a cooling tower heat exchange system that can circulate ≥ 8,000 gallons per minute of cooling water?

Yes

§115.764(a)

No

In lieu of monitoring locations in §115.764(b), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?

No

Yes

§115.764(g)

Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

Yes

§115.764(g)(2)

No

Comply with the following:

Standard
§115.764(b)(1)
Monitoring/Testing
§115.764(b)(1), [G](g)(1)

Comply with the following:

Standard
§115.764(b)(1)
Monitoring/Testing
§115.764(b)(1), [G](g)(1)
Comply with the following:
Standard
§115.764(b)(1)
Monitoring/Testing
§115.764(b)(1)

Comply with the following:
Standard
§115.764(e)(2)
Monitoring/Testing
§115.764(e)(2)
Recordkeeping
[G]§115.766(f)

Are you choosing to use a continuous flow monitor?

§115.764(b)(1)

Are you using the maximum potential flow rate based on the manufacturer’s pump performance data?

§115.764(e)(1)

Comply with the following:
Monitoring/Testing
§115.764(e)(1)
Recordkeeping
[G]§115.766(e)
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

- Yes
  - Comply with the following:
    - Monitoring/Testing
      - §115.764(d)
    - Recordkeeping
      - §115.766(a)(4), (d)

- No
  - Are you using a continuous on-line monitor?
    - Yes
      - Comply with the following:
        - Monitoring/Testing
          - §115.764(b)(3)
        - Recordkeeping
          - §115.766(a)(4)
    - No
      - Comply with the following:
        - Monitoring/Testing
          - [G]§115.764(b)(6)
        - Recordkeeping
          - §115.766(a)(4)

End
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Comply with the following:
Monitoring/Testing §115.764(d)

Are you using a continuous on-line monitor?

Yes

Comply with the following:
Monitoring/Testing §115.764(b)(6)
Recordkeeping §115.766(a)(4), (d)

No

Comply with the following:
Monitoring/Testing [G]§115.764(b)(6)
Recordkeeping §115.766(a)(4)

End
Are you electing to comply with the requirements in §115.764(h) in lieu of the requirements in §115.764(a) for a cooling tower heat exchange system in dedicated service to a finite volume system?

No

In lieu of monitoring locations in §115.764(a), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?

Yes

Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

Yes

Comply with the following:
Standard
§115.764(a)(1)
Monitoring/Testing
§115.764(a)(1), (a)(3), [G]g(1)

No

Comply with the following:
Standard
§115.764(a)(1)
Monitoring/Testing
§115.764(a)(1), (a)(3), [G]g(1)

Yes

Comply with the following:
Standard
§115.764(a)(1)
Monitoring/Testing
§115.764(a)(1), (a)(3), [G]g(1)
Are you choosing to use a continuous flow monitor?

- Yes: Comply with the following:
  - Standard §115.764(a)(1)
  - Monitoring/Testing §115.764(a)(1), (a)(3)

- No: §115.764(b)(1)

Are you using the maximum potential flow rate based on the manufacturer’s pump performance data?

- Yes: §115.764(e)

- No: Comply with the following:
  - Standard §115.764(e)(2)
  - Monitoring/Testing §115.764(a)(3), (e)(2)
  - Recordkeeping [G]§115.766(f)

Comply with the following:
- Monitoring/Testing §115.764(e)(1)
- Recordkeeping [G]§115.766(e)

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Comply with the following:
§115.764(a)(2), (a)(4)-(5)
Recordkeeping
§115.766(a)(4)

Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

§115.764(d)

Are you using a continuous on-line monitor?

Yes

§115.764(a)(6)

Comply with the following:
Monitoring/Testing
§115.764(d)
Recordkeeping
§115.766(a)(4), (d)

No

Comply with the following:
Monitoring/Testing
§115.764(a)(6)

Comply with the following:
Standard
§115.764(a)(2)
Monitoring/Testing
§115.764(a)(2), (a)(4)-(5)
Recordkeeping
§115.766(a)(4)

End
Do you own or operate a cooling tower heat exchange system in which each individual heat exchanger has < 5.0% HRVOC in the process side fluid and have you chosen to comply with §115.764(d)?

Yes

Comply with the following:
Monitoring/Testing
§115.764(d)
Recordkeeping
§115.766(a)(4), (d)

No

Are you using a continuous on-line monitor?

Yes

§115.764(a)(6)

No

Comply with the following:
Monitoring/Testing
§115.764(a)(3), [G](a)(6)

Comply with the following:
Standard
§115.764(a)(2)
Monitoring/Testing
§115.764(a)(2), (a)(4)-(5)
Recordkeeping
§115.766(a)(4)

End
In lieu of monitoring locations in §115.764(h), are you using alternative monitoring locations listed in §115.764(g)(1) or (2)?

Yes

Are you electing to monitor cooling water flow rate at a location that is representative of the total flow rate to the cooling tower?

Yes

§115.764(g)(2)

Comply with the following:
Standard §115.764(h)(1), [G](h)(6), (h)(8)
Monitoring/Testing §115.764(h)(1)-(5), (h)(7)
Recordkeeping §115.766(a)(4), [G](a)(7)
Reporting §115.764(h)(8)

No

Comply with the following:
Standard §115.764(h)(1), [G](h)(6), (h)(8)
Monitoring/Testing §115.764(g)(2)
§115.764(h)(1)-(5), (h)(7)
Recordkeeping §115.766(a)(4), [G](a)(7)
Reporting §115.764(h)(8)

End