

- What is a flare?
  - A flare is a piece of equipment that burns VOCs (Volatile Organic Compounds), converting them to CO<sub>2</sub> and reducing VOC emissions by 98%.
  - VOCs are in thousands of products that you use daily, including cosmetics, paints, and cleaning supplies.
- Why is Croda building a flare?
  - Croda is committed to reducing our environmental footprint and being a good neighbor. While not required by regulators, we would like to reduce the environmental impacts from malfunctions or upset conditions.
  - This flare is not being built in anticipation of new emissions releases. We recognize our neighbors want reduced emissions and this is the most effective way to significantly reduce VOC emissions.
- What is the purpose of the proposed flare?
  - The sole purpose of this flare is to reduce existing emissions of VOCs caused by potential malfunction or upset condition. It will reduce the emissions of these VOCs by 98 percent.
- What will it look like?
  - Please see the picture below, this is what the top of a flare looks like. The bottom of the flare will look like piping and structural steel. This is not our exact flare, but when our flare is in use it could look similar.



*This is a representation of a flare during use.  
Image used with permission courtesy of [CleanAir.com/tag/flares/](http://CleanAir.com/tag/flares/)*

# CRODA

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- Is there smoke generated by the flare?
  - Most of the time, no. The flare is designed to be smokeless. However, black smoke from the flare can occur when an insufficient amount of steam is available to help burn what is sent to the flare. Croda personnel will constantly watch the flare system to adjust steam flow to the flare and eliminate smoke.
- Will the flare emit an odor?
  - No odor is expected from the flare.
- How is the flare a benefit to the community?
  - The flare will allow Croda to reduce its air emissions from malfunctions by 98%.
- How is a flare an environmental improvement?
  - Croda's overall emissions to the air will be reduced.
- What types of emissions would be sent to the flare?
  - Large relief valves in Ethanol and Ethylene service, and all Ethylene Oxide relief valves will be sent to the flare. Additionally, it will be used as a backup to the existing B-1210 Ethanol Dehydration Furnace and for emergency deinventory.
- Will emissions be released from the flare?
  - The flare will have a continuous pilot flame supplied by natural gas. This will give off emissions similar to any natural gas burner (i.e. gas stove, gas furnace, etc).
  - If there is a malfunction or upset that sends VOCs to the flare, 98% of the VOCs will become CO<sub>2</sub>, leaving 2% of the VOCs going to the air. Without the flare, 100% of the VOCs would enter the air. For example:
    - If a relief valve releases 100 lb of ethylene today, all 100 lb will be emitted to the air
    - Once the flare is installed only 2 lbs of ethylene would be emitted to the air.

- Where will the flare be installed on the site?
  - The flare will be located on the Northeast side of the facility. See picture below, this photo is taken from the Delaware Memorial bridge going from Delaware into New Jersey looking to the right.



- Will you be able to see the flare from your neighborhood?
  - It is unlikely that someone would be able to see the flare from a neighborhood even during a flaring event. It will be visible from the bridge and/or river.
- What is involved in the building of the flare?
  - A flare is only part of the greater flare system which includes pipes, valves, and other vessels. Croda plans to partner with local union labor to install the flare system.
- Is there an alternative to a flare?
  - While other alternatives exist, a flare is the most eco-friendly solution for malfunction situations involving VOCs due to the low levels of consumption of natural gas and energy while in standby.

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- I live nearby and am concerned for the safety of my family and my home. Is this a fire or public health hazard? What if the wind is blowing at hurricane levels?
  - Absolutely not. As a neighbor of the facility, you should sleep safer knowing that a flare has been installed to reduce the air emissions from emergency or upset conditions. The flare is designed for windspeeds of 160 mph and rainfall of 30" per hour.
  
- I'm concerned with the environment. You are so close to the Delaware River. Can the flare accidentally leak pollutants into the river, groundwater, or soil nearby? What if the flare explodes?
  - The flare is designed for to process gases not liquids. It will have a piece of equipment to ensure that liquid is removed from the gas stream and will drain to existing site containment for proper disposition.
  
- How does a flare improve safety?
  - The flare allows process gases containing VOCs to be collected and sent to a common emission point destroying 98% before venting to the atmosphere. Currently the gases vent to the atmosphere at elevated locations so they can be dispersed into the air safely.
  
- Is the construction and operations of a flare regulated by any government agency?
  - Croda has requested a permit from DNREC and the EPA and is using EPA's current best practices in designing the flare.
  
- How will Croda ensure the flare remains safe in the future for employees and the community around Atlas Point?
  - Croda will have a maintenance and inspection plan to ensure this multimillion-dollar investment is around for many years to come.
  
- Are there any restrictions on when the flare can operate?
  - No, the flare will be available 24 hours a day, 7 days a week, 365 days a year except for outages to inspect/repair periodically.