General Duty Clause

Section 112(r)(1) of CAA

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Background on the General Duty Clause

General Duty Clause 112(r)(1) of CAA Prevention of Accidental Releases

- Purpose and General Duty - It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. **The owners and operators of stationary sources** producing, processing, handling or storing such substances **have a general duty**, in the same manner and to the same extent as section 654, title 29 of the United States Code, **to identify hazards** which may result from such releases **using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.**

Applicability

- Stationary source
- Potential for accidental release
- Extremely hazardous substance (but not limited to EPCRA list)

Obligations under the General Duty Clause

- Identify hazards which may result from accidental releases using appropriate hazard assessment techniques (PHA)
- Design and maintain a safe facility taking such steps as necessary to prevent releases
- Minimize the consequences of accidental releases which do occur

General Duty Clause Penalty Policy

GDC Penalty Policy

- Combined Enforcement Policy for Clean Air Act Sections 112(r)(1), 112(r)(7), and 40 C.F.R. Part 68
- June 2012

A NON may be issued to address violations in the following circumstances:

- Where a first time violator's violation has low probability of recurrence and low potential for harm; or

- When a violator is in substantial compliance with the requirement as the specific facts and circumstances support.

Penalty Policy includes

Penalty =

- Economic Benefit +
- Gravity Component (*i.e.*, seriousness of each violation) +
- Duration Component (of the violation with the longest duration) +
- Size of violator (both duration and size are calculated only once)) ±
- Adjustment Factors

Economic Benefit

- Delayed costs are expenditures that have been deferred by the violator's failure to comply with the requirements.
- Avoided costs are expenditures that will never be incurred. Using the example above, the cost of installation is a delayed cost, while the cost of maintaining the equipment for a period when the equipment should have been in use, is an avoided cost.

GDC Seriousness Matrix

		Potential for Harm		
		Minor	**Moderate**	**Major**
Extent of Deviation	**Major**	$25,000 $20,000	$30,000 $25,000	$37,500 $30,000
	Moderate	$10,000 $5,000	$15,000 $10,000	$20,000 $15,000
	Minor	$1,000 $500	$3,000 $1,000	$5,000 $3,000

Potential for Harm (Gravity component)

- **Major**: The violation has the potential to undermine, or has undermined, the ability of the facility to prevent releases of any extremely hazardous substance(s) and/or to minimize the consequences of any such releases.
- **Moderate**: The violation has the potential to affect, or has had significant effect on, the ability of the facility to prevent releases or threatened releases of extremely hazardous substances and/or to minimize the consequences of any such releases.
- **Minor**: The violation has little potential to affect, or has had little effect on, the ability of the facility to prevent releases or threatened releases of extremely hazardous substances and/or to minimize the consequences of any such releases.

Extent of Deviation

- **Major**: The violator deviates from the requirements of the statute to such an extent that most (or important aspects) of the requirements are not met, resulting in substantial noncompliance.
- **Moderate**: The violator significantly deviates from the requirements of the statute but some of the requirements are implemented as intended.
- **Minor**: The violator deviates somewhat from the statutory requirements but most (or all important) aspects of the requirements are met.

Duration of the violation

Duration of a Violation

Months	Penalty
0-12	$750/month
13-24	$1,500/month
25-36	$2,250/month
37 +	$3,000/month

- For example, if a violation is found to have a duration of 30 months, the duration component would be:
- $9,000 ($750/month for the first 12 months) + $18,000 ($1,500/month for the second 12 months) + $13,500 ($2,250/month for the final 6 months) = $40,500

Size of Violator Component

Net Worth	Size Adjustment
Under $1,000,000	$0
$1,000,000 – $5,000,000	$10,000
$5,000,001 – $20,000,000	$20,000
$20,000,001 – $40,000,000	$35,000
$40,000,001 – $70,000,000	$50,000
$70,000,001 – $100,000,000	$70,000
Over $100,000,001	$70,000 + $25,000 for every additional $30,000,000

Where the size of the violator figure represents more than 50% of the total gravity-based penalty (before adjustments), EPA may, but need not, reduce the size of the violator figure to an amount equal to the rest of the penalty without the size of violator component included.

Adjustment factors

- Degree of culpability (increase by 25%)
- History of violations (increase by at least 25%)
- Good faith (reduce by as much as 30%)
- Ability to pay – 3 years of tax returns

Examples of Violations (from penalty policy)

To identify hazards:

- Failure to identify chemical or process hazards which may result in accidental release or explosion.[9]
- Failure to consider risk from adjacent processes, which may pose a threat to the process.
- Failure to adequately consider safety considerations given the facility's siting (*e.g.*, when facility is located in close proximity to residential neighborhoods, sensitive ecosystems, and/or to an industrial park containing industries utilizing listed hazardous substances).

Example of failure to design and maintain a safe facility.

- In determining this factor, the case team should consider the conditions at the facility, applicable design codes, federal and state regulations, recognized industry practices and/or consensus standards.[10]
- Failure to provide for sufficient layers of protection. An additional layer of protection would have prevented the release or explosion.
- Failure to update design codes.
- Failure to implement a quality control program to ensure that components and materials meet design specifications and to construct the process equipment as designed.

Failure to design

- Failure to provide for or to properly size pressure-relieving device on a tank or reactor subjected to pressure.
- Failure to train employees as to hazards which they may encounter; Failure to train chemical plant operators how to safely respond to process or manufacturing upsets.
- Failure of operators or employees to implement or follow operating instructions or company rules.

Examples of Design Failures

- Design failures include, but are not limited to failure to adhere to applicable design codes and/or industry guidelines, including advisory standards.
- Examples include:
  - API (American Petroleum Institute) standards;
  - ASME (American Society of Mechanical Engineers) standards; ANSI (American National Standards Institute) standards;
  - NFPA (National Fire Protection Association) guidelines;
  - NACE (National Association of Corrosion Engineers) standards;
  - AIChE (American Institute of Chemical Engineers) guidelines;
  - ISA (Instrument Society of America) standards;
  - International Fire Code.

Examples of Design Failures

- Design failures also include failures to adhere to consensus standards which may also include manufacturer's procedures.
- An example of an industry consensus standard is a manufacturer's product safety bulletin, the Material Safety Data Sheet, or other publication which outlines safe handling and processing procedures for a specific chemical or substance.
- Many of these publications discuss materials of construction, safety equipment, tank design, and which API or ANSI standards to apply to the handling of that specific chemical or substance.

Examples of Design Failures

- Other design failures include common sense design flaws or inadequate equipment such as failure to include sufficient instrumentation to monitor temperature, pressure, flow, pH level, etc.
- Other design flaws include lack of emergency shutdown systems, overflow controls, instrumentation interlocks and use of failsafe design.
  - For example, operators should typically design steam vent valves so that, if they fail, they will fail to a safe part of the plant and not a part of plant where there is material in process.
  - Instrumentation is vital for any process including foods processing as well as industrial and petrochemicals. This is especially important in vessels and tank reactors which handle polymers. Such chemicals have the potential for runaway reactions.
  - It is important to have automated systems to detect high levels of chemical vapors and alert the appropriate facility personnel/authorities that a release may be occurring from a process. Such monitors and alarms should be placed in the appropriate locations.

Maintenance failures

- Maintenance failures would include failures to maintain tanks, piping, instrumentation, valves and fittings, such as the isolation valves on tanks, or the steam shutoff valves and level switches and gauges.
  - Such failures have historically contributed to major catastrophic releases and/or explosions.
  - For storage facilities, considerations must be made for incompatible chemicals, spillage, tank/container integrity, appropriate secondary containment, appropriate temperature conditions for storage, building code compliance, adequate aisle space for emergency responders and forklifts, cut off storage, fire protection systems, etc.

Failure to minimize the consequences of accidental releases which do occur:

- Failure to develop an emergency plan that specifically addresses release scenarios developed from the identification of hazards and historical information.
- Failure to follow emergency plan or to coordinate with LEPC or local emergency management agency.
- Failure to monitor any shutdown of facility.
- Failure to mitigate consequences of a release or an explosion. This may include the failure to provide for or properly size an emergency scrubber, knock-out pot or other device or vessel to contain vapors and expelled substances. This may also include failure to provide for adequate water spray or deluge system, fire suppression or other minimization system.
- Failure to provide for sufficient layers of protection. An additional layer of protection would have prevented the release or explosion.
- Failure to train employees as to hazards which they may encounter; failure to train chemical plant operators how to safely respond to process or manufacturing upsets.