# Root Cause Types

* **Corrosion Failure**: leak caused by galvanic, atmospheric, stray current, microbiological, or other corrosive action.
* **Equipment Failure**: leak caused by malfunctions of control and relief equipment including regulators, valves, meters, compressors, or other instrumentation or functional equipment.
* **Incorrect Operation**: leak resulting from inadequate procedures or safety practices, or failure to follow correct procedures, or other operator error. It includes leaks due to improper valve selection or operation, inadvertent overpressurization, or improper selection or installation of equipment.
* **Natural Force Damage**: leak caused by outside forces attributable to causes NOT involving humans, such as earth movement, earthquakes, landslides, subsidence, heavy rains/floods, lightning, temperature, thermal stress, frozen components, high winds (Including damage caused by impact from objects blown by wind), or other similar natural causes.
* **Excavation Force Damage**: leak resulting from outside force damage caused by activities related to excavation.
* **Other Outside Force Damage**: leak resulting from outside force damage, other than excavation damage, such as:
  + Nearby Industrial, Man-made or Other Fire/Explosion as Primary Cause of Incident.
  + Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation. Other motorized vehicles/equipment includes tractors, mowers, backhoes, bulldozers and other tracked vehicles, and heavy equipment that can move. Leaks resulting from vehicular traffic loading or other contact (except report as “Excavation Damage” if the activity involved digging, drilling, boring, grading, cultivation or similar activities.
  + Damage by Drilling Rigs, Other Equipment, and Vessels so long as those activities are not excavation activities. Animals can also cause Outside Force Damage.
* **Pipe, Weld, or Joint Failure**: Leak resulting from a material defect within the pipe, component or joint due to faulty manufacturing procedures, design defects, or in-service stresses such as vibration, fatigue and environmental cracking.