



The Inspection Battlefield



During war, successful armies are usually led by competent officers. These officers must be very knowledgeable about warfare and must always understand: the battlefield geography, the limitations of their weapons, the capabilities of their personnel, and they must **UNDERSTAND THE ENEMY**. Concerning the enemy, officers must understand:

- the type of enemy.
- the strength of the enemy.
- the location of the enemy.
- the techniques used by the enemy.

Any officer that does not understand the enemy will deploy personnel and resources ineffectively. And also has a very good chance of being defeated in battle!

In the petrochemical facilities there is a war that wages continually. In this war, the battlefield is **Pressure Equipment**, the officers are the **API Authorized Inspectors**, and the enemy ... NO it is not the **Maintenance Department**. The real enemy is **CORROSION**, those evil corrosion bugs that unleash their unceasing attacks on our equipment.



In this war, the successful API inspector must be very knowledgeable and must thoroughly **KNOW THE ENEMY**. The inspector must understand the:



- type of enemy, e.g. CUI, HTHA.
- strength of the enemy, e.g. corrosion or cracking rate.
- location of the enemy, e.g. turbulent areas, high stressed areas, deadlegs specific metallurgies, etc.
- techniques used by the enemy, e.g. uniform or localized loss, pits, cracks, degradation of material properties.

Today's API Officers (*inspectors*) are usually knowledgeable about their weaponry (*NDE techniques*), and battlefield strategies (*Code requirements*). **But what is the**

number one weakness of today's API officers? They don't know the enemy, they don't understand Corrosion Mechanisms.

Why? Most significantly, there has not been an *easy to understand* corrosion mechanisms book. But today, that is no longer true! Issued in 2003, **API 571 Refining Damage Mechanisms** is an outstanding document that's readable.

API 571 describes **over 60 specific corrosion mechanisms!** Each section in API 571 covers: *description of the mechanism, where this corrosion normally occurs, and critical factors affecting this mechanism.* And, yes there are many pictures!

A great aid in API 571 are flow diagrams of all major refining processes. Each diagram identifies locations where specific corrosion mechanisms typically occur.

This is such an important document that API is also offering an API 571 endorsement (*mini-certification*). This exam will have 70 multiple-choice closed-book questions. The first exam for this new endorsement will be March 2006. Need more information? See the API-ICP website.

API 571 is a great document and having this endorsement will certainly be a boost to an inspector's career. Why go out to battle, only to be ambushed by corrosion enemies? Every seasoned API inspector ought to have a copy of API 571. Go into battle well-armed and knowledgeable about your enemy.



Corrosion bugs tremble knowing their devious strategies of attack have been unmasked by the knowledgeable API officer with the corrosion handbook - API 571!