



## Getting into Compliance?

### 40CFR 112.1 Initial Ruling

On July 17<sup>th</sup>, 2002, the Federal Register Vol. 67, Regulation 40 CFR112.1 addressed the new Spill Prevention Control & Countermeasures (SPCC). Page 47060 specifically mentions **electrical substations** containing electrical transformers. It goes on to state that the requirement includes various ways of providing **Secondary Containment** or **Diversion methods** that can *deviate* from inappropriate SPCC requirements, if the owner or operator provides *equivalent* environmental protection by *some other means*. The key here is that the rule is really applying to those facilities that are *on or near navigable waters, and where there is a chance that an oil release could reach navigable waters*, a statement with an extremely broad and controversial meaning.

**Definition of US Navigable Waters** [taken from 40 CFR part 300 as defined by 40 CFR 110.1]

This means the waters of the United States including the territorial seas. This term includes:

- A) All waters that are currently used, were used in the past, or may be used susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.
- B) Interstate waters, including interstate wetlands.
- C) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, and wetlands, the use degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - 1. That is or could be used by interstate or foreign travelers for recreational or other purposes.
  - 2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
  - 3. That is used or could be used for industrial purposes by industries in interstate commerce.
- D) All impoundments of water otherwise defined as navigable waters under this section.
- E) Tributaries of water identified in paragraphs (A) through (D) of this definition, including adjacent wetlands; and
- F) Wetlands adjacent to waters identified in paragraphs (A) through (E) of this definition; provided, that waste treatment systems (other than cooling ponds meeting the criteria of this paragraph) are not waters of the United States.



[There are several more pages to this regulation but the reader should be able to get a fair understanding of what these regulations are all about from just these few paragraphs. In addition, it's been said, that in the eyes of the EPA, if a toothpick can float off your property to a ditch that leads to a creek, and so on, that it is then considered to be on **Navigable Waters of the United States**. Many people do not necessarily agree with this assessment and believe that it is the **responsibility** of the individual utility or professional engineer (PE) to really determine what is considered navigable and what is not].

## Electrical Utility Substation and Facilities

### 40CFR 112.1 Final Ruling

Many Substation Design Engineers, Environmental Engineers, and Safety and Environmental Supervisors we have spoken with in the last year have had varied opinions on the EPA's **Final** changes to the SPCC Regulations, made public in December 2006, and that also extended the final compliance date until **July 2009**. Although most utilities have known about the SPCC Regulations for several years and many already have Spill Plans written and in place, but many others are still waiting to hear further news from their associations or on additional EPA announcements, as to what solutions may be available to them. However, what everyone does agree upon though is that it can get extremely expensive if they have to dig pits to install vaults, oil water separators, as well as, sumps, oil sensing devices, concrete or plastic walls with drain setups, or some similar form of containment. All the above methods are labor intensive and will continue to cause heavy O & M expense after they have been installed.

### Some Lessons Learned

As new construction projects have taken place, some utilities are "biting the bullet" and installing containment pits, or bladders (where the subsurface is not impervious). We have seen these devices, similar to a swimming pool liner, being used to cover ground that is already impervious, thus adding to the expense. As for retrofitting older facilities, it can be cost prohibitive to close down and disassemble a substation, just to install a bladder system that could run many more thousands of dollars, with the time and labor included. In addition, building cement or using plastic containment walls around a substation or a piece of equipment would only act as a surface pool and is not a recommended solution due to having to process the held rainwater in some manner. The other issue with a bladder or any tub device, is that the surface water that is diverted into any storage tank or oil water separator, also has to be inspected and maintained. This is simply adding additional expense again, especially if it is a holding tank, because every time it rains someone has to go out and visually check the tank for oil sheen and then **pump** out or **release** the water...more labor!



Over the last several years, there have been many engineers and engineering consulting firms who have looked into other forms of containment and diversionary methods. Some of those included using gravel alone as a method, i.e., EPRI's "Moses Plan". This means, those substations that are questionable will merely submit a plan stating that the sand depth along with the gravel depth is adequate diversion. This is because it is estimated that the gravel has a 30% **Absorbent** (superficial) capability and along with the sand is enough space to divert the spill long enough until a clean-up crew or clean-up company can respond to the incident. In many cases though, this is not a practical solution to spills or leaks because the plan may call for a lot more gravel and still doesn't answer the **25 year, 24 hour rain scenario**. In addition, **remediation of the land** will then be another procedure that will have to take place...again, simply more labor and expense!

Another means used for addressing the SPCC compliance issues have been use of **Absorbent Materials**. However, as many utilities have discovered, these traditional absorbents tend to become a **coherent mass after they get wet**. The absorbents also tend to bio-degrade while being in a mass, which means that the life expectancy is very limited and costs can thus be just a waste of money. Also, while being in a mass, **water is unable to pass through it**, which can produce new problems and dangers to employees working at a facility.

Since the **SPCC Plans are all about** "keeping oil out of the navigable waters of the United States," the "general commodity" Absorbent Spill Kits are not a compliance answer either. The loose absorbent products in these kits can not be used on "moving water of the United States" **by law** and the accompanying booms and poly pads used to soak up oil on water, would only leach the oil back out once retrieved, thus creating additional labor and expense. These commodity kits are best suited for use on small land or shop spills.

## C.I. Agent Solutions

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Please visit our web site at [www.ciagent.com](http://www.ciagent.com) for additional information, demonstrations and photos of hundreds of Electric Utilities applications for Secondary Containment and Diversion methods...from Retrofits of Old to New Installations of T & D substation projects, to other projects, such as, Pad Mounts, or Hydrocarbon Flow Filters needed for existing contained areas. C. I. Agent products can totally eliminate labor intensive installs, expensive O&M where rain water would have to be processed. See how the installations process takes place and learn just how simple and cost-effective these methods are as compared to the alternative methods.