I discovered these facts by visiting each ESG and checking all areas of the site. These ESG sites represented a very large and critical Company asset that was not being managed correctly.

The weekly reports I sent to my boss kept him informed and updated on my progress. I had to be careful while preparing the reports to avoid being critical or judgmental in reporting the facts.

I found it hard to blame the maintenance people for not properly maintaining the ESGs when they did not have appropriately trained personnel. Also, several generator sets were not properly designed or outfitted for their environment.

Several generators had to be replaced because the manufacturer had installed batteries on top of the generator. When the batteries were overfilled and then charged, the electrolyte bubbled out of the batteries and ran into the generators, shortening the insulation on the field windings and armatures.

Some engines were not designed for a harsh desert environment, and sand was pulled through the air filters into the engines and destroyed. Wrong designs for the application and inadequate maintenance added considerably to ESG problems.

The situation with the ESGs did not happen overnight. The generators were added haphazardly over the years as the Company expanded.

Every time the Company went through an expansion period and added new facilities, a generator set was purchased almost as an afterthought. That's how I counted 17 engine manufacturers, 21 generator manufacturers, and fifteen automatic transfer switch manufacturers. Few people in the US have ever heard of a Yamar diesel engine.