

The
Broadcasters' Desktop Resource
www.theBDR.net ... edited by Barry Mishkind – the Eclectic Engineer

Broadcast Operations

Detailed Logs Will Save the Day



By Gary Peterson

[December 2017] Since deregulation, today's Station Logs are but a shadow of what used to be the norm. Aside from EAS activity and tower light checks, not much is required – and many stations take advantage of that, logging virtually nothing at all. But that, as Gary Peterson shows, would be a mistake.

Many station employees see the station logs as a pain in the neck. Daily, repetitive entries that mean nothing to them. So, all too often, they either ignore the logs or just copy other entries.

Fortunately, I always taught my staff not to get into that habit. And it has paid off well for us over the years.

PRESUMED GUILTY

Early in my career, back in the 1960s, our Top-40 AM received an Official Notice of Violation (NOV) from the FCC monitoring station in Grand Island, NE.

Apparently, one of the FCC's monitoring trucks had been in our area.

The NOV is one of those notices from the FCC which comes with the requirement for a written response in duplicate or triplicate within ten days.

Needless to say, the licensee/owner/GM was very upset. As the Chief Engineer, the job of responding to the NOV fell into my lap.

THE SEARCH FOR ANSWERS

The station had been cited for "100% negative modulation peaks of frequent recurrence," or something close to that wording.

However, I honestly found it very difficult to believe that we had been over-modulating. For one thing, I just have never been one to push things that close to the edge.

Before making any adjustments, I monitored our modulation for several hours with an oscilloscope rigged for a trapezoidal display. During that time, I did not observe a single instance of carrier pinch-off. Our General Radio modulation monitor appeared to be reading correctly.

At first, it seemed like I would not have a good answer for the FCC.

HOW A GOOD LOG HELPS

For whatever reason, I pulled the transmitter log for the date upon which the violation occurred.

Fortunately for me, the answer was right there in the remarks section. At almost the same time the notice of violation specified, the DJ/operator noted a "severe thunderstorm in progress" – and that the transmitter was "hiccupping."

That rang the bell. During electrical storms, I have often observed that the johnny balls in the guy wires would flash over, producing an audible popping noise.

PUTTING 2+2 TOGETHER

The main transmitter at this particular station was a Gates BC-5H with a special VSWR protection circuit.

This particular circuit would briefly interrupt the drive to the PA if the VSWR exceeded a preset value. This would tend to extinguish any arc that might have developed downstream from the transmitter output.

As I considered the facts at hand, I remembered having heard the relay in the VSWR circuit chatter during storms, making a noise not unlike a telegraph sounder. And each time the protective relay operated, carrier pinch-off would certainly be observed.

A GOOD RESOLUTION

All of the above facts and observations were included in my reply to the monitoring station.

Within a couple of days, I received a telephone call from John McKinney, who was the EIC (Engineer-in-Chief). He was extremely cordial and thanked me for my explanation and told me that our Notice of Violation was rescinded.

Furthermore, he told me that his field engineers had now been instructed to avoid making AM modulation measurements whenever electrical storms were nearby.

(A dozen years ago, I bumped into Mr. McKinney (WØAP) on the amateur bands. By then, he was retired and we had a wonderful chat about his years with the Commission and the above-mentioned over-modulation incident. Unfortunately, this gentleman is now a silent key.)

BUILDING A USEFUL PAPER TRAIL

Of course, not everything needs to be logged. In fact, most people will tell you absolutely not to log anything that is not required.

And that is good advice: too much information can be an invitation for a Field Agent to look further, perhaps leading to a citation for something he might never have thought about.

On the other hand, an intelligent approach to station operations clearly can result in benefits. The attention to detail by the DJ who took the time to note the weather conditions on the transmitter log turned a very stressful situation completely around. He received my praise in the presence of the licensee and the other employees – and, yes, I bought him a couple of beers and lunch.

THE RIGHT BALANCE

Perhaps the right balance is to keep the Station Log carefully, but maintain an additional log. Call it the Exceptions Log or Events Log or something.

The idea is to have that additional information, not as a part of the official Station Log, but available to help you troubleshoot any of the myriad issues that come up in the life of a radio station. To this day, with the cooperation of management, the operators at that station continue to keep auxiliary paper logs, including meter readings at least once per shift.

On each sheet there was a large section for remarks, and the announcers were encouraged to note any abnormalities. Indeed, our DJs often would let me know about unusual trends before any of the remote control limits – resulting in alarms – were crossed.

The log sheets for each station in the five-station cluster were printed on different colors of paper. This served the dual purpose of keeping them from getting lost in the paperwork shuffle (in spite of there being a clipboard provided for log sheets) and made for quick sorting when they arrived in my mail slot.

During our last FCC inspection, the field agent requested meter readings from a couple of our operators. Because of the above regimen, this was performed quickly and competently.

MAINTENANCE LOGS, TOO

I always kept a log book at each site, Those log books were simple laboratory notebooks that I purchased at a local college book store. The pages were numbered and bound.

Each book contains a chronological, technical history of its site. This may include details on when antennas (and their heights) have been added to or removed from the tower, feed line lengths, utility meter readings, dates and hour meter readings for each PA tube change, remote meter calibrations, quarterly tower lighting equipment inspections, telco circuit numbers, generator maintenance, transmitter problems and repairs, etc.

Without such log books, information at many stations tends to end up on scattered scraps of paper. I preferred the bound-style lab notebooks because, over time, pages in three-ring binders tend to come loose if stick-on reinforcements are not used. Also, many of the laboratory notebooks incorporate gridded paper, which is very useful for neatly entering tabular data or a graph. If the entries are made with permanent ink, the data will be readily retrievable in twenty years.

OK, IT DOES NOT HAVE TO BE PAPER

Of course, in the computer age, it is possible to build an ongoing document or spreadsheet file that contains the complete history of a facility.

With cut-and-paste, information can be extracted easily for specialized reports, to focus on one transmitter – or some other piece of equipment. If you decide to use such a system, it is important to remember to protect it against catastrophic data loss via disk crash. The primary file should be printed and saved as you go, along with making regular backups.

As you can see, logs can be your friend, whether saving you from a fine, pinpointing potential problems, or just being more efficient in maintenance practices. Personally, I have lost count of the number of times that I have thought "Boy! I'm sure glad I wrote that down and was able to find it."



You too will likely find that developing a similar logging policy may well save your bacon a time or three.

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