

OPEN

SEN-88-000

The Preamble Nobody Read

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An unlisted entry. For six years the receiver at LOWFIELD reported a fault in a field no operator was required to look at, and every operator was correct not to look.

HOW YOU GOT HERE

You read a response header. Nothing on the page told you to, and nothing about the page changes if you do not. You looked at what the machine says about itself rather than at what it was asked to say.

That habit is the subject of this memorandum, which is why it is filed behind it.

THE DOCUMENT

Between 1982 and 1988 the primary receiver at Station LOWFIELD prefixed every recorded block with a fourteen-byte status preamble. The preamble was a convenience of the recording format. It held the instrument serial, a timestamp, a gain setting, and two bytes described in the manual only as reserved.

No analysis procedure read the preamble. Every procedure began at the first sample of data, because the preamble was not data. This was correct. It was written down as correct in the station handbook, and it was reviewed twice and confirmed as correct both times.

In February 1988 an operator on the eleventh week of a rotation -- see SEN-22-018 for why that detail matters -- was waiting for a tape to finish and read the preamble by hand, one block at a time, because there was nothing else to do.

The two reserved bytes were not reserved. The receiver had been writing a

running fault counter into them since installation. It read 4,417.

WHAT THE COUNTER MEANT

The counter incremented whenever the receiver's internal reference disagreed with the station clock by more than a set threshold and silently resampled to compensate. The compensation was correct and the data were not wrong. But the disagreements were not evenly distributed, and their distribution is the subject of SEN-81-017, which had by then been open for seven years without an explanation.

Six years of a measurement we wanted existed in a field we had formally decided not to look at.

THE FINDING THAT IS NOT ABOUT THE RECEIVER

The Directorate's review did not spend long on the instrument. It spent its length on the handbook, and specifically on the sentence that had been reviewed twice:

Analysis begins at the first data sample. The block preamble is metadata and is not to be treated as observation.

Every word of that is defensible. It is also the reason the counter sat unread for six years. The review's conclusion was that a procedure which tells you where to start reading is also, unavoidably, a procedure that tells you where to stop, and that the second half is never written down or reviewed with the same care as the first.

The recommendation was not to read every preamble. It was to record, once a year, a list of the fields the institution has decided not to look at, and to publish that list. The list is longer than anyone expected and is maintained to this day.

The instrument was not hiding anything. It had been telling us, in the only field it had available, on every block, for six years. We had agreed in advance that the sentence was not addressed to us.

-- [REDACTED], Directorate III

WHY IT IS UNLISTED

Because a document about a field nobody reads should be filed in a place nobody looks. There are two others after this one, and they get quieter.

The next is written where a page speaks to no one.

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