



VALD ENGINEERING · FIELD NOTES · No. 2

Off By One Slot, Three Panels Out of Four

The I/O lists were right. The drawings were right. Joining them without checking would have landed every point one slot wrong.

THE SETUP

A migration design package for a set of sibling control panels arrived in two halves: I/O list spreadsheets defining every point, and panel drawings defining every terminal. Each half was internally consistent. The natural next step - the step every schedule builder takes - is to join them: spreadsheet row to drawing terminal, by slot and point number.

THE CONTRADICTION

Reconstructing both halves into one governed model surfaced the trap: on most of the sibling panels, the spreadsheets numbered their slots offset by one relative to the drawings. Only one panel of the set was drawing-aligned. Nothing in either document said so. Every panel looked like every other panel, and both halves of the package were "correct" - they just disagreed about what slot one meant.

THE RESOLUTION

Exact-match cross-referencing of field device tags between the two halves detected and calibrated the offset panel by panel - the alignment that produced matched tags was decisive on every panel, and the assembled schedule carries a validation column so any row that did not reconcile says so on its face. A crew working a hand-joined schedule would have terminated every point one slot off on most of the panels, and the errors would have surfaced one loop check at a time, during the outage.

THE LESSON

Two internally consistent documents can still contradict each other, and the contradiction lives in exactly the join nobody documents. Migration engineering that treats document assembly as clerical work schedules that discovery for cutover day. Reconcile the join, prove it with the plants own tags, and make the validation visible in the deliverable.

Findings drawn from LEITARI(TM)-governed migration engineering. Client and facility identifiers withheld; panel counts and quantities altered to prevent identification. The failure mode, the method, and the outcome are as found.