

"In November 1958, USAEMSA approved the radiacmeters on the basis of tests from the initial production run. As a result of these tests USAEMSA engineers recommended, however, that the calibration accuracy measurement be revised to plus or minus 15 percent rather than to plus or minus 10 percent required by the military specification, but no changes were made to the specifications at this time.

"Further, USAEMSA accepted the preproduction and the initial production run models without submitting the test results to the using organization or subjecting the units to actual field-use conditions, although USCONARC had previously advised USAEMSA that actual field use increased the inaccuracies of the radiacmeters.

*"Subsequent contracts awarded before original deficiencies corrected*

"In February 1959, or at least 3 months after production had started, USCONARC obtained some radiacmeters produced under the first contract for further testing. One year later, in February 1960, USCONARC reported that its tests showed that they were still unsuitable for Army use. Inaccurate readings as much as plus 67 percent were recorded during these tests. These were the same type of deficiencies as those reported in the May 1957 tests of the experimental models. In its report of February 1960, in which it stated that no priority had been assigned to this project, USCONARC recommended that production of the radiacmeters be halted until the deficiencies could be corrected. However, prior to receiving this report, the Army accepted all the 10,800 radiacmeters under the first contract and, in the meantime, awarded two additional production contracts for 24,834 radiacmeters IM-10S/PD and accepted 7,155 radiacmeters under the second contract.

"Notwithstanding the length of time it took USCONARC to test the radiacmeters, USAEMSA should have been aware that the radiacmeters being produced were not acceptable for Army use. The records show that, in August 1959, an electronic engineer for USAEMSA visited the contractor's plant to investigate deficiencies noted in unsatisfactory equipment reports received from field personnel. During his visit the engineer simulated a limited field test by attaching several radiacmeters to his station wagon. During this test, among other deficiencies, the instruments deteriorated in calibration accuracy and did not come within the plus or minus 10 percent accuracy required in the military specifications. The calibration inaccuracy was attributable to the type of electrometer tube being used in the instrument. The test disclosed that when the tube was jarred its filament was adversely affected. The electronic engineer stated that this defect was a serious problem to which there seemed to be no immediate solution. However, no action was taken at this time to halt production until the defect had been corrected.

"About May 15, 1960, the United States Army Electronics Materiel Support Agency began an investigation to determine the cause of the radiacmeter deficiencies noted in the USCONARC test report. They found that the batteries used in the radiacmeters had an unusual drop in the voltage level after limited usage which caused the inaccurate readings. At this time the contractor was advised to withhold production until further notice, and USAEMSA determined that a modification was required to provide greater stability of the voltage level of the batteries. This modification was made, and on May 25, 1960, five modified radiacmeters were delivered to USCONARC for retest.

"USCONARC retested the modified radiacmeters simultaneously with some unmodified radiacmeters produced under the second contract. All those tested were again found to be unsuitable for Army use, due principally to inaccurate readings. In July 1960, USCONARC concluded that the modified radiacmeters may be suitable for use if the discrepancies were corrected. USCONARC again recommended to the United States Army Electronics Materiel Support Agency (USAEMSA) that, after deficiencies in the radiacmeters were corrected, they be submitted for retesting.

"In August 1960, because the idle production lien costs were increasing under the second production contract, USCONARC agreed to the resumption of production, based on the contractor's description of how the deficiencies could be corrected in production. Records at the Electronics Materiel Agency show that, after production was resumed, the remaining 5,662 units under the second production contract and 1,300 units under the third production contract were ac-