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## **The evaluation of parameters affecting accidents in companies using industrial radioactive sources in Iran**

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### **Abstract**

More than 1000 radiation workers are engaged in about 70 private industrial radiography companies (IRCs) using 312 mobile gamma radiography devices (GRDs) in Iran. These companies mainly carry out radiography in open areas using <sup>192</sup>Ir radioactive sources, ranging from 0.07 to 3 TBq (2–80 Ci). The radiation accidents that occurred in these companies led to acute radiation syndrome in 13 workers and overexposure of 36 workers since 1998. The facilities and operating procedures of the Iranian private IRCs have been investigated during the past 5 y. According to this study, in spite of the fact that most of the accidents were found to be due to the failure of critical components of GRDs, the main parameters affecting overexposures and deterministic effects were found to be incorrect or there was insufficient implementation of the monitoring programme, training and local rules in the IRCs.

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