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PAPER TITLE **LONG LIVED, LOW LEVEL RADWASE FORECAST IN SAUDI ARABIA**

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ABSTRACT (See instructions overleaf)

## LONG LIVED, LOW LEVEL RADWASE FORECAST IN SAUDI ARABIA

Samir Abdul-Majid, Ibrahim Kutbi and Abdullah Al-Marshad

Most of the open type radwastes are generated in medical and educational centers in Saudi Arabia; their total numbers are about 15 and 5 respectively, while sealed spent sources are coming from industry. The volume of long lived radwaste was estimated up to the year 2020 for the proper, design of interim storage and radwaste treatments and conditioning facilities purposes. It was anticipated that two main parameters affect the increase in radwaste in the future. The first is the increase of radionuclides use in hospitals in diagnostisis and therapy in the country. The extrapolation of the increase of $^{99m}Tc$-$^{99}Mo$ generators over the last few years was used as a growth indicator for this parameter. The second is the increase in population which should be associated with increase in medical services in general. The population is expected to increase about 1.8 times in the year 2020. The annual, long lived waste, that need treatment, conditioning and storage as a function of time is expected to follow the relation, $V = 10 + 0.048t^2$, where V is the waste volume in $m^3$ and t is the time in years after 1995. The radwaste production rate is expected to be 4 time its current value in 2020. The expected long lived cumulative treated, conditioned and liquid wastes, in that year, if not subject to volume reduction, in $m^3$ will be: 500, 75 and 100 respectively. Comparisons were made with IAEP waste volume expectations for countries of similar conditions; the results were in reasonable agreement.