1010-13-23 **Ayman R Badawi*** (abadawi@ausharjah.edu), American Univ. of Sharjah, Dept. of Math., P.O. Box 26666, 00000 Sharjah, United Arab Emirates, and **Ali Jaballah**, Univ. of Sharjah, United Arab Emirates. *Some finiteness conditions on the set of overrings of a ϕ-ring.* Preliminary report.

Let $\mathcal{H} = \{R \mid R$ is a commutative ring and $Nil(R)$ is a divided prime ideal of $R\}$. For a ring $R \in \mathcal{H}$ with total quotient ring $T(R)$, the map $\phi : T(R) \longrightarrow R_{Nil(R)}$ such that $\phi(a/b) = a/b$ for $a \in R$ and a non-zerodivisor b of R is a ring homomorphism from $T(R)$ into $R_{Nil(R)}$, and ϕ restricted to R is also a ring homomorphism from R into $R_{Nil(R)}$ given by $\phi(x) = x/1$ for every $x \in R$. An integral domain R is said to be an FC-domain (in the sense of Jaballah anf Gilmer) if each chain of distinct overrings of R is finite, and R is called an FO-domain if R has finitely many overrings. A ring R is called an *FC-ring* if each chain of distinct overrings of R is finite, and R is said to be an *FO-ring* if R has finitely many overrings. A ring $R \in \mathcal{H}$ is said to be a ϕ-FC-ring if $\phi(R)$ is an FC-ring, and R is called a ϕ-FO-ring if $\phi(R)$ is an FO-ring. In this paper, we show that the theory of ϕ-FC-rings and ϕ-FO-rings resembles that of FC-domains and FO-domains. (Received July 06, 2005)