Let $R$ be a commutative ring with identity and $(\Gamma, \leq)$ a strictly ordered monoid. We denote by $[R_{\Gamma, \leq}]$ the set of all mappings $f : \Gamma \to R$ such that $\text{supp}(f) := \{\alpha \in \Gamma | f(\alpha) \neq 0\}$ is an artinian and narrow subset of $\Gamma$. With pointwise addition, $[R_{\Gamma, \leq}]$ is an (additive) abelian group. Moreover, for every $\alpha \in \Gamma$ and $f, g \in [R_{\Gamma, \leq}]$, the set $X_\alpha(f, g) := \{ (\beta, \gamma) \in \Gamma \times \Gamma | \alpha = \beta + \gamma, f(\beta) \neq 0, \text{ and } g(\gamma) \neq 0 \}$ is finite; so this allows to define the operation of \textit{convolution}:

$$(fg)(\alpha) = \sum_{(\beta, \gamma) \in X_\alpha(f, g)} f(\beta)g(\gamma).$$

Then $[R_{\Gamma, \leq}]$ is a commutative ring (under these operations) with unit element $e$, namely $e(0) = 1$ and $e(\alpha) = 0$ for all $\alpha \in \Gamma^*$, which is called the \textit{ring of generalized power series} of $\Gamma$ over $R$, which is first introduced by P.Ribenboim.

Let $D \subseteq E$ be an extension of commutative rings with identity, $I$ a nonzero proper ideal of $D$, $(\Gamma, \leq)$ a strictly ordered monoid, and $\Gamma^* = \Gamma \setminus \{0\}$. Set $D + [E_{\Gamma^*, \leq}] = \{ f \in [E_{\Gamma, \leq}] | f(0) \in D \}$ and $D + [I_{\Gamma^*, \leq}] = \{ f \in [D_{\Gamma^*, \leq}] | f(\alpha) \in I \text{ for all } \alpha \in \Gamma^* \}$. Then $D \subseteq D + [I_{\Gamma^*, \leq}] \subseteq [D_{\Gamma^*, \leq}] \subseteq D + [E_{\Gamma^*, \leq}] \subseteq [E_{\Gamma, \leq}]$.

In this talk, we give some conditions for the rings $D + [E_{\Gamma^*, \leq}]$ and $D + [I_{\Gamma^*, \leq}]$ to satisfy the ascending chain condition on principal ideals (ACCP) or Noetherian.