non units in HCF domains and will investigate the structure of those HCF domains in which every non zero non unit element is expressible as the product of a finite number of mutually co-prime rigid non units and these domains we shall call Semirigid Domains.

This chapter consists of only two sections. In the first section we formally define a rigid element and discuss its properties in an HCF domain, while in the second section we introduce the concept of a semirigid element - the product of a finite number of mutually co-prime rigid non units and prove that if in an HCF domain an element can be expressed as the product of a finite number of mutually co-prime rigid non units then this factorization is unique up to associates of the rigid non units and up to order. And from this we derive the definition of a Semirigid Domain. Moreover in the same section we give, what may be called the local characterization of a Semirigid Domain, in the form of Theorem 2, which eventually induces the definition of another generalization of Krull domains.

1. Preliminary Definitions and Basic Results.

Definition 1. A non zero element r in a commutative integral domain R is said to be rigid if for every $u,v|r$; $u|v$ or $v|u$.

From the definition it follows immediately that every factor of a rigid non unit is also rigid . We proceed to investigate the properties of rigid non units in an HCF domain and prove the

Lemma 1. In an HCF domain R the following are valid.

(1) Let r,s be any two non co-prime rigid non units of R, then $r|s$ or $s|r$.