

Table 10

SQL Data Control Language (DCL) Expanded Construct Set

DCL Constructs	Justification
Views	While the minimum construct set promotes a basic level of understanding, expanded instruction should place greater emphasis on view construction as a control measure.
Transaction controls	Transaction-level controls to ensure data integrity.
<ul style="list-style-type: none">• COMMIT and ROLLBACK	Commits instruct the database to permanently write changes. If a transaction is not committed and a system error occurs (e.g., loss of power), it will be lost. Also, prior to a commit, a transaction can be rolled back (undone). These features allow the user to control the effect transactions have on data integrity and recovery.
<ul style="list-style-type: none">• BEGIN and END	An advanced technique, a transaction block is an atomic wrapper telling the database that all of the enclosed SQL must successfully execute or the effects must be rolled back. This technique is another essential tool for data integrity.
<ul style="list-style-type: none">• CHECKPOINT	Checkpoints flush all data files to disk without waiting for a regularly scheduled event. This control is an explicit call to “save” the data yet to be transferred from temporary space to the disk. It ensures the integrity of the data up to that point in case of system failure.