*** Create a table with a PK policed initially by a Unique index and insert a row

```
SQL> CREATE TABLE redo_test (id NUMBER, value VARCHAR2(100) PRIMARY KEY);

Table created.


SQL> INSERT INTO redo_test VALUES (1,
'12345678901234567890123456789012345678901234567890123456789012345678901234
56789012345678901234567890');

1 row created.

SQL> COMMIT;

Commit complete.
```

*** In one session, run the following SQL (where sid = sid of other session) before the INSERT statement is run in the other session:

*** NOTE: Some additional rows not of interest have been removed from those displayed

```
SQL> select n.name, s.value from v$sesstat s, v$statname n where
s.statistic# = n.statistic# and n.name like '%do%' and value <> 0 and
s.sid=144;

NAME                                                                  VALUE
---------------------------------------------------------------- ----------
redo entries                                                           4563
redo size                                                          32299592
undo change vector size                                               42144
rollback changes - undo records applied                                  15
IMU undo allocation size                                               9996
IMU Redo allocation size                                              13176
```

*** In the another session, run the following INSERT to cause a violation of the Primary Key:

```
SQL> INSERT INTO redo_test VALUES (1,
'12345678901234567890123456789012345678901234567890123456789012345678901234
56789012345678901234567890');
INSERT INTO redo_test VALUES (1,
'12345678901234567890123456789012345678901234567890123456789012345678901234
56789012345678901234567890')
*
ERROR at line 1:
ORA-00001: unique constraint (BOWIE.SYS_C0048291) violated
```

*** Back in the first session, run the select again. Note the figures in () represent the differences in values between the select statements

```
NAME                                                                  VALUE
---------------------------------------------------------------- ----------
redo entries                                                           4567
(4)
redo size                                                          32300380
(788)
undo change vector size                                               42248
(104)
rollback changes - undo records applied                                  16
(1)
IMU undo allocation size                                              10364
(368)
IMU Redo allocation size                                              13672
(496)
```

*** Note specifically that redo entries has increased by 4 and redo size has increased by 788.

*** Now repeat demo again, this time with the PK using a non-unique index.

```
SQL> DROP TABLE redo_test;

Table dropped.

SQL> CREATE TABLE redo_test (id NUMBER, value VARCHAR2(100) PRIMARY KEY
USING INDEX (CREATE INDEX redo_test_i ON redo_test(value)));

Table created.

SQL> INSERT INTO redo_test VALUES (1,
'1234567890123456789012345678901234567890123456789012345678901234
5678901234567890123456789012345678901234567890');

1 row created.

SQL> COMMIT;

Commit complete.
```

**** In one session, run the following (where sid = sid of other session):

```
SQL> select n.name, s.value from v$sesstat s, v$statname n where
s.statistic# = n.statistic# and n.name like '%do%' and value <> 0 and
s.sid=144;

NAME                                                                  VALUE
---------------------------------------------------------------- ----------
redo entries                                                           4687
redo size                                                          32330364
undo change vector size                                               50524
```

```
rollback changes - undo records applied                                  16
IMU undo allocation size                                              11140
IMU Redo allocation size                                              13672
```

*** In the another session, run the following INSERT to again cause a violation of the Primary Key:

```
SQL> INSERT INTO redo_test VALUES (1,
'123456789012345678901234567890123456789012345678901234567890123456789012345
67890123456789012345678901234567890');
INSERT INTO redo_test VALUES (1,
'123456789012345678901234567890123456789012345678901234567890123456789012345
6789012345678901234567890')
*
ERROR at line 1:
ORA-00001: unique constraint (BOWIE.SYS_C0048291) violated
```

*** Back in the first session, run the select again.

*** Note the figures in the first () represent the differences in values between the select statements.

*** The figures in the second () represent the differences between the Unique and Non-Unique index

```
NAME                                                                  VALUE
---------------------------------------------------------------- ----------
redo entries                                                           4695
(8)        (4)
redo size                                                          32333044
(2680)     (1892)
undo change vector size                                               51340
(816)      (712)
rollback changes - undo records applied                                  21
(5)        (4)
IMU undo allocation size                                              13140
(2000)     (1632)
IMU Redo allocation size                                              15508
(1836)     (1340)
```

*** Note specifically that redo entries has increased by 8 (not 4) and redo size has increased by 2680 (not 788).

*** Note also that costs associated with undo have also increased from the first run with the Unique PK