

How to -- Compliance counts for IRP

IRP SAMPLE CODE:

Assign FleetID's -- the IRP documentation indicates that the combination of two fields (as shown below) represents a unique fleet.

```
ALTER TABLE trucks_reg2013b.irptonov2013_allvehtypes ADD FLEETID
VARCHAR(25);
UPDATE trucks_reg2013b.irptonov2013_allvehtypes SET FLEETID =
CONCAT(ACCT,"_",FLEET);
```

Create table that only includes trucks:

```
CREATE TABLE trucks_reg2013b.irptonov2013_trucks as
SELECT * FROM trucks_reg2013b.irptonov2013_allvehtypes
WHERE (TYPE="TT" OR TYPE="TR" OR TYPE="TK" OR TYPE="WK" OR
TYPE="RT");
```

Remove out-of-the US based trucks:

```
DELETE FROM trucks_reg2013b.irptonov2013_trucks WHERE BASE="AB" OR
BASE="BC" OR BASE="NL" OR BASE="NS" OR BASE="ON" OR BASE="PE" OR
BASE="QC" OR BASE="SK";
```

NOTE: Set Primary Key on Table for VIN

Identify fleet's with any CA addresses per VIN:

```
CREATE TABLE trucks_reg2013b.irp_fleet_CAmalstate as
SELECT FLEETID, MAIL_STATE FROM `trucks_reg2013b`.`irptonov2013_trucks`
WHERE MAIL_STATE="CA" GROUP BY FLEETID, MAIL_STATE;
```

NOTE: Set Primary Key on Table for FLEETID

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CA_fleet_addr
VARCHAR(2);
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
LEFT JOIN trucks_reg2013b.irp_fleet_CAmalstate as T2
ON (T1.FLEETID=T2.FLEETID)
SET T1.CA_fleet_addr =T2.MAIL_STATE;
```

Assign IRP Fleet Types (OOS=out of state):

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD FleetGroup VARCHAR(25);
UPDATE trucks_reg2013b.irptonov2013_trucks SET FleetGroup="IRP_OOS"
```

```
WHERE BASE <>"CA";
UPDATE trucks_reg2013b.irptonov2013_trucks SET FleetGroup="IRP_OOS_CA_Addr"
WHERE CA_fleet_addr="CA" AND BASE <>"CA";
UPDATE trucks_reg2013b.irptonov2013_trucks SET FleetGroup="InState_IRP"
WHERE BASE="CA";
```

Assign Vehicle Class:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CLASS VARCHAR(25);
UPDATE trucks_reg2013b.irptonov2013_trucks SET CLASS="T7"
WHERE GVWR>33000;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CLASS="T6above26k"
WHERE GVWR>26000 and GVWR<33001;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CLASS="T6below26k"
WHERE GVWR<26001;
```

Assign Model Year Groups:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD MYgroup VARCHAR(25);
UPDATE trucks_reg2013b.irptonov2013_trucks SET MYgroup="OverMY2007"
WHERE MY>2007;
UPDATE trucks_reg2013b.irptonov2013_trucks SET MYgroup="MY1997toMY2007"
WHERE MY>1996 AND MY<2008;
UPDATE trucks_reg2013b.irptonov2013_trucks SET MYgroup="MY1995toMY1996"
WHERE MY=1995 OR MY=1996;
UPDATE trucks_reg2013b.irptonov2013_trucks SET MYgroup="LessthanMY1995"
WHERE MY<1995;
```

Assign OEM flag for MY2008+ vehicles with pre-installed PM filters:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD OEM_flag INT(1);
UPDATE trucks_reg2013b.irptonov2013_trucks SET OEM_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET OEM_flag=1
WHERE MY>2007;
```

Assign PMretrofit flag for vehicles known to have installed PM retrofit filters:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD PMretrofit_flag INT(1);
UPDATE trucks_reg2013b.irptonov2013_trucks SET PMretrofit_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks AS T1
JOIN trucks_reg2013b.pm_retrofit_list_01032014 AS T2 ON T1.VIN = T2.VIN
SET T1.PMretrofit_flag=T2.PMretrofit_flag;
```

Create Fleet table with truck counts:

```
CREATE TABLE trucks_reg2013b.IRP_fleets as
Select FLEETID, count(VIN) as TotalTrucks
FROM trucks_reg2013b.irptonov2013_trucks GROUP BY FLEETID;
NOTE: Set Primary Key on Table for FLEETID
```

Assign fleet size groupings:

```
ALTER TABLE trucks_reg2013b.IRP_fleets ADD FleetSize VARCHAR(15);
UPDATE trucks_reg2013b.IRP_fleets SET FleetSize="1" WHERE TotalTrucks=1;
UPDATE trucks_reg2013b.IRP_fleets SET FleetSize="2" WHERE TotalTrucks=2;
UPDATE trucks_reg2013b.IRP_fleets SET FleetSize="3" WHERE TotalTrucks=3;
UPDATE trucks_reg2013b.IRP_fleets SET FleetSize=">3" WHERE TotalTrucks>3;
```

Update truck table with fleet size groupings from fleet table:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD FleetSize VARCHAR(15);
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
LEFT JOIN trucks_reg2013b.IRP_fleets as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.FleetSize=T2.FleetSize;
```

Add truck counts by Class & MY Groupings to fleet table:

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T7_MYlessthan1995 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T7_MYlessthan1995=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T7" AND MYgroup="LessthanMY1995" GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T7_MYlessthan1995=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6above26k_MYlessthan1995 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6above26k_MYlessthan1995=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6above26k" AND MYgroup="LessthanMY1995"
GROUP BY FLEETID;
```

```
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2
ON (T1.FLEETID=T2.FLEETID)
SET T1.T6above26k_MYlessthan1995=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6below26k_MYlessthan1995 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6below26k_MYlessthan1995=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6below26k" AND MYgroup="LessthanMY1995"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2
ON (T1.FLEETID=T2.FLEETID)
SET T1.T6below26k_MYlessthan1995=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T7_MYGreaterthan2007 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T7_MYGreaterthan2007=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T7" AND MYgroup="GreaterthanMY2007" GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T7_MYGreaterthan2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6above26k_MYGreaterthan2007
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6above26k_MYGreaterthan2007=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6above26k" AND MYgroup="OverMY2007"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
```

```
SET T1.T6above26k_MYGreaterthan2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6below26k_MYGreaterthan2007
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6below26k_MYGreaterthan2007=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6below26k" AND MYgroup="OverMY2007"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T6below26k_MYGreaterthan2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T7_MY1995toMY1996 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T7_MY1995toMY1996=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T7" AND MYgroup="MY1995toMY1996" GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T7_MY1995toMY1996=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6above26k_MY1995toMY1996
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6above26k_MY1995toMY1996=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6above26k" AND MYgroup="MY1995toMY1996"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T6above26k_MY1995toMY1996=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6below26k_MY1995toMY1996
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6below26k_MY1995toMY1996=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6below26k" AND MYgroup="MY1995toMY1996"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T6below26k_MY1995toMY1996=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T7_MY1997toMY2007 INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T7_MY1997toMY2007=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T7" AND MYgroup="MY1997toMY2007" GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T7_MY1997toMY2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6above26k_MY1997toMY2007
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6above26k_MY1997toMY2007=0;
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6above26k" AND MYgroup="MY1997toMY2007"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T6above26k_MY1997toMY2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD T6below26k_MY1997toMY2007
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET T6below26k_MY1997toMY2007=0;
```

```
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, COUNT(VIN) AS COUNTS
FROM trucks_reg2013b.irptonov2013_trucks
WHERE CLASS="T6below26k" AND MYgroup="MY1997toMY2007"
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.T6below26k_MY1997toMY2007=T2.COUNTS;
DROP TABLE trucks_reg2013b.irp_temp;
```

SET FLAG VARIABLES (0 or 1 for counts) & Initialize to zero;

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CY2014_Retrofit_Flag
DECIMAL(10,4);
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CY2015_Retrofit_Flag
DECIMAL(10,4);
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CY2016_Retrofit_Flag
DECIMAL(10,4);
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CY2015_Replace_Flag
DECIMAL(10,4);
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD CY2016_Replace_Flag
DECIMAL(10,4);
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Retrofit_Flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Replace_Flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Replace_Flag=0;
```

T6<=26k- IRP

Compliance Logic = no retrofits, replace <MY1997 in CY2015 & replace MY1997 in CY2016 (IRP excluding OOS with no CA address).

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Replace_Flag =1
WHERE CLASS="T6below26k" AND MY<1997 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr") AND PMretrofit_flag=0;
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Replace_Flag =1
WHERE CLASS="T6below26k" AND MY=1997 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr") AND PMretrofit_flag=0;
```

>26k 1-Truck Fleets IRP

Compliance Logic = Retrofit MY1997-2007 in CY2014 if not already retrofit, Replace <MY1995 in CY2015, & replace MY1995-1996 in CY2016 (excluding out of state that has no CA address).

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="1" AND MY>1996
AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr") AND PMretrofit_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Replace_Flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="1" AND MY<1995
AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr") AND PMretrofit_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Replace_Flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="1" AND (MY=1995
OR MY=1996) AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr") AND PMretrofit_flag=0;
```

>26k 2-Truck Fleets IRP – precalc's needed

Need to first set up filter counts by needed groupings:

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD over26kMY1997to2007_flag
INT(10);
UPDATE trucks_reg2013b.irptonov2013_trucks SET over26kMY1997to2007_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks
SET over26kMY1997to2007_flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND MY>1996 AND MY<2008;
```

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD
over26kMY1997to2007retrofit_flag INT(10);
UPDATE trucks_reg2013b.irptonov2013_trucks
SET over26kMY1997to2007retrofit_flag=0;
UPDATE trucks_reg2013b.irptonov2013_trucks
SET over26kMY1997to2007retrofit_flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND PMretrofit_flag=1
AND MY>1996 AND MY <2008;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD OEM_Filters INT(10);
ALTER TABLE trucks_reg2013b.irp_fleets ADD PM_Retrofits INT(10);
UPDATE trucks_reg2013b.irp_fleets SET OEM_Filters=0;
```



```
UPDATE trucks_reg2013b.irp_fleets SET PM_Retrofits=0;
CREATE TABLE trucks_reg2013b.irp_temp as
```

```
SELECT FLEETID, sum(OEM_Flag) as OEM_Filters, sum(PMretrofit_flag) as
PM_Retrofits FROM trucks_reg2013b.irptonov2013_trucks GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.OEM_Filters =T2.OEM_Filters;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.PM_Retrofits =T2.PM_Retrofits;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD TotalFilters INT(10);
UPDATE trucks_reg2013b.irp_fleets SET TotalFilters=0;
UPDATE trucks_reg2013b.irp_fleets
SET TotalFilters = OEM_Filters+PM_Retrofits;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD Above26kMY1997to2007Trucks
INT(10);
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007Trucks=0;
UPDATE trucks_reg2013b.irp_fleets SET
Above26kMY1997to2007Trucks=T6above26k_MY1997toMY2007+T7_MY1997toMY20
07;
ALTER TABLE trucks_reg2013b.irp_fleets ADD Above26kMY1997to2007Retrofits
INT(6);
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007Retrofits=0;
```

```
CREATE TABLE trucks_reg2013b.irp_temp as
SELECT FLEETID, sum(PMretrofit_flag) as Above26kMY1997to2007Retrofits
FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND PMretrofit_flag=1
AND MY>1996 AND MY<2008
GROUP BY FLEETID;
UPDATE trucks_reg2013b.irp_fleets as T1
JOIN trucks_reg2013b.irp_temp as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.Above26kMY1997to2007Retrofits =T2.Above26kMY1997to2007Retrofits;
DROP TABLE trucks_reg2013b.irp_temp;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD FleetTotalPctFilters DECIMAL(10,6);
UPDATE trucks_reg2013b.irp_fleets SET FleetTotalPctFilters=0;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD
FleetAbove26kMY1997to2007PctFilters DECIMAL(10,6);
UPDATE trucks_reg2013b.irp_fleets SET FleetAbove26kMY1997to2007PctFilters=0;
ALTER TABLE trucks_reg2013b.irp_fleets ADD Above26kMY1997to2007NORetrofits
INT(6);
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007NORetrofits=0;
```

Calculate fleet % filters:

```
UPDATE trucks_reg2013b.irp_fleets SET FleetTotalPctFilters=TotalFilters/TotalTrucks;
UPDATE trucks_reg2013b.irp_fleets SET FleetAbove26kMY1997to2007PctFilters=
Above26kMY1997to2007Retrofits/Above26kMY1997to2007Trucks;
UPDATE trucks_reg2013b.irp_fleets SET
Above26kMY1997to2007NORetrofits=Above26kMY1997to2007Trucks-
Above26kMY1997to2007Retrofits;
```

>26k 2-Truck Fleets IRP

*Compliance Logic = (excluding out of state that has no CA address),
CY2014 - Must have at least one filter (OEM or retrofit) otherwise need to retrofit one
>26k MY1997to2007 truck, if applicable.
CY2015 - Must have two filters (OEM or retrofit) otherwise need to retrofit one >26k
MY1997to2007 truck, if applicable. Replace MY1995-1996 in CY2016.
No retrofits required for <=26k trucks.*

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD FleetTotalPctFilters
DECIMAL(10,6);
UPDATE trucks_reg2013b.irptonov2013_trucks SET FleetTotalPctFilters=0;
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
JOIN trucks_reg2013b.irp_fleets as T2 ON T1.FLEETID=T2.FLEETID
SET T1.FleetTotalPctFilters=T2.FleetTotalPctFilters;
```

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD
Above26kMY1997to2007NORetrofits INT(6);
UPDATE trucks_reg2013b.irptonov2013_trucks SET
Above26kMY1997to2007NORetrofits =0;
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
JOIN trucks_reg2013b.irp_fleets as T2 ON T1.FLEETID=T2.FLEETID
SET T1.Above26kMY1997to2007NORetrofits
=T2.Above26kMY1997to2007NORetrofits;
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=1
WHERE FleetTotalPctFilters<.5 AND Above26kMY1997to2007NORetrofits=1
AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996
AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=0.5
WHERE FleetTotalPctFilters<.5 AND Above26kMY1997to2007NORetrofits=2
AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996
AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0.5
WHERE FleetTotalPctFilters <.5 AND Above26kMY1997to2007NORetrofits=2 AND
(CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996 AND
MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=1
WHERE FleetTotalPctFilters >=0.5 AND Above26kMY1997to2007NORetrofits=1 AND
(CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996 AND MY
<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Replace_Flag=1
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1994
AND MY<1997 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

>26k 3 Truck Fleets IRP

Compliance Logic = (excluding out of state that has no CA address),

CY2014 - Must have at least one filter (OEM or retrofit) otherwise need to retrofit one >26k MY1997to2007 truck, if applicable.

CY2015 - Must have two filters (OEM or retrofit) otherwise need to retrofit one >26k MY1997to2007 truck, if applicable.

CY2016 - Must have three filters (OEM or retrofit) otherwise need to retrofit one >26k MY1997to2007 truck, if applicable. CY2016 replacements of pre1997MYs depend on number of PM filters at that time which we cannot know yet.

No retrofits required for <=26k trucks.

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=1
```

WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits=1 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=0.5 WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits=2 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0.5 WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits =2 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=0.3333 WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits =3 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0.3333 WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits =3 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Retrofit_Flag=0.3333 WHERE FleetTotalPctFilters<.3 AND Above26kMY1997to2007NORetrofits =3 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=1 WHERE FleetTotalPctFilters>.3 AND FleetTotalPctFilters<.6 AND Above26kMY1997to2007NORetrofits =1 AND (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND

```
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR  
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0.5  
WHERE FleetTotalPctFilters>.3 AND FleetTotalPctFilters<.6 AND  
Above26kMY1997to2007NORetrofits =2 AND (CLASS="T6above26k" OR  
CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND  
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR  
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Retrofit_Flag=0.5  
WHERE FleetTotalPctFilters>.3 AND FleetTotalPctFilters<.6 AND  
Above26kMY1997to2007NORetrofits =2 AND (CLASS="T6above26k" OR  
CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND  
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR  
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Retrofit_Flag=1  
WHERE FleetTotalPctFilters>.6 AND FleetTotalPctFilters<1 AND  
Above26kMY1997to2007NORetrofits =1 AND (CLASS="T6above26k" OR  
CLASS="T7") AND FleetSize="3" AND MY>1996 AND MY<2008 AND  
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR  
FleetGroup="IRP_OOS_CA_Addr");
```

>26k Large >3 Truck Fleets IRP

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2014_Retrofit_Flag=0  
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";  
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Retrofit_Flag=0  
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";  
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Retrofit_Flag=0  
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";  
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2015_Replace_Flag=0  
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";  
UPDATE trucks_reg2013b.irptonov2013_trucks SET CY2016_Replace_Flag=0  
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";
```

Need to insert fleet total truck counts

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD FleetTruckCount INT(10);  
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
```

```
LEFT JOIN trucks_reg2013b.irp_fleets as T2
ON (T1.FLEETID =T2.FLEETID)
SET T1.FleetTruckCount = T2.TotalTrucks;
```

Need to figure out fleet >26kMY1997-2007 truck counts toward 90% in CY2014 & 100% in CY2015

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD Above26kMY1997to2007for90CY2014
INT(10);
```

```
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007for90CY2014=0;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD
```

```
Above26kMY1997to2007for100CY2015 INT(10);
```

```
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007for100CY2015=0;
```

```
UPDATE trucks_reg2013b.irp_fleets SET Above26kMY1997to2007for90CY2014=
Above26kMY1997to2007NORetrofits WHERE Above26kMY1997to2007NORetrofits>0
AND FleetTotalPctFilters<0.9 AND
((TotalFilters+Above26kMY1997to2007NORetrofits)<=(0.9*TotalTrucks));
```

```
UPDATE trucks_reg2013b.irp_fleets
```

```
SET Above26kMY1997to2007for90CY2014=((0.9*TotalTrucks)-TotalFilters)
```

```
WHERE Above26kMY1997to2007NORetrofits>0 AND FleetTotalPctFilters<0.9 AND
(TotalFilters+Above26kMY1997to2007NORetrofits)>(0.9*TotalTrucks);
```

```
UPDATE trucks_reg2013b.irp_fleets
```

```
SET Above26kMY1997to2007for100CY2015= Above26kMY1997to2007NORetrofits-
Above26kMY1997to2007for90CY2014;
```

```
ALTER TABLE trucks_reg2013b.irp_fleets ADD FleetPctFilterCY2015 decimal(12,6);
```

```
UPDATE trucks_reg2013b.irp_fleets SET FleetPctFilterCY2015=0;
```

```
UPDATE trucks_reg2013b.irp_fleets SET FleetPctFilterCY2015=
```

```
((TotalFilters+Above26kMY1997to2007NORetrofits)/TotalTrucks);
```

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD
```

```
Above26kMY1997to2007for90CY2014 INT(6);
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET
```

```
Above26kMY1997to2007for90CY2014=0;
```

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks ADD
```

```
Above26kMY1997to2007for100CY2015 INT(6);
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks SET
Above26kMY1997to2007for100CY2015=0;
```

```
ALTER TABLE trucks_reg2013b.irptonov2013_trucks
ADD FleetPctFilterCY2015 decimal(10,6);
UPDATE trucks_reg2013b.irptonov2013_trucks SET
FleetPctFilterCY2015=0;
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
LEFT JOIN trucks_reg2013b.irp_fleets as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.Above26kMY1997to2007for90CY2014 =
T2.Above26kMY1997to2007for90CY2014;
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
LEFT JOIN trucks_reg2013b.irp_fleets as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.Above26kMY1997to2007for100CY2015 =
T2.Above26kMY1997to2007for100CY2015;
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks as T1
LEFT JOIN trucks_reg2013b.irp_fleets as T2 ON (T1.FLEETID=T2.FLEETID)
SET T1.FleetPctFilterCY2015 = T2.FleetPctFilterCY2015
```

To set compliance flags for counts on >26k trucks in IRP large fleets:

```
UPDATE trucks_reg2013b.irptonov2013_trucks
SET CY2014_Retrofit_Flag=
(Above26kMY1997to2007for90CY2014/Above26kMY1997to2007NORetrofits)
WHERE Above26kMY1997to2007for90CY2014>=1 AND (CLASS="T6above26k" OR
CLASS="T7") AND FleetSize=">3" AND MY>1996 AND MY<2008 AND
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks
SET CY2015_Retrofit_Flag=
(Above26kMY1997to2007for100CY2015/Above26kMY1997to2007NORetrofits)
WHERE Above26kMY1997to2007for100CY2015>=1 AND (CLASS="T6above26k" OR
CLASS="T7") AND FleetSize=">3" AND MY>1996 AND MY<2008 AND
PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks
SET CY2015_Replace_Flag=1
```

```
WHERE FleetPctFilterCY2015<1 AND (CLASS="T6above26k" OR CLASS="T7") AND
FleetSize=">3" AND MY<1995 AND PMretrofit_flag=0
AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");
```

```
UPDATE trucks_reg2013b.irptonov2013_trucks
SET CY2016_Replace_Flag=1
WHERE FleetPctFilterCY2015<1 AND (CLASS="T6above26k" OR CLASS="T7")
AND FleetSize=">3" AND (MY=1995 OR MY=1996)
AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

TO PULL IRP SUMMARY COUNTS:

```
SELECT FleetGroup, FleetSize, MYGroup, CLASS, sum(OEM_flag),
sum(PMretrofit_flag),
sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag), sum(CY2016_retrofit_Flag),
sum(CY2015_Replace_Flag), sum(CY2016_Replace_Flag),
Count(VIN) as TruckCounts FROM trucks_reg2013b.irptonov2013_trucks
GROUP BY FleetGroup, FleetSize, MYGroup, CLASS;
```

VERIFY COUNTS

<26k IRP

```
SELECT sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag),
sum(CY2016_retrofit_Flag), sum(CY2015_Replace_Flag), sum(CY2016_Replace_Flag)
FROM trucks_reg2013b.irptonov2013_trucks WHERE CLASS="T6below26k";
```

0.0000 0.0000 0.0000 **75.0000** **15.0000**

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE MY<1997 AND CLASS="T6below26k"
AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");
```

75

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE MY =1997 AND CLASS="T6below26k" AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

15

>26k 1 Truck Fleets IRP

```
SELECT sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag),
sum(CY2016_retrofit_Flag), sum(CY2015_Replace_Flag), sum(CY2016_Replace_Flag)
FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="1";
```

4817.0000 0.0000 0.0000 216.0000 246.0000

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE MY>1996 AND MY<2008 AND (CLASS="T6above26k" OR CLASS="T7")
AND FleetSize="1" AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

4817

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE MY<1995 AND (CLASS="T6above26k" OR CLASS="T7")
AND FleetSize="1" AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

216

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (MY=1995 OR MY=1996) AND (CLASS="T6above26k" OR CLASS="T7")
AND FleetSize="1" AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");
```

246

>26k 2 Truck Fleets IRP

```
SELECT sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag),
sum(CY2016_retrofit_Flag), sum(CY2015_Replace_Flag), sum(CY2016_Replace_Flag)
FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2";
```

2027.5000 3039.5000 0.0000 0.0000 203.0000

```
SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE FleetTotalPctFilters<.5 AND Above26kMY1997to2007NORetrofits=1 AND
(CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996 AND
```

MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr");

273

SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE FleetTotalPctFilters<.5 AND Above26kMY1997to2007NORetrofits=2 AND
(CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996 AND
MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");

'3509'

273+3509/2 = 2027.5

SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE FleetTotalPctFilters>=.5 AND Above26kMY1997to2007NORetrofits=1 AND
(CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND MY>1996 AND
MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR
FleetGroup="IRP_OOS_CA_Addr");

1285

3509/2 + 1285 = 3039.5

SELECT count(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="2" AND
PMretrofit_flag=0 AND (MY=1995 OR MY=1996) AND (FleetGroup="InState_IRP"
OR FleetGroup="IRP_OOS_CA_Addr");

203

>26k 3Truck Fleets IRP

SELECT sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag),
sum(CY2016_retrofit_Flag), sum(CY2015_Replace_Flag),
sum(CY2016_Replace_Flag) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3";

773.2718 1366.7718 1459.7718 0.0000 0.0000

SELECT COUNT(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize="3" AND MY>1996

AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr"); 3600

773.2718 + 1366.7718 + 1459.7718= 3599.8154

>26k Large >3Truck Fleets IRP

SELECT sum(CY2014_retrofit_Flag), sum(CY2015_retrofit_Flag),
sum(CY2016_retrofit_Flag), sum(CY2015_Replace_Flag),
sum(CY2016_Replace_Flag) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3";

40869.6698 8758.3430 0.0000 1790.0000 1572.0000

SELECT COUNT(VIN) FROM trucks_reg2013b.irptonov2013_trucks
WHERE (CLASS="T6above26k" OR CLASS="T7") AND FleetSize=">3" AND MY>1996
AND MY<2008 AND PMretrofit_flag=0 AND (FleetGroup="InState_IRP" OR FleetGroup="IRP_OOS_CA_Addr"); 49628

40869.6698 + 8758.8758.3430 = 49628.544