

Note: For some vents the surfactant rate is less than the total particulate reported in Air Emissions Inventory which can include polymer dust.  
 Note: If emissions are sent to T61FCE then emissions from T61FCE are reduced.

| Current<br>Permit/Application/PDF # | Permit<br>Vent ID |
|-------------------------------------|-------------------|
| 1823A                               | T71ME             |
| 815D                                | FPD T61FCE        |
| 815D                                | FPD T61ZCE        |
| 1353A                               | Gran 1645E        |
| Pre-Existing                        | Gran 1642E        |
| 614A                                | FEP 163-E-26      |
| 614A                                | FEP 163-E-11      |
| 781                                 | FEP 163-E-33      |
| 1953                                | FEP L3 242        |
| 2365A                               | PFA C1FSE         |
| 2365A                               | PFA C1FKE         |
| 2365A                               | PFA C1CAE         |
| 2365A                               | FPD T61XE         |
| FP/D D1 Cooler                      | FPD T61YE         |
| FP/D D3 Cooler                      | FPD T61EE         |
| FP/D D2 Bypass                      | FPD T61FE         |
| FP/D D3 Bypass                      | FPD               |
| RESEARCH AREA                       |                   |
| Semlworks Applic                    | RO22EEF6          |
| Semlworks Applic                    | RO22EEF8          |
| Semlworks Applic                    | RO22EEF87         |
| Semlworks Applic                    | RO22EEF89         |

| Reg 29<br>Unit ID | Reg 29<br>Vent ID | UTM-E  | UTM-N   | Slack<br>Diameter<br>ft | Slack<br>Height<br>ft | Slack<br>Flow<br>ACFM | Slack<br>Velocity<br>ft/sec | Slack<br>Temp<br>F | ESTIMATED<br>EMISSIONS<br>lb/hr | ESTIMATED<br>EMISSIONS<br>lb/hr | ESTIMATED<br>EMISSIONS<br>lb/hr | ESTIMATED<br>EMISSIONS<br>lb/hr |
|-------------------|-------------------|--------|---------|-------------------------|-----------------------|-----------------------|-----------------------------|--------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| TIE & TIF         | 662               | 442025 | 4346847 | 1.33                    | 150                   | 3,349                 | 40.2                        | 172                | 0                               | 0                               | 0                               | 0                               |
| TIE & TIF         | 644               | 442084 | 4346835 | 1.5                     | 59                    | 18,000                | 169.8                       | 111                | 13,977                          | 11,058                          | 3,852                           | 1,278                           |
| TIE & TIF         | 699               | 442091 | 4346836 | 4                       | 170                   | 21,000                | 27.9                        | 124                | 0                               | 0                               | 893                             | 1,837                           |
| THI               | 652               | 441920 | 4346767 | 1.96                    | 70                    | 9,800                 | 53.9                        | 200                | 33                              | 25                              | 32                              | 26                              |
| THG               | 658               | 441923 | 4346756 | 1.63                    | 68                    | 2,800                 | 22.4                        | 300                | 79                              | 55                              | 59                              | 74                              |
| CDT               | 231               | 441853 | 4346766 | 0.67                    | 81                    | 600                   | 28.6                        | 130                | 4,680                           | 4,238                           | 3,173                           | 836                             |
| CDW               | 232               | 441852 | 4346776 | 0.67                    | 83                    | 500                   | 23.9                        | 130                | 3,541                           | 4,112                           | 2,300                           | 678                             |
| CDB               | 216               | 441860 | 4346788 | 1.3                     | 60                    | 2,750                 | 34.5                        | 158                | 0                               | 0                               | 0                               | 0                               |
| CEH               | 242               | 441854 | 4346741 | 0.5                     | 114.5                 | 1,250                 | 106.1                       | 200                | 3,510                           | 2,301                           | 917                             | 917                             |
| CFS               | 274               | 441787 | 4346744 | 0.69                    | 110                   | 1,000                 | 44.6                        | 255                | 5,414                           | 4,296                           | 2,999                           | 1,031                           |
| CFL               | 268               | 441774 | 4346753 | 0.27                    | 72.5                  | 100                   | 28.7                        | 110                | 107                             | 62                              | 62                              | 62                              |
| CHCA-D            | 205               | 441681 | 4346828 | 0.5                     | 6.66                  | 1,000                 | 84.8                        | Ambient            | 0                               | 0                               | 0                               | 0                               |
| TV                | 697               | 442129 | 4346836 | 1.67                    | 45                    | 2,000                 | 15.2                        | 66                 | 0                               | 0                               | 43                              | 43                              |
| TIF               | 694               | 442104 | 4346822 | 1.67                    | 45                    | 2,000                 | 15.2                        | 66                 | No Data                         | 95                              | 83                              | 108                             |
| TIF               | 647               | 442125 | 4346818 | 1.67                    | 69                    | 4,900                 | 57.0                        | 230                | No Data                         | 0                               | 29                              | 29                              |
| TIF               | 648               | 442109 | 4346805 | 1.67                    | 69                    | 4,900                 | 57.0                        | 230                | No Data                         | 0                               | 21                              | 21                              |

| Actual | Est.    | Actual | Est.  | Actual | Est.  | Actual | Est.  | Actual | Est.  |
|--------|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| lb/yr  | lb/yr   | lb/yr  | lb/yr | lb/yr  | lb/yr | lb/yr  | lb/yr | lb/yr  | lb/yr |
| 442086 | 4346824 | 2.5    | 47    | 8636   | 80    | 12     | 0.3   | 0.3    | 0.3   |
| 442089 | 4346827 | 2      | 49    | 7540   | 80    | 0.3    | 0.3   | 0.3    | 0.3   |
| 442088 | 4346834 | 2      | 49    | 1885   | 80    | 3      | 0.3   | 0.3    | 0.3   |
| 442063 | 4346835 | 2      | 49    | 3770   | 80    | 0.6    | 0.6   | 0.6    | 0.6   |

31,357 26,258 14,480 5,185 5,056

Slacks Surfactant Emissions-13c-X- 02/20/2003(AUTODATE)

EID747570

FEP Total  
 Split Lines 1&2 as 50/50  
 Line 3 CPU raised to 0.0051 per current operations

| SOURCE      | ID  | 2004<br>Production<br>annual lb | CPU      | Fraction<br>to Dryer Eff | Scrubber<br>Eff | EMISSION        |               |
|-------------|-----|---------------------------------|----------|--------------------------|-----------------|-----------------|---------------|
|             |     |                                 |          |                          |                 | RATE<br>(lb/yr) | RATE<br>(G/S) |
| 815D (FP/D) | 647 | 0                               | 0.0025   | 0.92                     | 0.95            | 1836.9          | 0.0284        |
| 815D (FP/D) | 699 | 5,156,400                       | 0.0035   |                          |                 |                 |               |
|             |     | 4,346,400                       | 0.0045   |                          |                 |                 |               |
|             |     | 2,628,700                       | 0.0051   |                          |                 |                 |               |
| 614A(FEP1)  | 231 | 3,824,500                       | 0.0051   | 0.35                     | 0.89            | 750.9           | 0.0108        |
| 614A(FEP2)  | 232 | 1,546,000                       | 0.0051   | 0.35                     | 0.89            | 303.6           | 0.0044        |
| 1953(FEP3)  | 242 | 2,018,000                       | 0.0065   | 0.75                     | 0.89            | 1082.2          | 0.0156        |
| 2365A (PFA) | 274 | 2,018,000                       | 3.00E-05 | 1                        | 0               | 80.5            |               |
| C1FKE       |     | 0                               |          |                          |                 |                 |               |
| C1CAE       |     | 2,305,400                       | 0.00056  | 0.25                     | 0.2             | 25.8            |               |
| Gian L2     |     | 6,635,000                       | 0.00056  | 0.25                     | 0.2             | 74.3            |               |
| Gian L1     |     | 4043833.333                     | 2.66E-05 | 1                        | 0               | 107.6           |               |
| T6IXE       |     | 4043833.333                     | 2.66E-05 | 1                        | 0               | 107.6           |               |
| T6IYE       |     | 0                               |          |                          |                 | 0               |               |
| T6IEE       |     | 0                               |          |                          |                 | 0               |               |
| T6IFE       |     | 0                               |          |                          |                 | 0               |               |
|             |     | 9,195,000                       |          |                          |                 | 5100.3          |               |

EID747571

| Permit   | Reg 29  | Reg 29  | UTM-E  | UTM-N   |
|----------|---------|---------|--------|---------|
| Vent ID  | Unit ID | Vent ID | UTM-E  | UTM-N   |
| T7IME    | TIM     | 662     | 442025 | 4346847 |
| T6ICE    | TIF     | 647     | 442084 | 4346847 |
| T6ICE    | TIZ     | 699     | 442084 | 4346847 |
| 164-SE   | THJ     | 652     | 441920 | 4346767 |
| 164-2S   | THG     | 658     | 441923 | 4346756 |
| 163-E-26 | CDT     | 231     | 441939 | 4346773 |
| 163-E-11 | CDW     | 232     | 441940 | 4346772 |
| 163-E-33 | CDB     | 216     | 441960 | 4346788 |
| 242      | CEH     | 242     | 441954 | 4346741 |
| C1FSE    | CFS     | 274     | 441787 | 4346744 |

| Vent ID  | UTM-E  | UTM-N   |
|----------|--------|---------|
| T7IME    | 442025 | 4346847 |
| T6ICE    | 442084 | 4346847 |
| T6ICE    | 442084 | 4346847 |
| 164-SE   | 441920 | 4346767 |
| 164-2S   | 441923 | 4346756 |
| 163-E-26 | 441939 | 4346773 |
| 163-E-11 | 441940 | 4346772 |
| 163-E-33 | 441960 | 4346788 |
| 242      | 441954 | 4346741 |
| C1FSE    | 441787 | 4346744 |
| C1FKE    | 441774 | 4346753 |
| C1CAE    | 441681 | 4346828 |
| T6ICE    | 442129 | 4346836 |
| T6IYE    | 442104 | 4346822 |
| T6IEE    | 442125 | 4346818 |
| T6IFE    | 442109 | 4346805 |

| Vent ID | UTM-E     | UTM-N  |
|---------|-----------|--------|
| 4346900 |           |        |
| 4346850 |           |        |
| 4346810 |           |        |
|         | T7IME     | 442025 |
|         | FPD Scrub | 442084 |
|         | FPD Filtr | 442129 |
|         |           | 442109 |

|         |        |        |         |        |        |        |
|---------|--------|--------|---------|--------|--------|--------|
| 4346800 |        |        |         |        |        | 442706 |
| 4346750 |        | C1FSE  | Gran #1 | KEEP   | Ovens  |        |
|         |        | 441774 | Gran #2 | KEEP   |        |        |
| 4346700 |        |        |         |        |        |        |
| 4346650 |        |        |         |        |        |        |
| 4346600 |        | 441661 |         |        |        |        |
| 441600  | 441700 | 441800 | 441900  | 442000 | 442100 | 442200 |

EID747573