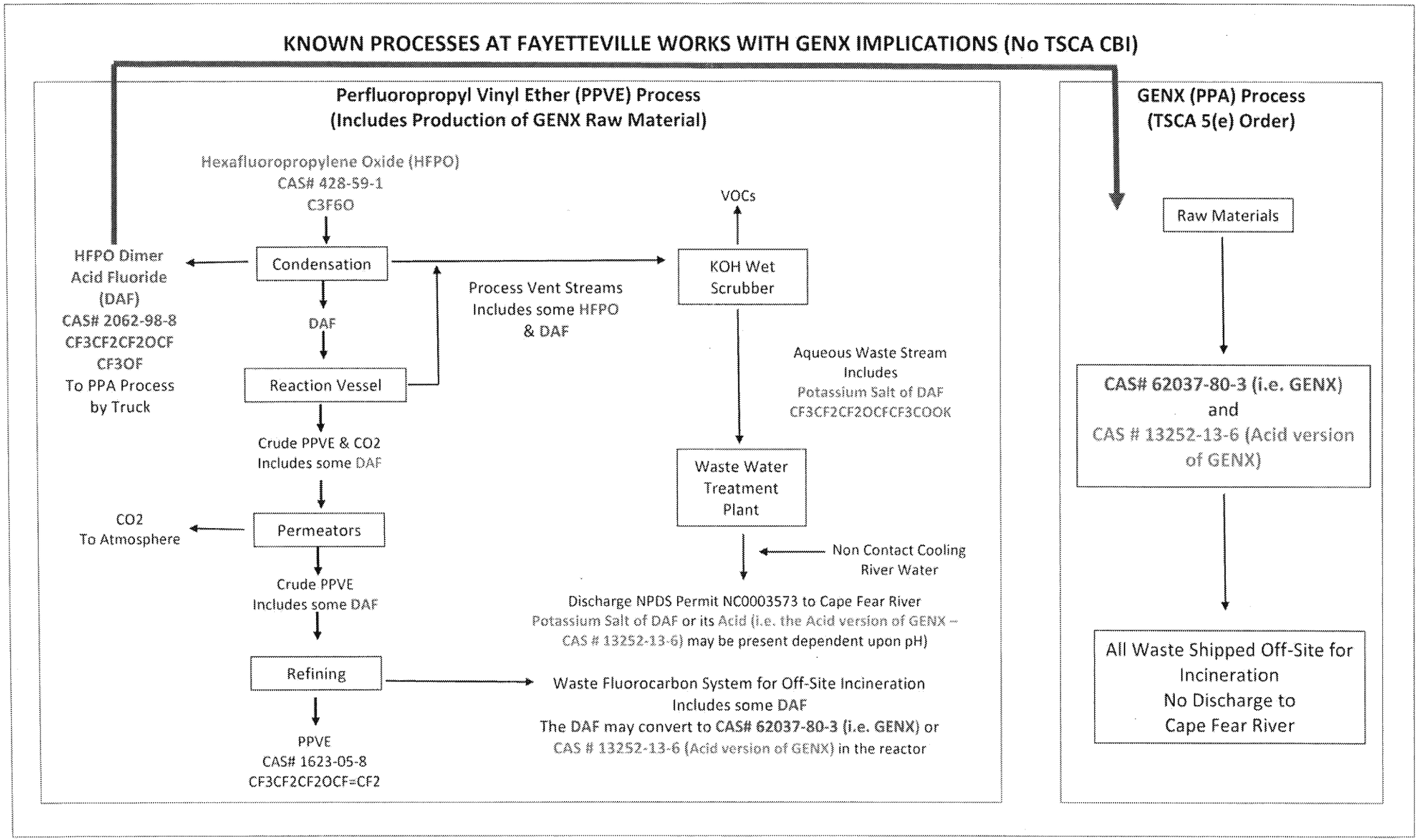
KNOWN PROCESSES AT FAYETTEVILLE WORKS WITH GENX IMPLICATIONS (No TSCA CBI)
Perfluoropropyl Vinyl Ether (PPVE) Process
(Includes Production of GENX Raw Material)
Hexafluoropropylene Oxide (HFPO)
CAS# 428-59-1
C3F6O
Condensation
HFPO Dimer
Acid Fluoride
(DAF)
CAS# 2062-98-8
CF3CF2CF2OCF
CF3OF
To PPA Process
by Truck
DAF
Reaction Vessel
Process Vent Streams
Includes some HFPO
& DAF
Crude PPVE & CO2
Includes some DAF
Permeators
CO2
To Atmosphere
Crude PPVE
Includes some DAF
Refining
PPVE
CAS# 1623-05-8
CF3CF2CF2OCF=CF2
VOCs
KOH Wet
Scrubber
Aqueous Waste Stream
Includes
Potassium Salt of DAF
CF3CF2CF2OCFCF3COOK
Waste Water
Treatment
Plant
Non Contact Cooling
River Water
Discharge NPDS Permit NC0003573 to Cape Fear River
Potassium Salt of DAF or its Acid (i.e. the Acid version of GENX –
CAS # 13252-13-6) may be present dependent upon pH)
Waste Fluorocarbon System for Off-Site Incineration
Includes some DAF
The DAF may convert to CAS# 62037-80-3 (i.e. GENX) or
CAS # 13252-13-6 (Acid version of GENX) in the reactor
GENX (PPA) Process
(TSCA 5(e) Order)
Raw Materials
CAS# 62037-80-3 (i.e. GENX)
and
CAS # 13252-13-6 (Acid version
of GENX)
All Waste Shipped Off-Site for
Incineration
No Discharge to
Cape Fear River

KNOWN PROCESSES AT FAYETTEVILLE WORKS WITH GENX IMPLICATIONS (No TSCA CBI)

Perfluoropropyl Vinyl Ether (PPVE) Process (Includes Production of GENX Raw Material)

Hexafluoropropylene Oxide (HFPO)
CAS# 428-59-1
C3F6O

↓

Condensation

→ HFPO Dimer Acid Fluoride (DAF)
CAS# 2062-98-8
CF3CF2CF2OCF CF3OF
To PPA Process by Truck

(As By Product)

→ VOCs

→ KOH Wet Scrubber → Aqueous Waste Stream Includes Potassium Salt of DAF CF3CF2CF2OCFCF3COOK

(Potassium salt of dimer acid)

↓

DAF (Intermediate)

↓

Reaction Vessel

Process Vent Streams Includes some HFPO & DAF

PPA, PPVE, Exported } Streams

↓

Crude PPVE & CO2
Includes some DAF

↓

Permeators → CO2 To Atmosphere

↓

Crude PPVE
Includes some DAF

↓

Refining → Waste Fluorocarbon System for Off-Site Incineration
Includes some DAF
The DAF may convert to **CAS# 62037-80-3 (i.e. GENX)** or CAS # 13252-13-6 (Acid version of GENX) in the reactor

↓

PPVE
CAS# 1623-05-8
CF3CF2CF2OCF=CF2

Waste Water Treatment Plant

(Biological treatment plant (aqueous ammonia added to limit to potassium salt and ammonium salt conversion and ammonium salt which is GENX Toxin)

Alkaline conversion of potassium salt to ammonium salt (GENX) process)

↓

Non Contact Cooling River Water

(DA potassium salt, DA ammonium salt, GENX acid version to Cape Fear River)

pH 6 to 8

(Converts to 508)

Discharge NPDS Permit NC0003573 to Cape Fear River
Potassium Salt of DAF or its Acid (i.e. the Acid version of GENX – CAS # 13252-13-6) may be present dependent upon pH)

Potassium salt of the dimer acid is interacting with river water

GENX (PPA) Process (TSCA 5(e) Order)

Raw Materials

↓ (hydrolysis w/ sulfuric acid)

CAS# 62037-80-3 (i.e. GENX) (Ammonium salt) (508) } and CAS # 13252-13-6 (Acid version of GENX) (508) GENX acid

→ Teflon

→ Exported

↓

Acid version of GENX (stripped off as waste)

All Waste Shipped Off-Site for Incineration
No Discharge to Cape Fear River

Efficiency going from acid to ammonium salt?

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