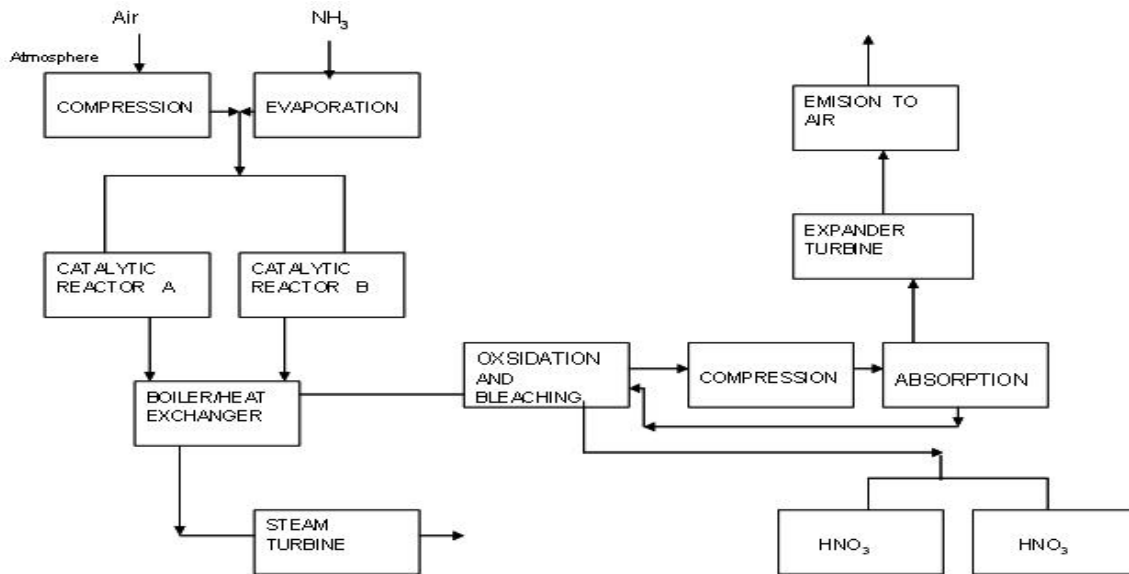


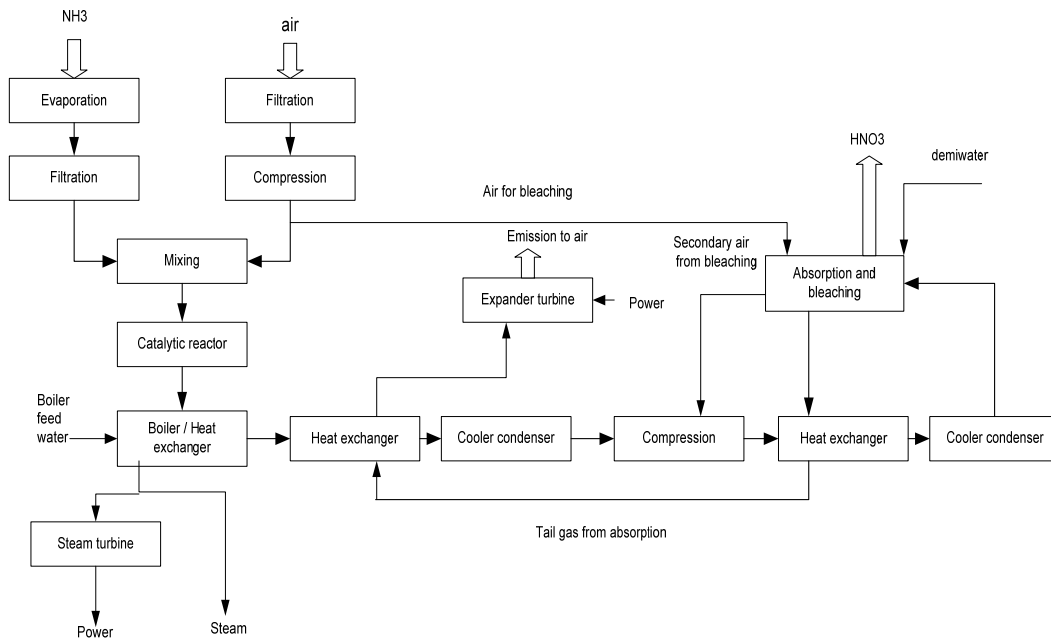
Slika 4.1: Proces Kellogg

Natural gas	Prirodni plin
Desulphurisation	Odsumporavanje
Fuel	Gorivo
Primary reformer	Primarna reformacija
Flue-gas	Dimni plin
Secondary reformer	Sekundarna reformacija
Air	Zrak
Power	Energija
Heat	Toplina
Shift conversion	Konverzija
CO <sub>2</sub> removal	Uklanjanje CO <sub>2</sub>
Condensate	Kondenzat
Methanation	Metanacija
Compression	Kompresija
NH <sub>3</sub> synthesis	Sinteza NH <sub>3</sub>
Purge/flash gas	Plin za pročišćavanje/propuhivanje



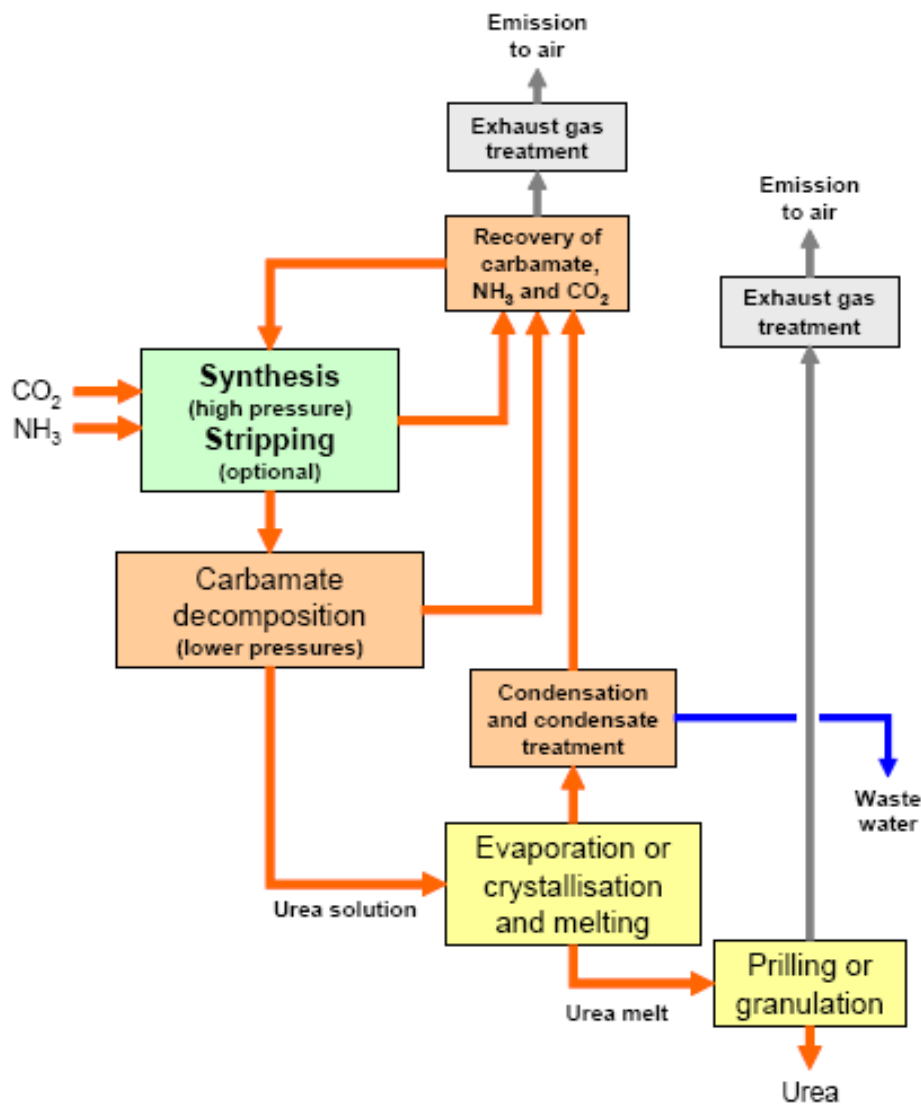
Slika 5.1: Dijagram toka procesa proizvodnje dušične kiseline A

Air	Zrak
Atmosphere	Atmosfera
Compression	Kompresija
Evaporation	Uparavanje
Catalytic reactor	Katalitički reaktor
Boiler/heat exchanger	Kotao/izmjenjivač topline
Steam turbine	Parna turbina
Oxidation and bleaching	Oksidacija i izbjeljivanje
Absorption	Apsorpcija
Expander turbine	Ekspander turbina
Emission to air	Emisije u zrak



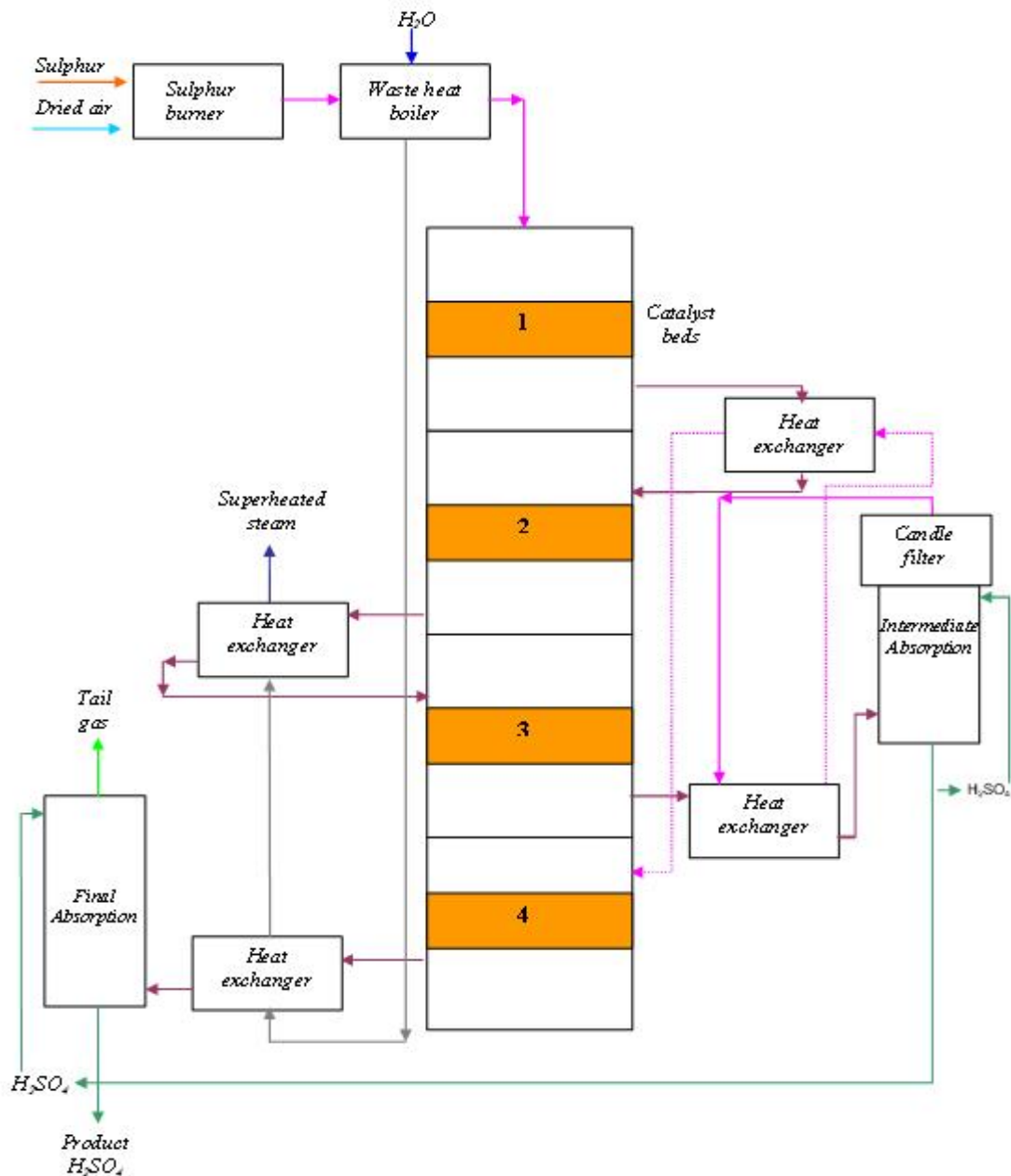
**Slika 5.2: Dijagram toka procesa proizvodnje dušične kiseline B**

Evaporation	Isparavanje
Filtration	Filtracija
Air	Zrak
Compression	Kompresija
Mixing	Miješanje
Catalytic reactor	Katalitički reaktor
Boiler feed water	Napojna voda kotla
Boiler/heat exchanger	Kotao/izmjenjivač topline
Steam turbine	Parna turbina
Power	Energija
Steam	Para
Air for bleaching	Zrak za izbjeljivanje
Emission to air	Emisije u zrak
Secondary air from bleaching	Sekundarni zrak od izbjeljivanja
Expander turbine	Ekspander turbina
Absorption and bleaching	Apsorpcija i izbjeljivanje
Demiwater	Demineralizirana voda
Cooler condenser	Rashladni kondenzator
Heat exchanger	Izmjenjivač topline



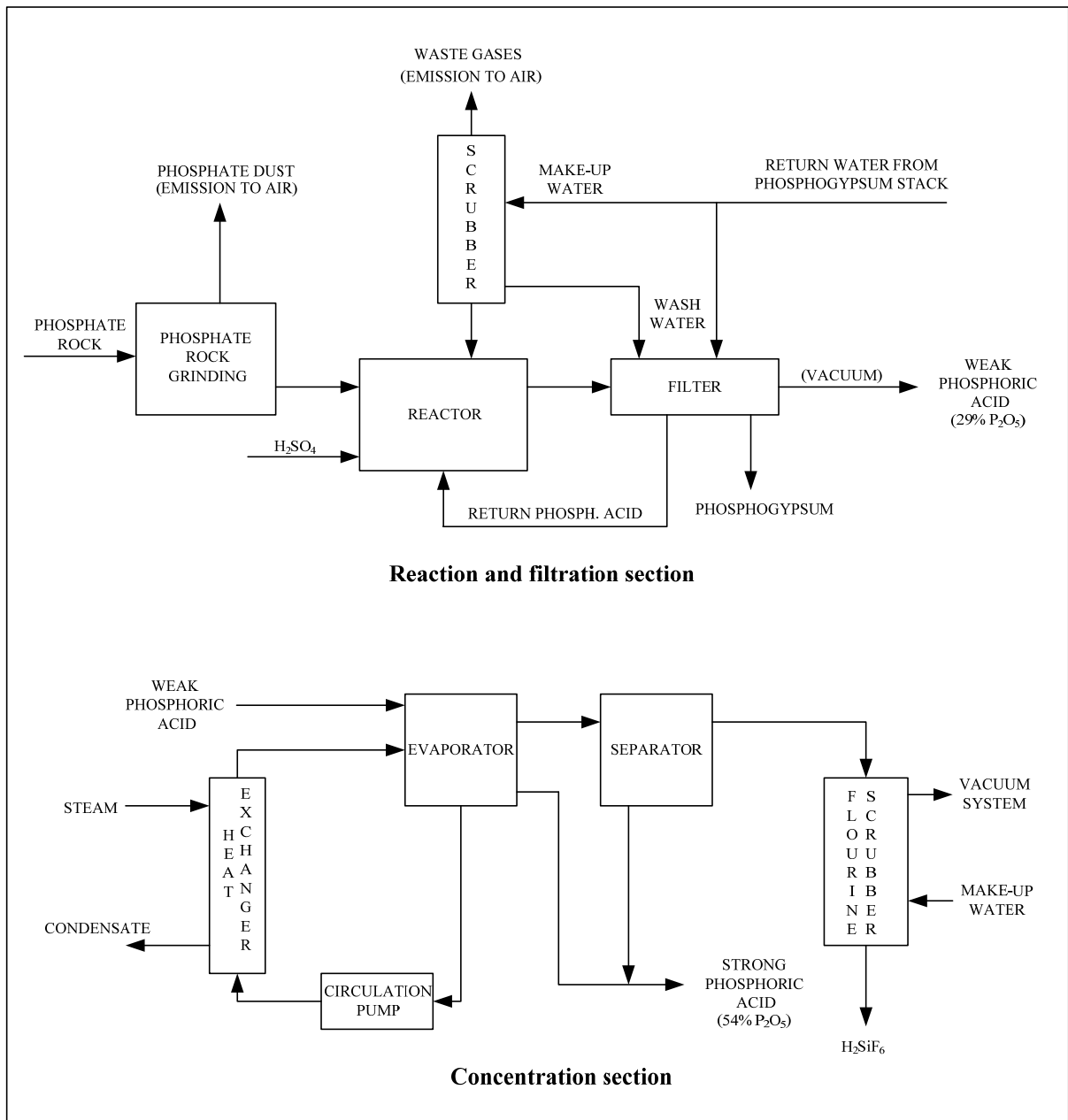
Slika 6.1: Dijagram toka procesa proizvodnje uree

Emission to air	Emisije u zrak
Exhaust gas treatment	Obrada ispusnog plina
Recovery of carbamate $\text{NH}_3$ and $\text{CO}_2$	Povrat karbamata $\text{NH}_3$ i $\text{CO}_2$
Synthesis (high pressure) Stripping (optional)	Sinteza (visoki tlak) Stripiranje (prepušteno izboru)
Carbamate decomposition (lower pressures)	Razgradnja karbamata (niži tlak)
Urea solution	Otopina uree
Condensation and condensate treatment	Kondenzacija i obrada kondenzata
Evaporation or crystallisation and melting	Uparavanje ili kristalizacija i taljenje
Urea melt	Talina uree
Waste water	Otpadna voda
Prilling and granulation	Priliranje i granuliranje
Urea	Urea



Slika 7.1: Dijagram toka procesa proizvodnje sumporne kiseline (dvostruka apsorpcija/dvostruki kontakt)

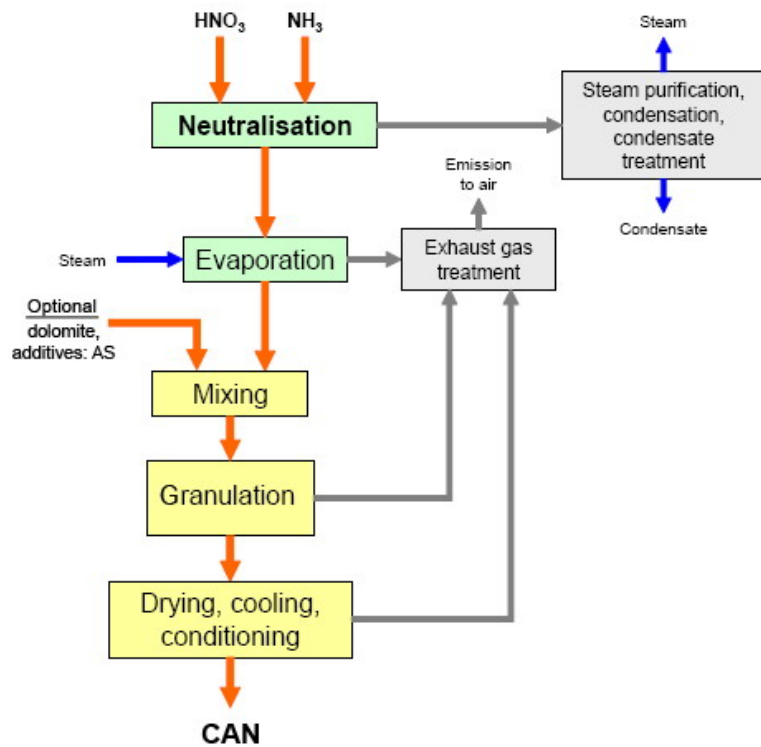
Sulphur	Sumpor
Dried air	Osušeni zrak
Sulphur burner	Spaljivač sumpora
Waste heat boiler	Kotao za otpadnu toplinu
Catalyst beds	Slojevi katalizatora
Heat exchanger	Izmjenjivač topline
Superheated steam	Pregrijana para
Tail gas	Rezidualni plin
Final absorption	Finalna apsorpcija
Product H <sub>2</sub> SO <sub>4</sub>	Proizvedena H <sub>2</sub> SO <sub>4</sub>
Candle filter	Svječasti filter
Intermediate absorption	Međuapsorpcija



Slika 8.1: Dijagram toka procesa proizvodnje fosforne kiseline

WASTE GASES (EMISSION TO AIR)	OTPADNI PLINOVI (EMISIJE U ZRAK)
PHOSPHATE DUST (EMISSION TO AIR)	FOSFATNA PRAŠINA (EMISIJE U ZRAK)
SCRUBBER	SKRUBER
MAKE-UP WATER	DODAVANJE VODE
RETURN WATER FROM PHOSHOGYPSUM STACK	POVRATNA VODA S ODLAGALIŠTA FOSFOGIPSA
WASH WATER	VODA ZA PRANJE
PHOSPHATE ROCK	FOSFATNA STIJENA
PHOSPHATE ROCK GRINDING	MLJEVENJE FOSFTANE STIJENE
REACTOR	REAKTOR
FILTER	FILTER
VACUUM	VAKUUM
WEAK PHOSPHORIC ACID	SLABA FOSFORNA KISELINA
RETURN PHOSPHORIC ACID	POVRATNA FOSFORNA KISELINA

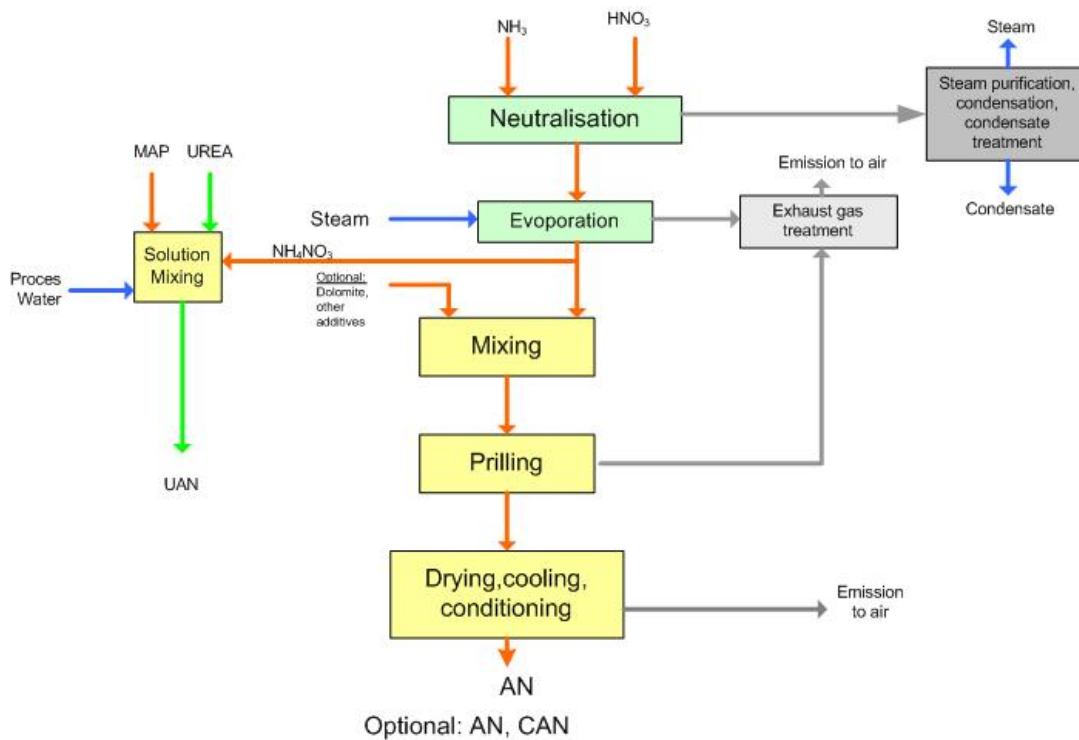
PHOSPHOGYPSUM	FOSFOGIPS
Reaction and filtration section	Sekcija reakcije i filtracije
CONDENSATE	KONDENZAT
HEAT EXCHANGER	IZMJENJIVAČ TOPLINE
EVAPORATOR	ISPARIVAČ
SEPARATOR	SEPARATOR
CIRCULATION PUMP	CIRKULACIJSKA PUMPA
STRONG PHOSPHORIC ACID	JAKA FOSFORNA KISELINA
FLOURINE SCRUBBER	SKRUBER ZA FLUOR
VACCUM SYSTEM	VAKUUMSKI SUSTAV
MAKE-UP WATER	DODAVANJE VODE
Concentration section	Sekcija koncentracije



Slika 9.1: Dijagram toka procesa proizvodnje vapnenasto amonijskog nitrata

Neutralisation	Neutralizacija
Steam	Para
Steam purification, condensation, condensate treatment	Pročišćavanje pare, kondenzacija, obrada kondenzata
Condensate	Kondenzat
Emission to air	Emisije u zrak
Evaporation	Isparavanje
Exhaust gas treatment	Obrada ispusnih plinova
Optional dolomite, additives: AS	Neobavezno dolomit, aditivi: AS
Mixing	Miješanje
Granulation	Granuliranje
Drying, cooling, conditioning	Sušenje, hlađenje, kondicioniranje
CAN	KAN

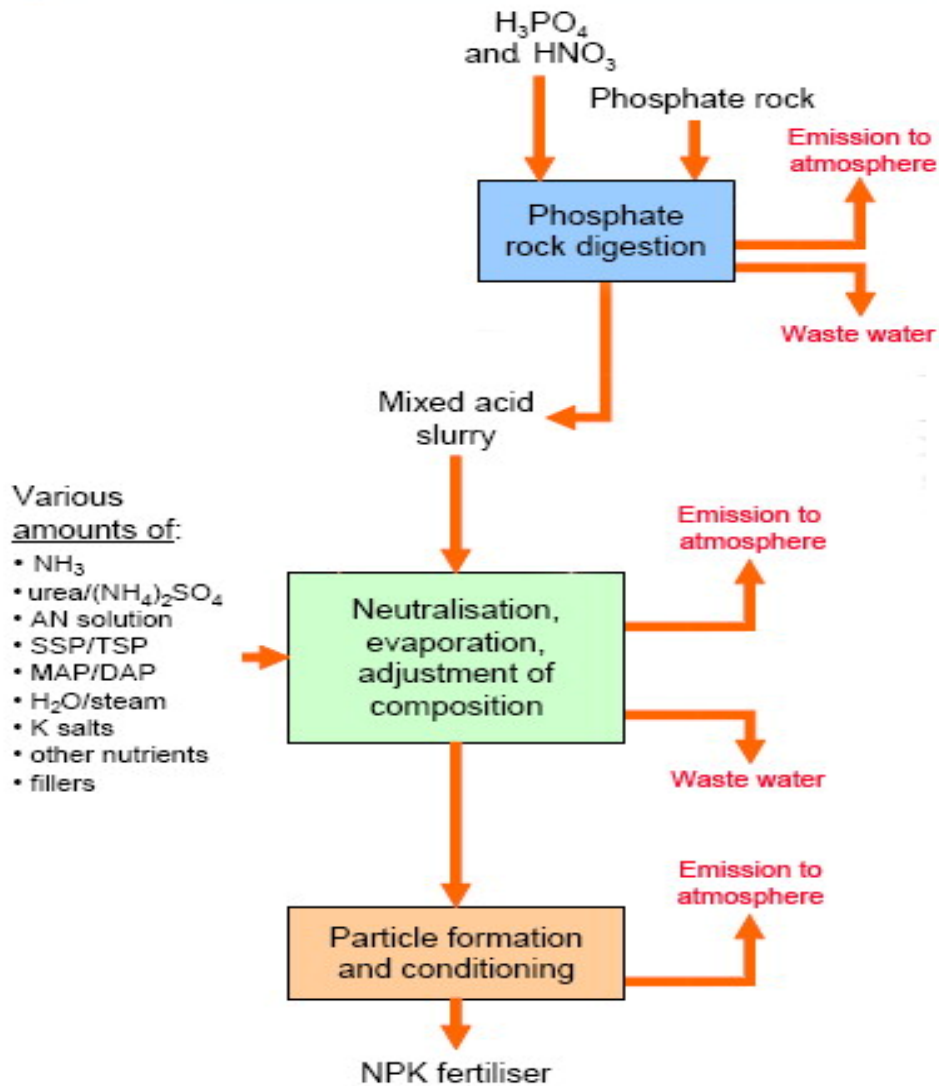




Slika 9.2: Dijagram toka alternativnog procesa proizvodnje vapnenasto amonijskog nitrata

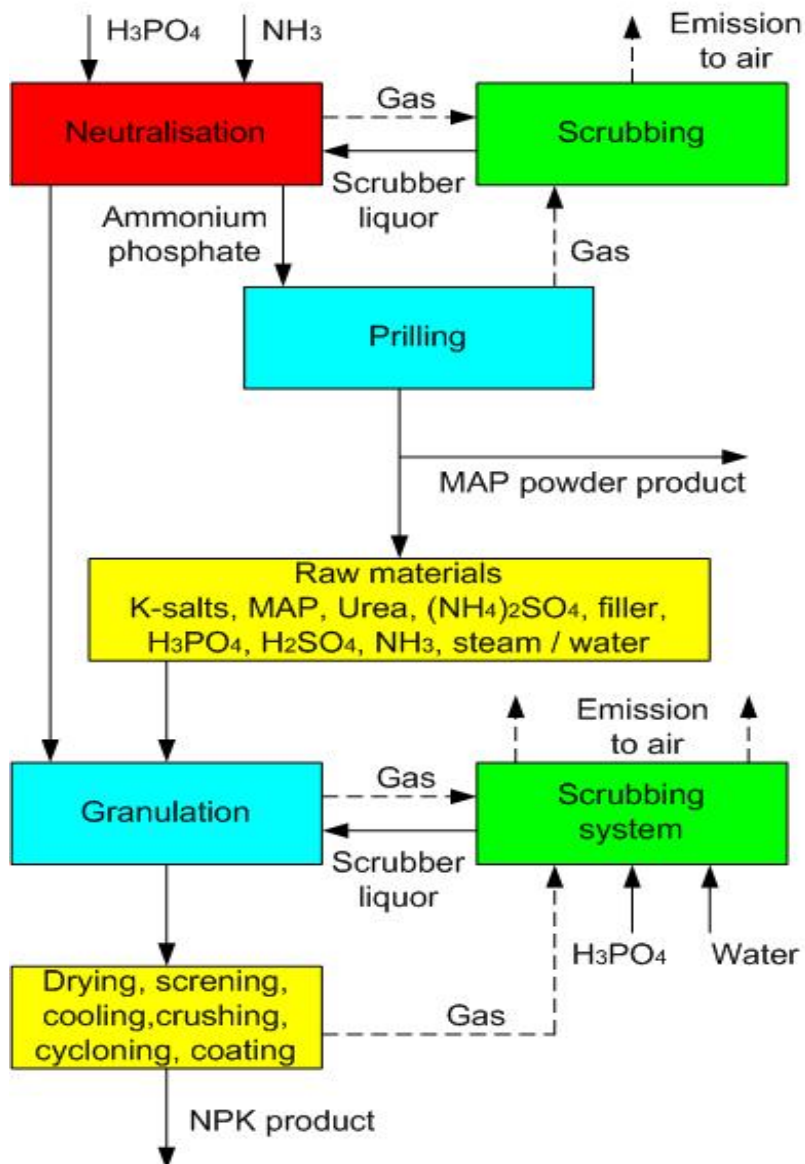
Neutralisation	Neutralizacija
MAP	MAP
UREA	UREA
Process water	Procesna voda
Solution mixing	Miješanje otopine
UAN	UAN
Evaporation	Isparavanje
Mixing	Miješanje
Prilling	Priliranje
Drying, cooling, conditioning	Sušenje, hlađenje, kondicioniranje
AN	AN
Optional: AN, CAN	Alternativno: AN, KAN
Emission to air	Emisije u zrak
Exhaust gas treatment	Obrada ispusnih plinova
Steam	Para
Steam purification, condensation, condensate treatment	Pročišćavanje pare, kondenzacija, obrada kondenzata
Condensate	Kondenzat

## Mixed acid route



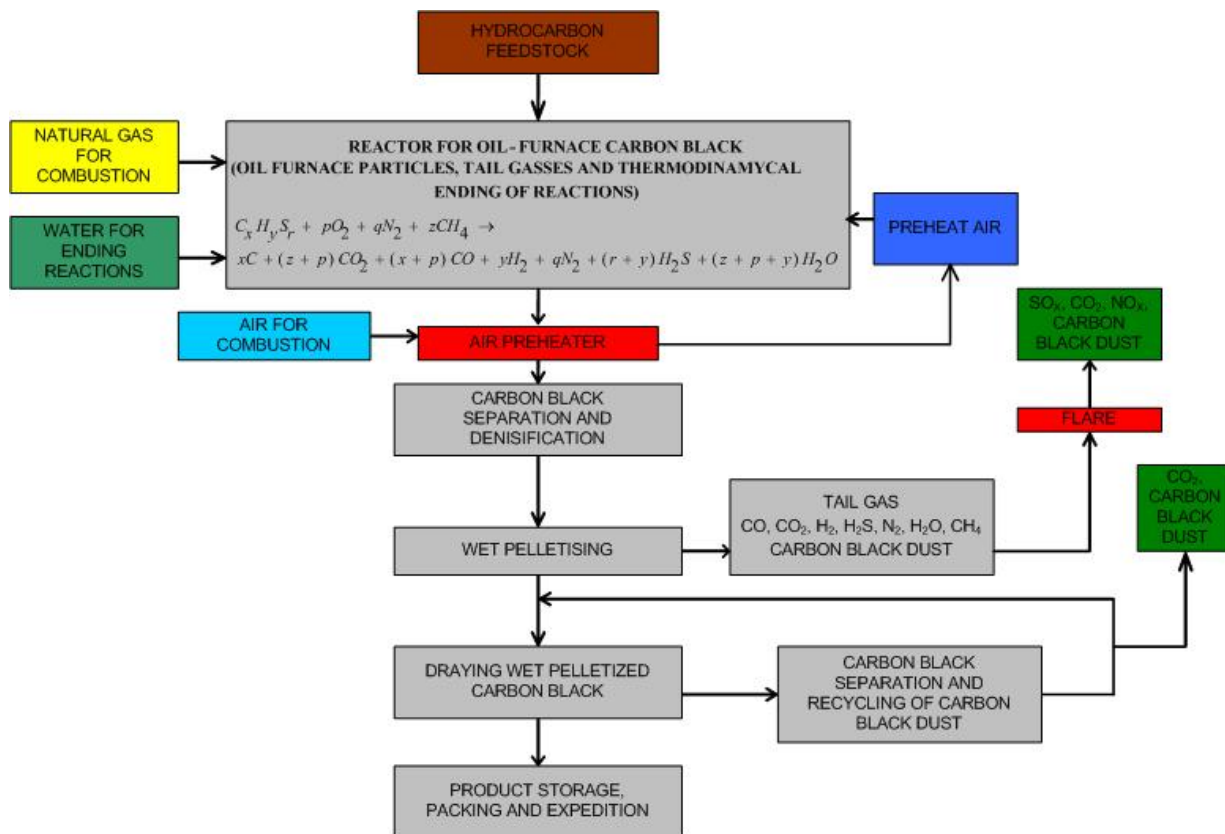
**Slika 10.1: Dijagram toka tipičnog procesa proizvodnje NPK gnojiva miješanjem kiselina**

Phosphate rock	Fosfatna stijena
Emission to atmosphere	Emisije u atmosferu
Waste water	Otpadna voda
Phosphate rock digestion	Digestija fosfatne stijene
Mixed acid slurry	Mješavina kiselina
Particle formation and conditioning	Formiranje čestica i kondicioniranje
Various amounts of: <ul style="list-style-type: none"> <li>• NH<sub>3</sub></li> <li>• Urea (NH<sub>4</sub>)SO<sub>4</sub></li> <li>• AN solution</li> <li>• SSP/TSP</li> <li>• MAP/DAP</li> <li>• H<sub>2</sub>O/steam</li> <li>• K salts</li> <li>• Other nutrients</li> <li>• Fillers</li> </ul>	Razne količine: <ul style="list-style-type: none"> <li>• NH<sub>3</sub></li> <li>• Uree (NH<sub>4</sub>)SO<sub>4</sub></li> <li>• Otopine AN</li> <li>• SSP/TSP</li> <li>• MAP/DAP</li> <li>• H<sub>2</sub>O/para</li> <li>• K soli</li> <li>• Ostalih hranjivih tvari</li> <li>• Punila</li> </ul>
Neutralisation, evaporation, adjustment of composition	Neutralizacija, isparavanje, podešavanje sastava
Particle formation and conditioning	Formiranje čestica i kondicioniranje
NPK fertilizer	NPK gnojivo



Slika 10.2: Dijagram toka tipičnog procesa proizvodnje NPK gnojiva

Neutralisation	Neutralizacija
Gas	Plin
Emission to air	Emisije u zrak
Scrubbing	Skrubiranje
Scrubber liquor	Tekućina za skrubiranje
Ammonium phosphate	Amonijev fosfat
Prilling	Priliranje
MAP powder product	MAP praškasti proizvod
Raw materials	Sirovine
K-salts, MAP, urea, (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , filler, H <sub>3</sub> PO <sub>4</sub> , H <sub>2</sub> SO <sub>4</sub> , NH <sub>3</sub> , steam/water	K soli, MAP, urea, (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , punilo, H <sub>3</sub> PO <sub>4</sub> , H <sub>2</sub> SO <sub>4</sub> , NH <sub>3</sub> , para/voda
Granulation	Granuliranje
Scrubbing system	Sustav skrubiranja
Water	Voda
Drying, screening, cooling, crushing, coating	Sušenje, prosijavanje, hlađenje, drobljenje, oblaganje
NPK product	NPK



**Slika Pogreška! U dokumentu nema teksta navedenog stila..1: Dijagram toka procesa proizvodnje čađi**

HYDROCARBON FEED STOCK	UGLJIKOVODIČNA SIROVINA
NATURAL GAS FOR COMBUSTION	PRIRODNI PLIN ZA IZGARANJE
WATER FOR ENDING REACTIONS	VODA ZA PREKIDANJE REAKCIJE
REACTOR FOR OIL-FURNACE CARBON BLACK (OIL FURNACE PARTICLES, TAIL GASSES AND THERMODYNAMICAL ENDING OF REACTIONS)	REAKTOR ZA ULJNO-PEČNU ČAĐU (ULJNO-PEČNE ČESTICE, REZIDUALNI PLIN I TERMODINAMIČKO PREKIDANJE REAKCIJE)
PREHEAT AIR	PREDGRIJANI ZRAK
AIR FOR COMBUSTION	ZRAK ZA IZGARANJE
AIR PREHEATER	PREDGRIJAČ ZRAKA
CARBON BLACK SEPARATION AND DESULFURATION	SEPARACIJA I ZGUŠNJAVANJE ČAĐE
SO <sub>x</sub> , CO <sub>2</sub> , NO <sub>x</sub> , CARBON BLACK DUST	SO <sub>x</sub> , CO <sub>2</sub> , NO <sub>x</sub> PRAŠINA ČAĐE
FLARE	SPALJIVAČ
WET PELLETISING	MOKRO PELETIZIRANJE
DRYING WET PELLETIZED CARBON BLACK	SUŠENJE ČAĐI PELETIZIRANE MOKRIM POSTUPKOM
TAIL GAS CO, CO <sub>2</sub> , H <sub>2</sub> , H <sub>2</sub> S, H <sub>2</sub> O, CH <sub>4</sub> CARBON BLACK DUST	REZIDUALNI PLIN CO, CO <sub>2</sub> , H <sub>2</sub> , H <sub>2</sub> S, H <sub>2</sub> O, CH <sub>4</sub> PRAŠINA ČAĐE
CARBON BLACK SEPARATION AND RECYCLING OF CARBON BLACK DUST	SEPARACIJA ČAĐI I RECIKLIRANJE PRAŠINE ČAĐE
CO <sub>2</sub> CARBON BLACK DUST	CO <sub>2</sub> PRAŠINA ČAĐE
PRODUCT STORAGE, PACKAGING AND EXPEDITION	SKLADIŠTENJE, PAKIRANJE I OTPREMA PROIZVODA