

Statement of Basis

**Permit to Construct No. P-2013.0001
Project ID 61142**

**Nu-West Industries, Inc.
dba Nu-West Conda Phosphate Operations
Soda Springs, Idaho**

Facility ID 029-00003

Proposed for Public Comment

**DRAFT XX, 2013
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Permit Writer**

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE.....	3
FACILITY INFORMATION.....	5
Description.....	5
Application Scope.....	5
Application Chronology.....	5
TECHNICAL ANALYSIS.....	6
Emissions Units and Control Equipment.....	6
Emissions Inventories.....	6
Ambient Air Quality Impact Analyses.....	9
REGULATORY ANALYSIS.....	10
Attainment Designation (40 CFR 81.313).....	10
Permit to Construct (IDAPA 58.01.01.201).....	10
Tier II Operating Permit (IDAPA 58.01.01.401).....	10
Standards for New Sources (IDAPA 58.01.01.676).....	10
Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70).....	11
PSD Classification (40 CFR 52.21).....	11
NSPS Applicability (40 CFR 60).....	12
NESHAP Applicability (40 CFR 61).....	12
MACT Applicability (40 CFR 63).....	12
Permit Conditions Review.....	12
PUBLIC REVIEW.....	14
Public Comment Opportunity.....	14
Public Comment Period.....	14
APPENDIX A – EMISSIONS INVENTORIES.....	15
APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES.....	16
APPENDIX C – FACILITY DRAFT COMMENTS.....	17
APPENDIX D – PROCESSING FEE.....	19

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gases
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hr/yr	hours per consecutive 12 calendar month period
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit

TAP toxic air pollutants
ULSD ultra-low sulfur diesel
U.S.C. United States Code
VOC volatile organic compounds
yd³ cubic yards
µg/m³ micrograms per cubic meter

FACILITY INFORMATION

Description

The Nu-West Industries, Inc., Nu-West Conda Phosphate Operations (Nu-West) facility located near Soda Springs produces phosphate fertilizers from ore. Phosphate fertilizers provide phosphorus, one of the three primary plant nutrients required by plant life. The other two primary nutrients are nitrogen and potassium. Phosphate fertilizer products, which are often made with ammonia, also provide nitrogen. The principal applications of phosphate fertilizers are in the production of corn, wheat, soybeans, barley, cotton, and other small grain crops, fruits, and vegetables. Phosphate rock, sulfur, and anhydrous ammonia are the primary raw materials used to produce ammonium phosphate fertilizers. Phosphate rock is combined with sulfuric acid to produce phosphoric acid, which is then either:

- Combined with anhydrous ammonia to produce various dry granular fertilizers that are differentiated by their NPK content (% nitrogen -% phosphorus -% potassium), including MAP (11-52-0) and APS (16 20 0), or
- Concentrated to produce liquid fertilizer products containing no nitrogen and 52%-72% P₂O₅.

The facility produces multiple products and alters its product mix to meet the changing requirements of its customers. This includes the following: Super Phosphoric Acid (SPA); Merchant Grade Acid (MGA); Dilute Phosphoric Acid (DPA); and dry granular products including Mono-ammonium Phosphate ("MAP" or 11-52-0) and Ammonium Phosphate Sulfate ("APS" or 16-20-0).

The facility is proposing to install an additional SPA evaporation system which will increase total SPA throughput by approximately 24.5%. The existing two SPA evaporation systems take a feed of approximately 50-60% by weight P₂O₅ and evaporate additional water to concentrate the P₂O₅ to 68-70% by weight. With the installation of an additional SPA evaporation system, the facility will install a new Therminol heating system which consists of a natural gas-fired heater equipped with low-NO_x burners, combustion air blower, circulation pump, expansion tank, storage tank, and fill pump. In addition, a new two-stage Steam Ejector system, two new barometric condensers and new seal tank will be installed to create a vacuum in the evaporator. No physical modifications will be made to the existing SPA scrubber system, PPA cooling tower, Nebraska boiler (B-5), SPA oxidation reactor, aging system, and the filtration press and loading system.

Application Scope

This PTC is for a modification at an existing Tier I facility. See the current Tier I permit statement of basis for the permitting history.

The applicant has proposed to:

- Install and operate a new #3 SPA evaporation system train
- Install and operate a new Therminol 55 circulation system with heater to provide the heat media necessary for the increase SPA production.

Application Chronology

January 7, 2013	DEQ received an application and an application fee.
January 17 – February 1, 2013	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
February 6, 2013	DEQ determined that the application was complete.
March 18, 2013	DEQ received supplemental information from the applicant.

March 18, 2013 DEQ made available the draft permit and statement of basis for peer and regional office review.

March 25, 2013 DEQ made available the draft permit and statement of basis for applicant review.

Month Day – Month Day, Year DEQ provided a public comment period on the proposed action.

Month Day, Year DEQ provided a public hearing in CITY.

Month Day, Year DEQ received the permit processing fee.

Month Day, Year DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
S-Pb-1	<u>Superphosphoric Acid Process (SPA #3):</u> Manufacturer: TBD Model: TBD Max. capacity: 336 T/day equivalent P ₂ O ₅ feed	Existing multi-stage horizontal cross flow scrubber (A-Pb-1)	For emission point parameters see DEQ's modeling memo for this project (Appendix B).
No. 3 SPA Therminol Heater	<u>Therminol Heater:</u> Manufacturer: TBD Model: TBD Heat input rating: 25.55 MMBtu/hr Fuel: Natural gas	Low NO _x burner	

Emissions Inventories

Emission inventories provided in the application included emissions of federally regulated criteria pollutants and greenhouse gases, and state-regulated toxic air pollutants (TAP).

Summaries of these emission inventories are provided below and in Appendix A.

Nu-West is defined as a major facility for purposes of the Title V Program in accordance with IDAPA 58.01.01.008.10, because it emits or has the potential to emit (PTE) a regulated air pollutant in amounts greater than or equal to major facility thresholds listed in Subsection 008.10. The facility has a PTE for SO₂ and NO_x of over 100 T/yr for each pollutant. A PSD applicability analysis is required for this project.

Projected Actual Emissions

The procedure used by Nu-West for calculating projected actual emissions was the calculation approach for both the new and existing units set forth in 40 CFR 52.21, beginning with definitions in 52.21(b)(41). Using these procedures, projected actual criteria pollutant emissions were calculated. Projected actual emissions are presented in the following table:

Table 2 PROJECTED ACTUAL EMISSIONS

Source	PM ₁₀ /PM _{2.5} T/yr	SO ₂ T/yr	NO _x T/yr	CO T/yr	VOC T/yr	Lead T/yr	Fluoride T/yr	CO ₂ e T/yr
Point Sources Affected by this Permitting Action								
No. 3 SPA Therminol Heater	0.8	0.066	5.5	9.2	0.6	5.5E-05	0.0	13192.83
Nebraska Boiler (B-5)	3.09	0.333	40.69	34.80	0.737	2.78E-04	0.0	69267
SPA Scrubber	2.37	0.0	0.0	0.0	0.0	0.0	0.82	0.0
SPA Oxidation Reactor	0.0	0.0	1.07	16.7	0.0	0.0	0.0	0.0
Cooling Tower	3.29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total, Projected Actual Emissions	9.55	0.40	47.26	60.7	1.34	3.3E-04	0.82	82457

Baseline Actual Emissions

The procedure used by Nu-West for calculating baseline actual emissions was the calculation approach for the existing units set forth in 40 CFR 52.21, beginning with definitions in 52.21(b)(41). Using these procedures, baseline actual criteria pollutant emissions were calculated. Baseline actual emissions are presented in the following table:

Table 3 BASELINE ACTUAL EMISSIONS^a

Source	PM ₁₀ /PM _{2.5} T/yr	SO ₂ T/yr	NO _x T/yr	CO T/yr	VOC T/yr	Lead T/yr	Fluoride T/yr	CO ₂ e T/yr
Point Sources Affected by this Permitting Action								
Nebraska Boiler (B-5)	3.07	0.33	40.39	34.60	0.73	2.76E-04	0.0	68747
SPA Scrubber	1.07	0.0	0.0	0.0	0.0	0.0	0.32	0.0
SPA Oxidation Reactor	0.0	0.0	0.57	9.10	0.0	0.0	0.0	0.0
Cooling Tower	3.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total, Baseline Actual Emissions	7.23	0.33	40.96	43.70	0.73	2.76E-04	0.32	68747

a) Annual average emissions for calendar years 2006 and 2007 except PM₁₀/PM_{2.5}. Annual average emissions for PM₁₀/PM_{2.5} are from calendar years 2007 and 2008.

Project Emissions Increase

The project emissions increase is presented in the following table:

Table 4 PROJECT EMISSIONS INCREASE

Emissions	PM ₁₀ /PM _{2.5} T/yr	SO ₂ T/yr	NO _x T/yr	CO T/yr	VOC T/yr	Lead T/yr	Fluoride T/yr	CO ₂ e T/yr
Point Sources								
Projected Actual Emissions	9.55	0.40	47.26	60.70	1.34	3.3E-04	0.82	82457
Baseline Actual Emissions	7.23	0.33	40.96	43.70	0.73	2.76E-04	0.32	68747
Project Emissions Increase	2.32	0.07	6.30	17.00	0.61	5.7E-05	0.50	13710

Comparison of the Project Emissions Increase to the PSD Significance Thresholds

The comparison of the change in projected actual emissions from baseline actual emissions to the PSD significance thresholds is presented in the following table.

Table 5 COMPARISON OF THE PROJECT EMISSIONS INCREASE TO THE PSD MAJOR MODIFICATION THRESHOLDS

Emissions	PM ₁₀ /PM _{2.5} ^a T/yr	SO ₂ T/yr	NO _x T/yr	CO T/yr	VOC T/yr	Lead T/yr	Fluoride T/yr	CO _{2e} T/yr
Point Sources								
Project Emissions Increase	2.32	0.07	6.30	17.00	0.61	5.7E-05	0.50	13710
PSD Significance Threshold	15	40	40	100	40	0.6	3	75,000
Does the Project Emissions Increase Exceed the PSD Major Modification Threshold?	No	No	No	No	No	No	No	No

a) PM₁₀ and PM_{2.5} were evaluated as one pollutant. The major modification threshold for PM_{2.5} is 10 TPY. The project emissions increase is below 10 TPY and therefore PM_{2.5} is below the threshold.

As presented in the preceding table, this project does not constitute a PSD Major Modification and is not subject to PSD permitting requirements.

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of non-carcinogenic toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions are presented in the following table:

Table 6 PRE- AND POST- PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility ^a (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Barium	0.00E-03	1.15E-04	1.15E-04	0.033	No
Chromium	0.00E-03	3.65E-05	3.65E-05	0.033	No
Cobalt	0.00E-03	2.19E-06	2.19E-06	0.0033	No
Copper	0.00E-03	2.21E-05	2.21E-05	0.013	No
Manganese	0.00E-03	9.89E-06	9.89E-06	0.067	No
Molybednum	0.00E-03	2.86E-05	2.86E-05	0.333	No
Naphthalene	0.00E-03	1.59E-05	1.59E-05	3.33	No
n-Hexane	0.00E-03	4.69E-02	4.69E-02	12	No
Selenium	0.00E-03	6.25E-07	6.25E-07	0.013	No
Toluene	0.00E-03	8.85E-05	8.85E-05	25	No
Vanadium	0.00E-03	5.99E-05	5.99E-05	0.003	No
Zinc	0.00E-03	7.55E-04	7.55E-04	0.667	No

a) Incremental emissions were included from the existing Nebraska boiler. Therefore, pre-project emissions rates are set to zero.

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of carcinogenic toxic air pollutants (TAP) is provided in the following table.

Table 7 PRE- AND POST- PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr) ^a	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
2-Methylnaphthalene	0.00E-03	6.25E-07	6.25E-07	9.10E-05	No
3-Methylchloranthrene	0.00E-03	4.69E-08	4.69E-08	2.50E-06	No
7,12-Dimethylbenz(a)anthracene	0.00E-03	4.17E-07	4.17E-07	9.10E-05	No
Acenaphthene	0.00E-03	4.69E-08	4.69E-08	9.10E-05	No
Acenaphthylene	0.00E-03	4.69E-08	4.69E-08	9.10E-05	No
Anthracene	0.00E-03	6.25E-08	6.25E-08	9.10E-05	No
Arsenic	0.00E-03	5.21E-06	5.21E-06	1.50E-06	Yes
Benz(a)anthracene	0.00E-03	4.69E-08	4.69E-08	2.00E-06	No
Benzene	0.00E-03	5.47E-05	5.47E-05	8.00E-04	No
Benzo(a)pyrene	0.00E-03	3.12E-08	3.12E-08	2.00E-06	No
Benzo(b)fluoranthene	0.00E-03	4.69E-08	4.69E-08	2.00E-06	No
Benzo(g,h,i)perylene	0.00E-03	3.12E-08	3.12E-08	9.10E-05	No
Benzo(k)fluoranthene	0.00E-03	4.69E-08	4.69E-08	2.00E-06	No
Beryllium	0.00E-03	3.12E-07	3.12E-07	2.80E-05	No
Cadmium	0.00E-03	2.86E-05	2.86E-05	3.70E-06	Yes
Chrysene	0.00E-03	4.69E-08	4.69E-08	2.00E-06	No
Dibenzo(a,h)anthracene	0.00E-03	3.12E-08	3.12E-08	2.00E-06	No
Dichlorobenzene	0.00E-03	3.12E-05	3.12E-05	---	No
Fluoranthene	0.00E-03	7.81E-08	7.81E-08	9.10E-05	No
Fluorene		7.29E-08	7.29E-08	9.10E-05	No
Formaldehyde	0.00E-03	1.95E-03	1.95E-03	5.10E-04	Yes
Indeno(1,2,3-cd)pyrene	0.00E-03	4.69E-08	4.69E-08	2.00E-06	No
Nickel	0.00E-03	5.47E-05	5.47E-05	2.70E-05	Yes
PAH ^b	0.00E-03	2.97E-07	2.97E-07	2.00E-06	No
Phenanathrene	0.00E-03	4.43E-07	4.43E-07	9.10E-05	No
Pyrene	0.00E-03	1.30E-07	1.30E-07	9.10E-05	No

- a) Incremental emissions were included from the existing Nebraska boiler. Therefore, pre-project emissions rates are set to zero.
- b) Polynuclear Aromatic Hydrocarbons (PAH) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo (g,h,i)perylene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene.

Some of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for arsenic, cadmium, formaldehyde, and nickel because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of carcinogenic TAPs from this project exceeded applicable screening emission levels (EL) and published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline¹. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

¹ Criteria pollutant thresholds in Table 1, State of Idaho Air Quality Modeling Guideline, Doc ID AQ-011, rev. 1, December 31, 2002.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix A and B.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Caribou County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201 Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the proposed new emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401 Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400-410 were not applicable to this permitting action.

Standards for New Sources (IDAPA 58.01.01.676)

IDAPA 58.01.01.676 Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Condition 2.4.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301 Requirement to Obtain Tier I Operating Permit

Nu-West is defined as a major facility for purposes of the Title V Program in accordance with IDAPA 58.01.01.008.10, because it emits or has the potential to emit (PTE) a regulated air pollutant in amounts greater than or equal to major facility thresholds listed in Subsection 008.10. The facility has a PTE for SO₂ and NO_x of over 100 T/yr for each pollutant.

PSD Classification (40 CFR 52.21)

40 CFR 52.21 Prevention of Significant Deterioration of Air Quality

This facility is a designated facility as defined by IDAPA 58.01.01.006.30. and 58.01.01.205 [40 CFR 52.21(a)] (sulfuric acid plant). Since the facility is a designated facility, the PSD applicability threshold is 100 TPY. This facility is a major facility as defined for the PSD program by IDAPA 58.01.01.205 [40 CFR 52.21(b)] because it emits or has the potential to emit a regulated criteria air pollutant (SO₂ and NO_x) in amounts greater than or equal to 100 tons per year.

Because Nu-West is an existing PSD major facility, any project that entails a physical or operational change to that facility is subject to the PSD applicability procedures specified at 40 CFR.52.21(a)(2) in order to determine if the change triggers the PSD requirements.

The PSD applicability determination process involves a two part test. The first step test is to determine if the project itself would cause a significant emission increase. The second step test is only conducted if the first step test shows that the project itself causes a significant increase. The second step test is to determine if the project would also cause a significant net emission increase.

The first step test for modifications to existing emissions units is conducted in accordance with the procedures specified at 40 CFR 52.21(a)(2)(iv)(Actual to projected actual test for projects that only involve existing and new emission units). This is the appropriate test because the changes are to components of the existing SPA process. The existing SPA process is not being entirely replaced and is not considered a new emission unit for purposes of the PSD applicably tests. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions and the baseline actual emissions, for each existing emissions unit, equals or exceeds the significant amount for that pollutant.

Baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received (40 CFR 52.21(b)(48)). Nu-West calculated baseline actual emissions as the annual average emissions for calendar year 2006 and 2007 for all pollutants except PM₁₀/PM_{2.5}. Nu-West calculated baseline actual emissions as the annual average emission for calendar years 2007 and 2008 for PM₁₀/PM_{2.5}. See the emission inventories section of this Statement of Basis for more details.

Projected actual emissions is the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date if the project involves increasing the emissions unit's design capacity. In lieu of using the method described, the applicant may elect to use the emissions unit's potential to emit, in tons per year (40 CFR 52.21(b)(41)(ii)(d)). Nu-West has elected to use the potential to emit for all pollutants associated with the Therminol Heater, SPA Oxidation Reactor, and SPA Scrubber. Nu-West elected to use incremental projected use emissions for the Nebraska Boiler and Cooling Tower. Nu-West's emissions for the SPA evaporation system project are listed in Table 2 of this Statement of Basis.

The first step of the PSD applicability analysis for Nu-West is summarized in Table 5 of this Statement of Basis. The analysis shows that the project will not cause a significant emission increase and therefore the second step test is not warranted.

NSPS Applicability (40 CFR 60)

In accordance with 40 CFR 63.610, since the Phosphoric Acid Plant and Superphosphoric Acid Plant are affected sources subject to the provisions of 40 CFR 63 Subpart AA, they are exempted from any otherwise applicable new source performance standard contained in 40 CFR Part 60, Subpart T, Subpart U or Subpart NN. To be exempt, a source must have a current operating permit pursuant to Title V of the Act and the source must be in compliance with all requirements of this subpart.

The Nebraska B-5 boiler is subject to 40 CFR 60, Subpart Db and is unaffected by the current project. See permit number T1-060308 amended on January 12, 2012 for a breakdown of Subpart Db.

NESHAP Applicability (40 CFR 61)

This project does not have any effect on NESHAP requirements.

MACT Applicability (40 CFR 63)

The facility is subject to 40 CFR 63 Subpart AA, National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants. The requirements of this subpart apply to emissions of hazardous air pollutants (HAPs) emitted from the following new or existing affected sources at a phosphoric acid manufacturing plant:

- Each wet-process phosphoric acid process line. The requirements of this subpart apply to the following emission points which are components of a wet-process phosphoric acid process line: reactors, filters, evaporators, and hot wells;
- Each evaporative cooling tower at a phosphoric acid manufacturing plant;
- Each phosphate rock dryer located at a phosphoric acid manufacturing plant;
- Each phosphate rock calciner located at a phosphoric acid manufacturing plant;
- Each superphosphoric acid process line. The requirements of this subpart apply to the following emission points which are components of a superphosphoric acid process line: evaporators, hot wells, acid sumps, and cooling tanks; and
- Each purified acid process line. These requirements do not apply since Nu-West no longer produces purified phosphoric acid.

This project has no impact on Nu-West's MACT applicability. Nu-West is currently subject to 40 CFR 63 Subpart AA and the permit conditions pertaining to Subpart AA have been carried over from the Tier I Operating Permit and duplicated in this PTC.

Permit Conditions Review

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

Initial Permit Conditions 2.1 and 2.2

These permit conditions provide a description of the process, regulated sources and the control devices in use for the No. 3 SPA evaporation system.

Initial Permit Conditions 2.3, 2.5, 2.7 – 2.8, and 2.10 – 2.25

These permit conditions have been carried over and duplicated from P-2009.0068 and the current Tier I Operating Permit as they apply to the superphosphoric acid line. These permit conditions identify the MACT standards and NO_x emission limits under which the superphosphoric acid line operates.

Initial Permit Condition 2.4

This permit condition establishes the particulate matter emission limitation in accordance with IDAPA 58.01.01.676-677. Compliance with this requirement is demonstrated by complying with the requirement to combust only natural gas in the Therminol heater.

Initial Permit Condition 2.6

This permit condition requires that the Therminol heater shall only combust natural gas. This requirement was placed in the permit because emission estimates presented in the compliance demonstration in the permit application are based upon using exclusively natural gas.

Initial Permit Condition 2.9

This permit condition clarifies that in the event there is a conflict between a permit condition and a Federal rule, it is the Federal rule that shall apply.

Initial Permit Condition 3.1

The duty to comply general compliance provision requires that the permittee comply with all of the permit terms and conditions pursuant to Idaho Code §39-101.

Initial Permit Condition 3.2

The maintenance and operation general compliance provision requires that the permittee maintain and operate all treatment and control facilities at the facility in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 3.3

The obligation to comply general compliance provision specifies that no permit condition is intended to relieve or exempt the permittee from compliance with applicable state and federal requirements, in accordance with IDAPA 58.01.01.212.01.

Initial Permit Condition 3.4

The inspection and entry provision requires that the permittee allow DEQ inspection and entry pursuant to Idaho Code §39-108.

Initial Permit Condition 3.5

The permit expiration construction and operation provision specifies that the permit expires if construction has not begun within two years of permit issuance or if construction has been suspended for a year in accordance with IDAPA 58.01.01.211.02.

Initial Permit Condition 3.6

The notification of construction and operation provision requires that the permittee notify DEQ of the dates of construction and operation, in accordance with IDAPA 58.01.01.211.03.

Initial Permit Condition 3.7

The performance testing notification of intent provision requires that the permittee notify DEQ at least 15 days prior to any performance test to provide DEQ the option to have an observer present, in accordance with IDAPA 58.01.01.157.03.

Initial Permit Condition 3.8

The performance test protocol provision requires that any performance testing be conducted in accordance with the procedures of IDAPA 58.01.01.157, and encourages the permittee to submit a protocol to DEQ for approval prior to testing.

Initial Permit Condition 3.9

The performance test report provision requires that the permittee report any performance test results to DEQ within 30 days of completion, in accordance with IDAPA 58.01.01.157.04-05.

Initial Permit Condition 3.10

The monitoring and recordkeeping provision requires that the permittee maintain sufficient records to ensure compliance with permit conditions, in accordance with IDAPA 58.01.01.211.

Initial Permit Condition 3.11

The excess emissions provision requires that the permittee follow the procedures required for excess emissions events, in accordance with IDAPA 58.01.01.130-136.

Initial Permit Condition 3.12

The certification provision requires that a responsible official certify all documents submitted to DEQ, in accordance with IDAPA 58.01.01.123.

Initial Permit Condition 3.13

The false statement provision requires that no person make false statements, representations, or certifications, in accordance with IDAPA 58.01.01.125.

Initial Permit Condition 3.14

The tampering provision requires that no person render inaccurate any required monitoring device or method, in accordance with IDAPA 58.01.01.126.

Initial Permit Condition 3.15

The transferability provision specifies that this permit to construct is transferable, in accordance with the procedures of IDAPA 58.01.01.209.06.

Initial Permit Condition 3.16

The severability provision specifies that permit conditions are severable, in accordance with IDAPA 58.01.01.211.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there were no comments on the application and there was a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

Public Comment Period

A public comment period is being made available to the public in accordance with IDAPA 58.01.01.209.01.c. Refer to the chronology for public comment period dates.

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on April 4, 2013:

Facility Comment: SOB Appendix A (page 7 of the pdf) – Table: Total Phosphoric Acid Plant Fluoride Emissions including Wet and SPA Process Lines.

Nu-West requests that the table be deleted in its entirety. The table suggests that permit condition 6.3, which imposes a fluoride limit of 3.8 on phosphoric acid plant, applies to both the phosphoric acid (S-PA-1) and SPA process lines (S-Pb-1). Permit condition 6.3 is based on PTC No. P-2009.00002 (2/20/09), which was issued by the Department for the addition of F-GYP-2. Reviewing the application materials and SOB for PTC No. P-2009.00002 (as well as PTC No. 2007-0170 (12/19/07)), it's clear DEQ intended condition 6.3 to apply only to the phosphoric acid process line (S-Pa-1). In the application materials for F-GYP-2, emissions were calculated from both the phosphoric acid line (3.78 tons per year) and the SPA lines (1.5 tons per year). Nu-West also asserted that the addition of F-GYP-2 would not change acid production and slurry output or fluoride emissions from the plant. The 3.78 tons is based on the phosphoric acid MACT limit of 0.01350 lb/ton of P₂O₅ times the throughput limit in condition 6.7 of 560,000 equivalent feed tons of P₂O₅. Since conditions 6.3 and 6.7 do not apply to SPA, the information provided in the table is misleading as it suggests that the 3.8 tons per year fluoride limit does apply to SPA. Nu-West is providing the Department with a page to replace the page with the table to be deleted.

DEQ Response: The table has been replaced to remove the fluoride limit on the SPA process line.

Facility Comment: SOB Section: PSD Classification (40 CFR 52.21) – indicated in Table of Contents as Page 11, although no page numbers in the document), sixth paragraph.

The following statement is made: “Nu-West has elected to use the potential to emit for all pollutants.” Nu-West would like to clarify that potential to emit (PTE) was not used for all emission sources. Nu-West used a PTE basis for calculating emissions from the new Therminol Heater based on its rated capacity, for the SPA Oxidation Reactor based on the maximum capacity of SPA 3, and for emissions from the SPA Scrubber based on the maximum capacity of SPA 3 (note for fluorides, the MACT standard limit of 0.0087 lb F per ton equivalent P₂O₅ feed was applied to the maximum design throughput for SPA 3). However, for project-related emissions from the Nebraska Boiler and PPA cooling tower, projected actual emission increases were calculated only for the incremental use of this existing equipment associated with the project. Projected actual emissions from the entire SPA process, including SPA 1, 2, and 3 were estimated by DEQ as the sum of baseline actual emissions of SPA 1 and 2, and PTE of SPA 3.

DEQ Response: The page numbers have been reinserted into the document and a clarification has been made as to the emissions used into the PSD analysis.

APPENDIX D – PROCESSING FEE