Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
1. General Comment	Princeton University supports the Department efforts to develop general permits and general operating permits (GPs and GOPs) to promote CHP in the State. (**Robert Ortego, P.E., Princeton University)**	The Department thanks the commenters for these supporting statements.
2. GP/GOP Section I, Definitions	DSM Nutritional Products and Princeton University: The definition of combined heat and power spark ignition engine unit should include combined cooling and power which are also highly efficient. An example is a system which uses hot water from engine exhaust and/or cooling system to operate a hot water driven absorption chiller. A possible definition is as follows: "Combined heat and power spark ignition engine unit" means a unit …. and indirectly to produce steam or hot water ***for heating and cooling.*** ***(*Andrew Tynan QEP, DSM Nutritional Products, Robert Ortego. P.E.,Princeton University)**	The definition in both GP and GOP for the combustion turbines has been expanded to account for other useful output that can be derived from the unit as follows: **"Combined heat and power spark ignition engine unit" means a unit in which excess, or byproduct heat energy produced by spark ignition engine(s), with or without duct burner(s), can be used in direct process applications or indirectly to produce steam or other useful heat recovery.**
3. GP/GOP Section I, Definitions	Princeton suggests 60 minutes is more appropriate duration for startup and shutdown, consistent with Princeton's current permit. Less operational experience was gathered with these smaller units, and allowing 60 minutes for start-up and shut-down allows for that operational uncertainty. (**Robert Ortego. P.E., Princeton University)**	Startup and shutdown times (30 minutes) for reciprocating engines are consistent with MACT ZZZZ promulgated on August 21, 2010.

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
4. GP- Section II Authority	This section should cite the general permit also assures conformance with National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Reciprocating Internal Combustion Engines (RICE) at Area and Major Sources (40 CFR 63 Subpart ZZZZ.) (**Robert Ortego. P.E., Princeton University)**	General Permit/General Operating Permit is not allowed to be used at major HAPS sources. At area sources, compliance with NSPS JJJJ requirements constitutes compliance with NESHAP RICE for area sources. This condition is included in Compliance Plan, GP- Section VIII and GOP- Section VI.
5. GP-Section III, Applicability; GOP- Section IIA, Applicability	Princeton University supports CHP efficiency designs that achieve 65% or greater. Princeton also concurs that CHP is BACT for reduction of CO2 emissions. (**Robert Ortego. P.E., Princeton University)**	The Department thanks the commenters for these supporting statements.
6. GP - Section IV, Monitoring, Recordkeeping and Reporting; GOP- Section IIB, Monitoring, Recordkeeping and Reporting	Princeton University and DSM Nutritional Products: The permitting options in Table 2 appear to be divided into two categories: CHP units with a maximum of 20 MMBTU/hr. and CHP units with greater than 20 MMBTU/hr and less than 65 MMBTU/hr. Princeton suggests presenting the options in terms of heat input rather than hourly fuel consumption **(Andrew Tynan, DSM Nutritional Products, Robert Ortego. P.E.,Princeton University)**	In response to comment, the Options Table 2 has been revised to show only the annual fuel use with corresponding annual emissions. The heat input rate was added to Table 2. The hourly emissions will now be calculated in the registration form based on the maximum heat input rate (HHV) chosen by the applicant

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
7. GP - Section IV, Monitoring, Recordkeeping and Reporting; GOP- Section IIB, Monitoring, Recordkeeping and Reporting	Princeton University and DSM Nutritional Products: An hourly fuel consumption limit is not a typical requirement in AQ permits for CHP units even though stack emissions on an hourly basis are limited by the hourly fuel consumption. The potential to emit options table may be categorized by a limit to the maximum heat input rate instead of a limit on the maximum hourly fuel consumption. - Continuous fuel monitoring is reasonable, but recording fuel use for each hour is not. **(Andrew Tynan, QEP, DSM Nutritional Products, Robert Ortego. P.E.,Princeton University)**	The Department agrees with the commenters that that hourly fuel limits are dictated by the physical limitations of the equipment. The monitoring has been revised by removing the requirement to monitor an hourly fuel use.
8. GP - Section IV, Monitoring, Recordkeeping and Reporting; GOP- Section IIB, Monitoring, Recordkeeping and Reporting	Princeton University, DSM Nutritional Products, PPL Services Corporation: The use of CEMS for CHP units equipped with SCR and emitting less than 5 TPY is excessively costly and would cause the withdrawal of most proposed CHP projects. The requirement to use CEMS, especially for lower emitting units, should be deleted. **(Andrew Tynan, QEP, DSM Nutritional Products, Robert Ortego. P.E.,Princeton University, Edward J. Werkheiser, PPL Services Corporation))**	In response to the comment, NJDEP removed CEMS monitoring from GP/GOP for CHP SI engines. The compliance with NOx, CO, and VOC emission limits will be demonstrated by annual stack testing.

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
9. GP -Section V, Exclusions; GOP-Section III Limitations and Requirements	Princeton University: Owners and operators must track their PTE to determine major source status, however the requirement to submit this demonstration with every permit modification is unnecessary, and imposes limits that are unnecessary and not required for other minor facilities. (**Robert Ortego. P.E., Princeton University)**	The language in Permit text is consistent with General Procedures for GP and GOP. The reason for this requirement is to assure compliance with N.J.A.C. 7-27-18 because GP/GOP procedure does not involve any Department review.
10. GP -Section V, Exclusions; GOP-Section III Limitations and Requirements	**Princeton University:** Princeton requests deletion of the requirement to only burn natural gas or propane. Fuel type should not be a factor if compliance with the emission limits in Section VI may be achieved with the use of air pollution controls. (**Robert Ortego. P.E., Princeton University)**	Allowing fuel oils and their derivatives may result in HAPS emissions and/or diesel particulate matter emissions which would require case by case health risk considerations.
11. GOP only-Section III, Limitations and Requirements, Paragraph 8	**DSM Nutritional Products and Princeton University:** Princeton University suggests NJDEP AQP consider GOP as an attachment instead of merging with the Title V permit. **(Andrew Tynan, QEP, DSM Nutritional Products, Robert Ortego. P.E., Princeton University)**	According to the definition of "Operating Permit" at N.J.A.C. 7:27-22.1 the general operating permit shall be incorporated into the operating permit. Issuing a general operating permit as an attachment as suggested would contradict N.J.A.C. 7:27-22.

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
12. GP-Section VI, Equipment Specifications; GOP- Section IV, Equipment Specifications	Princeton University, DSM Nutritional Products Inc, PPL Services Corporation: CHP Engines with a potential to emit less than 5 TPY should be subject to NSPS JJJJ emission limits and not to be subject to emission limits based on conformance with NJDEP SOTA Manual. (**Robert Ortego. P.E., Princeton University, Andrew Tynan, QEP, DSM Nutritional Products, Edward J. Werkheiser, PPL Services Corporation)**	Any equipment covered by this GP/GOP shall comply with the limits listed. The owner or operator has an option of filing a permit application for a case by case evaluation of different control device and emission limits requirements instead of obtaining GP/GOP registration. No changes have been done in response to this comment.
13. GP-Section VI, Equipment Specifications; GOP-Section IV, Equipment Specifications	Princeton University: The Department is dictating stack heights based on the height that is presumed to result in emissions of Hazardous Air Pollutants (HAP) that meet the health risk criteria determined via the Departments health risk screening tools found at http://www.state.nj.us/dep/aqpp/risk.htmI. Princeton suggests the NJDEP consider using AERMOD and sophisticated site and meteorological information to identify a reasonable stack height. (**Robert Ortego. P.E., Princeton University)**	The stack height of 35 feet or 50 feet for the maximum heat rate for less than or equal to 20 MMBtu/hr or greater than 20 MMBtu/hr, respectively, was determined based on the results of refined 2nd level risk screening using AERMOD modeling and deemed appropriate.

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
14. GP-Section VII, PTE Options; GOP-Section V, PTE Options	**DSM Nutritional Products Inc.,Princeton University, Roche:** Princeton is requesting AQP clarify whether the annual fuel usage is based on 8260 hrs/yr. **(Andrew Tynan, QEP, DSM Nutritional Products, Robert Ortego. P.E.,Princeton University, James Connolly, Roche)**	The annual fuel use was used to calculate annual emissions that do not exceed 10.0 TPY NOx. For equipment less than or equal to 50 MMBtu/hr, annual fuel use corresponds to 8760 hours. The annual fuel use for equipment greater than 50 MMBtu/hr needs to be restricted to 75 percent capacity so that annual emissions do not increase above 10 tpy to ensure the GP/GOP does not trigger N.J.A.C. 7-27- 18 requirements and does not increase health risk from HAPS emissions. This GP/GOP allows registering equipment up to 65 MMBTU/hr based on the annual fuel use restriction independent of operating hours.
15. GP- Section VIII, Compliance Plan, Reference 5; GOP-Section VI, Compliance Plan, Reference 3	Princeton University: The NJDEP should extend the stack test report deadline to “60 days following the test” considering the high volume of tests conducted in this region. (**Robert Ortego. P.E., Princeton University)**	The stack test report submittal schedule is prescribed by the rule. Subchapter N.J.A.C. 7:27-22.18(e)3 requires 45 days. Subchapter N.J.A.C. 7:27-8.3(e) requires 30 days. An extension to the stack test report submittal date in accordance with the rule may be done through a permit modification, utilizing RADIUS submittal package.

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
16. Section VIII, Compliance Plan, Reference No. 10.	**PPL Services Corporation**: Emission limits for TSP as an applicable requirement pursuant to N.J.A.C. 4 do not list monitoring, recordkeeping and reporting requirements (MR&R). Why is MR&R requirement not included ? ? (**Edward J. Werkheiser, PPL Services Corporation)**	TSP stack emission testing is not required in this case.
17. GP- Section VIII, Compliance Plan, Reference 5; GOP-Section VI, Compliance Plan, Reference 3	**Department Initiated Change:** Language for the stack test deadline should allow time for the construction of equipment.	The stack test schedule has been clarified by adding a clause for 180 days after the date of the initial operation of the equipment, as follows: "The stack test must be conducted within 180 days from the date of registration for this permit or not later than 180 days after the date of the initial operation of the equipment, whichever is later."

Response to Comments General Permit and General Operating Permit for Combined Heat and Power (CHP) Spark Ignition RICE		
Sections	**Comments**	**NJDEP Response**
18. GP- Section VIII, Compliance Plan, Reference 21-37 ; GOP- Section VI, Compliance Plan, Reference 23-39	**Princeton University:** Please delete the references to NSPS JJJJ requirements for engines manufactured prior to July 2011. It is not likely that engines manufactured prior to July 1, 2010 or January 1, 2011 will use this permitting mechanism. The Department has elected to include NSPS JJJJ requirements for non-certified engines only. Princeton suggests the Department include requirements for certified engines as well. (**Robert Ortego. P.E., Princeton University)**	GP does not prohibit installation of earlier model year engines. It is also consistent with 40 CFR 60.4236(e), that allows installation of engines that were removed from one existing location and reinstalled at a new location. So, listing requirements for engines manufactured prior to July 1, 2010 is justified. The owner or operator shall comply with the NSPS emission limits based on the model year and size of the equipment that was registered. Upon incorporation into Operating Permit, only conditions relevant to the appropriate model year will be included. The Department is not aware of any engine manufacturer's application to obtain certificate of conformity from EPA to certify natural gas engines to NSPS JJJJ standards. So, currently, conditions for certified engines need not to be included. If, in the future, certification is obtained, the Department will revise CHP GP/GOP.
19. GOP- Section VI, Compliance Plan, Reference 16, 19, 20	**Department Initiated Change:** Compliance plan for GOP inadvertently omitted 3 line items that were listed in draft for public comment GP-022, so, for consistency, those lines were added in GOP.	The Department added compliance plan items in GOP-006 for VOC concentration limit, Ammonia slip and control device operation, to be consistent with GP-022. (Ref. # 16, 19 and 20).