Distributed Generation as Combined Heat and Power (DG-CHP)

Program Opportunity Notice (PON) 1931

$17,000,000 Available

Proposals Due December 23, 2010 by 5:00 PM Eastern Time*

The New York State Energy Research and Development Authority (NYSERDA) invites proposals to support the installation and demonstration of Combined Heat and Power (CHP) systems at facilities in New York State. The CHP systems installed under this program are intended to produce both electricity and useful thermal energy throughout the design life of the installed equipment.

Category	NYSERDA Cost Share	Maximum NYSERDA Award per project
A: Demonstration Projects	30% to 50%	$2,000,000
A-1: Fleet Demonstration Projects	30% to 50%	$4,000,000

Proposal Submission: Proposers must submit two (2) hard copies and one (1) digital copy on CD-ROM of the proposal with a completed and signed Proposal Checklist attached to the front of each hard copy, both of which must contain an original signature. Proposals must be clearly labeled and submitted to:

Roseanne Viscusi, PON 1931
NYS Energy Research and Development Authority
17 Columbia Circle
Albany, NY 12203-6399

If you have technical questions concerning this solicitation, contact Edward Kear at (518) 862-1090, ext. 3269 or ebk@nyserda.org. If you have contractual questions concerning this solicitation, contact Nancy Marucci at (518) 862-1090, ext. 3335 or nsm@nyserda.org.

No communication intended to influence this procurement is permitted except by contacting Edward Kear (Designated Contact) at (518) 862-1090, ext. 3269 or ebk@nyserda.org. Contacting anyone other than this Designated Contact (either directly by the proposer or indirectly through a lobbyist or other person acting on the proposer's behalf) in an attempt to influence the procurement: (1) may result in a proposer being deemed a non-responsible offerer, and (2) may result in the proposer not being awarded a contract.

*Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist, or a completed and signed Disclosure of Prior Findings will be returned. Faxed or e-mailed proposals will not be accepted. Proposals will not be accepted at any other NYSERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSERDA's web site at www.nyserda.org.

Introduction
The objective of PON 1931 is to support the installation of DG-CHP systems that offer many of the following benefits:

1 Superior environmental performance,
2 Improved grid reliability,
3 Improved energy security,
4 Improved energy efficiency,
5 Increased utilization of renewable fuels,
6 Reduced energy costs which foster economic expansion,
7 Effective technology transfer, and
8 Contribute to "market transformation".

Category A is for single-site DG-CHP demonstrations.
Category A-1 is for multiple-site DG-CHP demonstrations where the sites have similar electric and thermal load profiles and are under common ownership or control (e.g., a chain of supermarkets, a chain of hotels, similar multifamily buildings on a residential campus, etc). Category A-1 projects will be structured in 2 phases: a Pilot Installation, where a DG-CHP system will be installed at a single site and operated for a period of time sufficient to determine if the system was appropriately designed; and a Rollout Installation Phase where DG-CHP systems (using an improved design incorporating the lessons learned from the Pilot Installation) will be installed at multiple sites.

Program Funding
The maximum award for any one Category A Demonstration Project is $2,000,000.
The maximum award for any one Category A-1 Fleet Demonstration Project is $4,000,000. The maximum funding for the Pilot Installation is $1,000,000. NYSERDA funding for the remaining Rollout Installations will be evenly split among them, however, funding for any one individual Rollout Installation will not exceed that of the Pilot Installation.

The actual award that any one project receives (Category A or A-1) will depend on the total cost and certain characteristics of the project. In general, each project may be awarded up to 30% of total project cost. A project may be able to increase the award to a maximum of 50% of total project cost if the project has certain characteristics. Each of the following characteristics can increase the award by 10 percentage points:

- The project is located in Consolidated Edison (Con Edison) service territory,
- The project is connected to a "spot network" (as opposed to "radial grid") outside of Con Edison service territory. A facility is connected to a spot network when it is connected to multiple high-voltage feeds which serve a common bus and/or circuit,
- The project is directly powered by a renewable or opportunity fuel, or waste heat, and not eligible under any NYSERDA Customer Sited Tier Renewable Portfolio Standard (CST-RPS) program,
- The DG-CHP system will be an integral part of a documented and verifiable "facility of refuge". A facility of refuge is a structure or facility capable of providing shelter for a significant portion of the local population during times of man-made or natural disaster, and is cooperating and coordinated with county or city emergency management officials, as appropriate,
- The project is designed to provide a seamless, flicker free transition between normal and backup power operation using the DG-CHP prime mover to serve priority loads during periods of grid outage, and
- The project utilizes a pre-engineered, pre-packaged, factory tested, DG-CHP system(s) that integrates electric generation and thermal systems.

For example, a project that will provide seamless transition to grid-independent operation could receive up to 40% of total project cost if located outside of Con Edison service territory, and up to 50% of total project costs if located within Con Edison service territory.

Program Requirements and Eligibility

All proposed projects must meet **all** of the following program requirements:

- All Demonstration Sites (a site where the DG-CHP system will be installed), including Pilot and Rollout sites for Category A-1 projects, must be located in New York State and be an electric customer of one of the following investor owned utility companies: Central Hudson Gas and Electric, Consolidated Edison (Con Edison), New York State Electric and Gas (NYSEG), National Grid, Orange and Rockland Utilities, Inc., or Rochester Gas and Electric (RG&E). Demonstration Sites which are customers of municipal electric utilities, electric co-op utilities, Long Island Power Authority (LIPA) or receive all of their electric power from New York Power Authority (NYPA) are **not eligible**. Demonstration sites that are customers of investor owned utilities and also receives some of their electric power from NYPA **may** be eligible on a case by case basis.
- If a Demonstration Site is an existing facility that is connected to the grid, it must be contributing to the System Benefit Charge (SBC) fund at the time of proposal submission. If a Demonstration site is an existing facility that is currently grid isolated, the proposed project must include connecting to the grid and the site must contribute to the SBC fund once connected. New Demonstration Site facilities, currently being designed or constructed, must contribute to the SBC fund when built.
- NYSERDA prefers to contract directly with the owners of Demonstration Sites, and as such, the owner of the Demonstration Site is expected to serve as NYSERDA's Prime Contractor. Under certain circumstances it may be necessary for NYSERDA to contract with a project developer or an energy services company (ESCO), but this contractual arrangement will only be permitted on an exception basis. NYSERDA reserves the exclusive right to determine/define the entity to serve as its Prime Contractor.
- Fuel-cell systems and DG systems fueled by anaerobic digester gas (ADG) that are eligible for participation in any open enrolment, first-come-first-served, NYSERDA RPS program as of the proposal due date for this PON are **not eligible** for this program.
- Projects that were selected for an award under PONs 536, 554, 669, 750, 800, 914,1043,1178 or 1241 and which were either in "contract negotiation" or "contracted" status with NYSERDA as of September 1, 2010 are **not eligible** for this PON.
- Proposals intending to replace, augment or modify existing DG-CHP equipment so it will meet all eligibility requirements for this PON are eligible, including proposals to connect an existing islanded DG-CHP system to the grid, and proposals to repower DG-CHP systems that have reached their end of design life.
- Proposed projects at Demonstration Sites in locations where the local authorities have imposed special requirements (such as the need for NYC Dept. of Buildings issued Materials and Equipment Acceptance (MEA) numbers for the installation of some equipment in NYC) must, at the time of proposal submission, document compliance with such local requirements in order to be eligible.
- DG-CHP systems must be designed as a "permanent" installation and provide a long-term electric power and thermal supply solution for the Demonstration Site(s).
- DG-CHP systems must be designed and installed to be capable of providing grid independent operation using the DG-CHP prime mover to supply priority loads during periods of grid outage. A priority load may be any load that provides a health, safety, and/or economic benefit to the Demonstration Site, for example: lighting, space conditioning, refrigeration for food storage, communications, and assisting in the orderly shutdown of industrial processes. The DG-CHP system must be capable of black-start.
- DG-CHP systems must, in general, have a projected overall annual thermal efficiency of 60% or more. Overall annual thermal efficiency is defined as the sum of the annual net electricity generated and the thermal energy used, divided by the energy input to the prime mover. Fuel energy inputs are to be calculated using higher heating values (HHV). On a case-by-case basis, projects that meet the following characteristics may have a projected overall annual thermal efficiency as low as 50% if there is significant public benefit. Documentation must be provided in your proposal.
  - DG-CHP systems powered by a sustainable renewable fuel,
  - DG-CHP systems that result in the permanent avoidance of a significant, and costly, utility upgrade, or
  - Existing grid isolated DG-CHP systems that will be recommissioned for grid parallel operation.
- The prime mover of all DG-CHP systems must meet an air emission limit of no more than 1.6 lbs of NOx per MWhr.
- Category A DG-CHP systems should be commissioned within one (1) year of NYSERDA award notification. NYSERDA reserves the right to terminate any project that does not adhere to the proposed schedule.
- A CHP System Installation Report is required detailing system design, procurement, installation, commissioning, emission testing, and performance data measured during commissioning (See Appendix A1 for details).

- Demonstration Sites will be required to provide the necessary instrumentation and data logging system to accommodate access to the DG-CHP system performance data (at least 15 minute interval data, with data delivery to NYSERDA through its Data Integration Agent at least as frequent as once per day.) System performance data access will be required for four (4) years following commissioning. System performance data is defined in Appendix A2 and includes, but is not limited to, DG-CHP system fuel flow, electric power output, recovered thermal output which is beneficially used, and overall facility electric power and thermal consumption. System performance data will be publicly displayed on NYSERDA's DG-CHP website chp.nyserda.org.
- DG-CHP systems will not be considered "commissioned" until system performance data is being properly delivered to NYSERDA through its Data Integration Agent and the CHP System Installation Report has been approved by NYSERDA's Project Manager.
- Demonstration Sites must allow NYSERDA (or appointed third party) to inspect the instrumentation and data logging system and/or to monitor emissions any time during the project period (both during commissioning and for four (4) years after commissioning).
- Demonstration Sites will be required to monitor emissions during system commissioning to validate the manufacturer's performance specifications.
- NYSERDA intends to establish contracts based on the example "Statement of Work (SOW)" shown in Appendix A1
- This PON will not fund tasks that have already been completed. Proposals will only be accepted for work yet to be performed. Expenses that have already been incurred (including proposal preparation costs) can not be included in the total project cost.

In addition, Category A-1 projects must meet the following requirements:

- The Pilot Installation must be operated for a sufficiently long period of time, such that the proper operation of the DG-CHP system will be demonstrated under real-life conditions for each of the system' s operating modes, prior to finalizing the design for the Rollout Installations. For example, a system which will provide both winter heating and summer cooling must be operated under both winter heating load and summer cooling load conditions.
- The Pilot Installation should be commissioned within one (1) year of NYSERDA award notification. All Rollout Installations should be commissioned within two (2) years of the commissioning of the Pilot Installation.

Proposal Requirements

All proposals must meet **all** of the following proposal requirements:

- The "Proposer" (or "Prime Contractor") is the entity that will contract directly with NYSERDA. Generally, this will be the site owner. If the Proposer is other than the site owner, the proposal must contain a justification and a statement requesting that NYSERDA contract with an entity other than the site owner.
- Proposers must submit two (2) hard copies and one (1) digital copy on CD-ROM of the completed proposal to the attention of Roseanne Viscusi at the address on the front of this PON. A completed and signed Proposal Checklist must be attached as the front cover of your hard copy proposals, at least one of which must contain an original signature. **Late proposals and proposals lacking the appropriate completed and signed Proposal Checklist (Attachment A), or a completed and signed Disclosure of Prior Findings (Attachment B) will be returned.** Faxed or e-mailed copies will not be accepted.
- Proposals should not be excessively long, or submitted in an elaborate format that includes expensive graphics. Please do not use binders for hard copies; a single staple in the upper left-hand corner is preferred. Unnecessary attachments beyond those sufficient to present a complete, comprehensive, and effective response will not influence the evaluation of the proposal. Each page of the proposal should state the name of the Proposer, the PON number, and the page number. **Only the digital files contained on the CD will be distributed to the reviewers.**
- A digital copy of your proposal must be submitted on a CD-ROM in a format readable on Microsoft Windows XP systems. Narrative files must be in Microsoft Word 2003 format ("doc"). Completed copies of **1931Worksheets.xls** and **chp_emissions_calc.xls** must be in Microsoft Excel 2003 Format ("xls"). Schematics, cut sheets and equipment brochures may be included in Portable Document Format (PDF). An optional additional copy of the proposal in PDF may also be submitted.
- Proposal must fully describe the Demonstration Site, any existing DG-CHP system at the site, the proposed DG-CHP system installation including the identification of major pieces of equipment by manufacturer, model and size, how the proposed CHP system will be integrated into the site, and existing/proposed thermal energy

loads. Also, describe the local utility electric grid (will the site be interconnected to a radial grid or an area or spot network grid); as a result of the DG-CHP system will the local electric utility change the style of grid (e.g., if the site is currently on an area network will it be placed onto a spot network).

- Schematic drawings outlining the basic electrical, mechanical, and instrument layout must be included with the proposal on standard letter-size paper (for the hard copies) and as a PDF (for the digital copy).
- Proposal must include a description of how the DG-CHP demonstration project addresses NYSERDA's eight (8) major program objective benefits listed previously in the Introduction section and further elaborated in the Proposal Evaluation section that follows.
- Proposal must include a substantial discussion regarding how the system will respond during a grid power outage, including: the type of loads (priority loads) that will be served by the DG-CHP system during an outage, why these loads were selected to receive priority power, and any economic valuation or other benefit that can be assigned to the priority loads during a grid outage.
- If the Demonstration Site is applying as a "facility of refuge", a letter confirming this status from the local Emergency Management Official must be included in the proposal.
- Proposal must include a detailed financial analysis using applicable tariff information. If the proposed project is eligible for an exemption from stand-by tariffs, then the financial analysis must include a comparison of the costs with the exemption tariff and with the stand-by tariff.
- Proposals must include a description of how the availability of NYSERDA funds influenced the scope of the proposed project. For example, if NYSERDA funds allowed the Demonstration Site to consider a slightly more expensive, but cleaner on-site generator, this should be clearly noted.
- Provide a description of any energy conservation measures recently implemented at the Demonstration Site.
- Provide a list of all DG-CHP projects and feasibility studies previously completed by any member of the proposing team, along with appropriate references, and information regarding the proposing team's qualifications for demonstrating a DG-CHP system.
- A letter of commitment from each and every non-NYSERDA funding source is required for the proposal to be considered responsive (each and every such letter must state whether that organization's funds are fully committed to the proposed project or are awaiting subsequent approval, and must specify the total dollar value of the cost-share contribution to be provided by that organization in terms of cash versus in-kind). If the Demonstration Site is not the prime contractor, a letter of commitment from the Demonstration Site is required for the proposal to be considered responsive. Each and every letter of commitment must be written on the organization's letterhead and signed by an Officer of the organization (with an actual signature - not an "autopen" or digitized signature). Each and every letter of commitment shall identify all other organizations which constitute the teaming arrangement of the proposal, and indicate that organization's commitment to participating in such team arrangement.
- Worksheets CHP.1 through CHP.7 in **1931worksheets.xls** (see Appendix A3) must be completed fully. A hard copy printout of each of these completed worksheets and the Summary Worksheet must be included in your proposal and the digital version of the completed spreadsheet included on the CD-ROM in Microsoft Excel format. This file is available from NYSERDA's website.
- U.S. Environmental Protection Agency's Combined Heat and Power Emissions Calculator, **chp_emissions_calc.xls** (see Appendix A4), must be completed fully. A hard copy printout of the "Inputs" and "Results" worksheets must be included in your proposal, and the digital version of the completed spreadsheet included on the CD-ROM in Microsoft Excel format. This file is available from NYSERDA's website. For more information about EPA's emission calculator, please see http://www.epa.gov/chp/basic/calculator.html. If you need help when using the emissions calculator, please contact the CHP Partnership helpline at (703) 373-8108 or email chp@epa.gov.
- Baseline energy usage and costs must be provided for all proposed projects. Existing facilities must provide data extracted from 12 recent consecutive months of fuel and electric bills, and accurately summarize the baseline costs and fuel/electric usage with their proposal. New, recently or planned upgraded or expanded facilities must provide an estimate of fuel and electricity usage and costs, on a monthly basis for one (1) year for an equivalent new/upgraded/expanded facility of "conventional" design (i.e., without the DG-CHP system) to serve as a baseline for comparing fuel and electricity usage and costs with the DG-CHP system. Worksheet CHP.3 must be completed with this information.

In addition, Category A-1 projects must meet the following requirements:

- The proposal should treat the Pilot Site as a Category A Demonstration Site and provide Pilot Site information for all information requested above for the Demonstration Site.

- Worksheets CHP.1 through CHP.7 in **1931worksheets.xls** must be completed fully for the **Pilot Site only**. For example, CHP.7 must only show project costs for the Pilot Installation.
- Provide a list of all proposed Rollout Sites and complete a Worksheet A1.x in **1931worksheets.xls** for each Rollout Site. If you are proposing more than four (4) Rollout Sites, complete a Worksheet A1.x for four (4) representative Rollout Sites.
- Complete Worksheet A1.Cost in **1931worksheets.xls** showing the costs and cost-sharing for a representative Rollout Installation.
- EPA's CHP Emissions Calculator, **chp_emissions_calc.xls**, should be completed for the **Pilot Site only**.

Proposal Evaluation

Proposals that meet Program and Proposal Requirements will be reviewed by a Technical Evaluation Panel (TEP) according to how well they satisfy the following major program objectives (these objectives are not listed in any priority order and proposed projects do not need to meet all objectives.) The TEP will also evaluate the project team's qualifications, the reasonableness of the proposed CHP system design and equipment with respect to the site's energy profiles, and the value of the proposed project with respect to the amount of NYSERDA funds requested.

- Superior environmental performance
  - Will the project result in reduced local or regional air emissions?
  - Will the DG-CHP system include environmental controls?
- Improved grid reliability
  - Will the project be grid connected?
  - Will the project allow the local utility to avoid or delay distribution system upgrades?
  - Is the project located within a load pocket?
  - Will the DG-CHP system participate in New York Independent System Operator (NYISO) demand response programs?
- Improved energy security
  - Will the Demonstration Site facility provide strategic services in response to local emergencies?
  - Will the DG-CHP system be setup to automatically serve priority loads during grid outages?
  - Will the loads served by the DG-CHP system during grid outages provide a health and safety and/or economic benefit to the Demonstration Site?
- Improved energy efficiency
  - Is the design of the DG-CHP system based on the base thermal load of the facility?
  - Has the Demonstration Site implemented other energy conservation strategies?
  - Does the DG-CHP system demonstrate an overall thermal efficiency exceeding 60% on a monthly basis for each month throughout the year?
- Increased utilization of renewable fuels
  - Will the DG-CHP system operate on renewable fuel?
- Reduced energy costs which foster economic expansion
  - Will the project result in significant energy cost savings at the Demonstration Site?
  - Will the project result in the retention or creation of jobs in New York State?
- Effective technology transfer
  - Is there a commitment to showcase the DG-CHP system in an effort to promote replication?
  - Are other innovative technology transfer opportunities identified?

- Contribution to "market transformation"
  - Will the project pioneer novel equipment, end-use application, and/or business model that advance the acceptance of DG-CHP in the NYS marketplace?
- Other Considerations
  - Is the proposing team qualified to perform the work?
  - Does the project make good engineering and economic sense with respect to the site's energy profiles?
  - How well does the project fit within or expand upon NYSERDA's existing portfolio?
  - Does the project complement other NYSERDA or DOE R&D programs or projects?
  - Is the project a good value for the amount of NYSERDA funds requested?

GENERAL CONDITIONS

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes. The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the proposer wishes to have treated as proprietary and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to accept it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 http://www.nyserda.org/nyserda.regulations.pdf. However, NYSERDA cannot guarantee the confidentiality of any information submitted.

Omnibus Procurement Act of 1992 - It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York subcontractors and suppliers is available from:

Empire State Development
Division For Small Business
30 South Pearl Street
Albany, NY 12245

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women's Business Development Division
30 South Pearl Street
Albany, NY 12245

State Finance Law sections 139-j and 139-k - NYSERDA is required to comply with State Finance Law sections 139-j and 139-k. These provisions contain procurement lobbying requirements which can be found at http://www.ogs.state.ny.us/aboutogs/regulations/advisoryCouncil/StatutoryReferences.html
The attached Proposal Checklist calls for a signature certifying that the proposer will comply with State Finance Law sections 139-j and 139-k and the Disclosure of Prior Findings of Non-responsibility form includes a disclosure statement regarding whether the proposer has been found non-responsible under section 139-j of the State Finance Law within the previous four years.

Tax Law Section 5-a - NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of $100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. *See,* ST-220-TD (available at http://www.tax.state.ny.us/pdf/2006/fillin/st/st220td_606_fill_in.pdf). Prior to contracting with NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a perspective contractor prior to contacting and filed with NYSERDA. *See,* ST-220-CA (available at

http://www.tax.state.ny.us/pdf/2006/fillin/st/st220ca_606_fill_in.pdf). The Department has developed guidance for contractors which is available at http://www.tax.state.ny.us/pdf/publications/sales/pub223_606.pdf.

Contract Award - NYSERDA anticipates making multiple awards under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each offer should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Sample Agreement to contract successful proposals. NYSERDA expects to notify proposers in approximately ten (10) weeks from the proposal due date whether your proposal has been selected to receive an award.

Limitation - This solicitation does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest.

Disclosure Requirement - The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five years, under the laws of the United States or any state or territory of the United States, and shall describe circumstances for each. When a proposer is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSERDA after the award of a contract, NYSERDA may exercise its stop-work right pending further investigation, or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Proposers must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the New York State Department of Labor.

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Appendices and Attachments:
Appendix A1: Example Statement of Work (SOW)
Appendix A2: Monitoring and Data Collection Standard
Appendix A3: Worksheets for Categories A and A-1 “1931worksheets.xls”
Appendix A4: EPA’s CHP Emissions Calculator “chp_emissions_calc.xls”
Attachment A - Proposal Checklist
Attachment B - Disclosure of Prior Findings of Non-Responsibility Form
Attachment C - Sample Agreement
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