



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

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ATTACHMENT 2

UNIVERSITY ARCHITECT AND DIRECTOR  
FACILITIES PLANNING DEPARTMENT

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October 21, 2005

Ms. J.B. Culpepper  
Acting Planning Director  
Town of Chapel Hill  
405 Martin Luther King Jr. Blvd.  
Chapel Hill, NC 27514-05705

Subject: UNC-Cogeneration Facility – Special Use Modification (File No. 792.H.2)  
Response to Questions for Town Council

Dear Ms. Culpepper:

Below you will find our responses to the questions posted by Town Council members at our Public Hearing on September 19<sup>th</sup>, 2005.

**1. Does the UNC Cogeneration Facility currently comply with the higher standards of today's Noise Ordinance?**

**UNC Response:** The proposed upgrades comply with the current Chapel Hill Noise Control Code and we expect a reduction in current noise levels associated with those systems being upgraded. The Cogeneration Facility meets the business, office, commercial and institutional levels of the current noise ordinance. At full operation, the Cogeneration facility was measured at 3 dBs above the residential daytime limit of 50 dB. Any non-compliant noises are the result of the provision of government services necessary to maintain the public infrastructure, as allowed in the current Noise Code.

**2. Will the UNC Cogeneration Facility comply with the higher standards of today's Noise Ordinance with the proposed plant upgrade?**

**UNC Response:** See answer to question 1 above. All new equipment being added at the Cogen Facility, as part of the proposed plant upgrades, will comply with the current Chapel Hill Noise Control Code.

**3. What is the projected incremental change in noise, from current noise levels, with the proposed plant upgrade?**

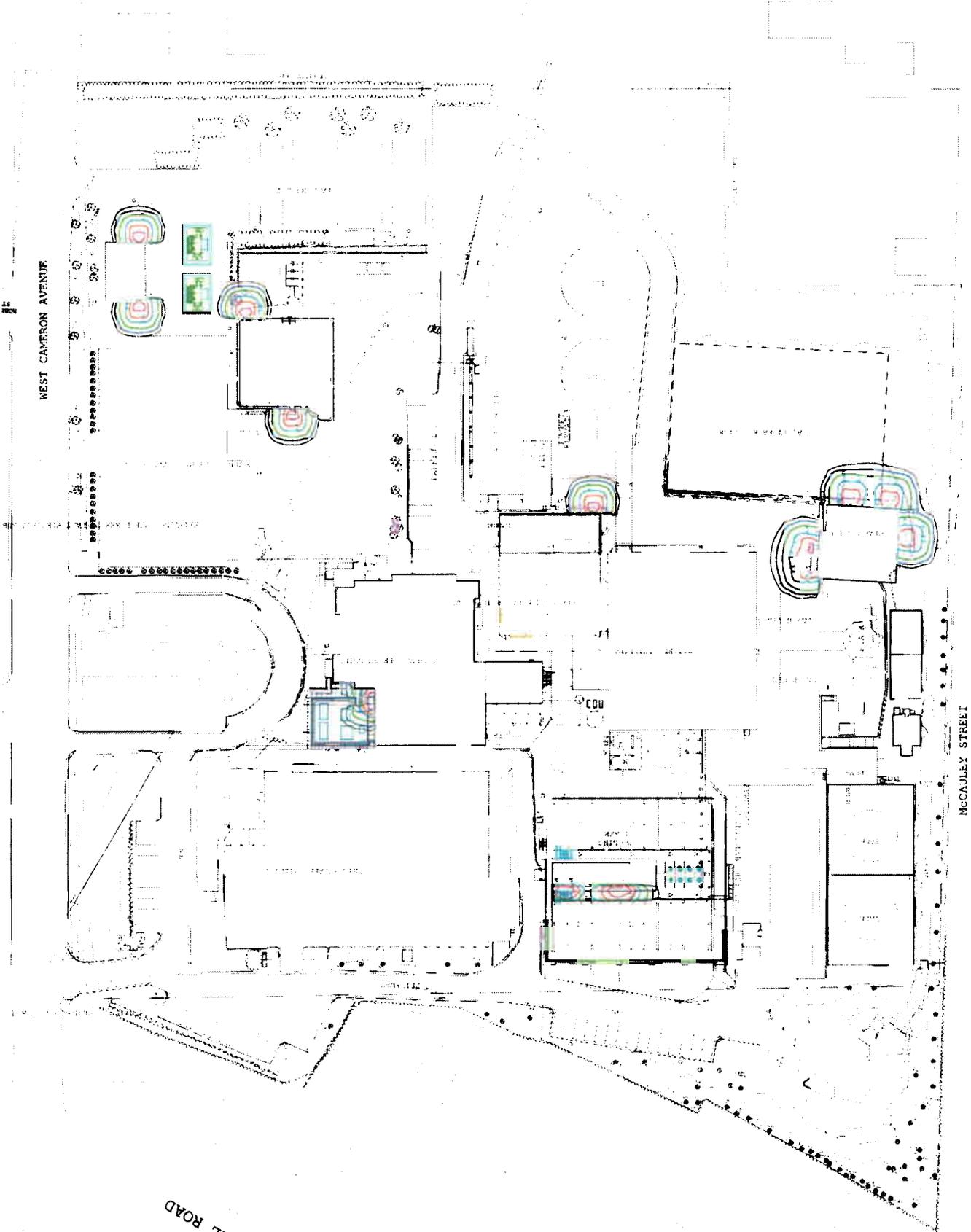
**UNC Response:** The projected incremental decrease in noise from the new projects in this proposed modification will be between 10 and 15 dB along the west property line because the existing cooling towers are being replaced with a much quieter cooling tower system.

**4. Please describe any proposed lighting improvements. What is the projected incremental change in light from current light levels, with the proposed plant upgrade? Please provide an isometric lighting plan, if possible.**

**UNC Response:** There will be no net change in light levels at any Cogen Facility property line. Approximately 15 new exterior light fixtures are being added as part of the Cogen SUP projects (See the isolux contour map attached). These lights will be located over doorways in 8 visible locations on the site and are required to ensure safe ingress/egress at night. The other lights will be interior to the cooling towers and the generator yard. These lights will be on during hours of darkness. Approximately 15 additional lights will also be installed with these upgrades but they are task related and will normally be switched off. These task lights will only be turned on when required for emergency maintenance or repairs.

**WELL LIGHTING**

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WELL LIGHTING

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**5. What is the current annual weight of coal burned at the UNC Cogeneration Facility? Please give the amount per year over the past 5 years.**

**UNC Response:** The coal consumption for the past five full years and the current year to date is shown below. These weights fluctuate with weather and increase with campus growth.

Year	Tons of Coal
2000	125,423
2001	99,886
2002	108,587
2003	109,144
2004	115,121
2005	(as of 9/05) 88,901

**6. What is the projected incremental change in annual weight of coal burned, from the proposed plant upgrade?**

**UNC Response:** We are proposing no changes to the Cogen facility that increase the coal burning capacity of the plant. Any increase in coal consumption beyond the amounts shown in answer 5 is due to fluctuations in the weather (hot or cold) or campus growth.

**7. Please provide a copy of the air emissions inventory required by the NC Division of Air Quality for the most recent year it is available.**

**UNC Response:** See the attached Cogeneration Facility 2004 Air Emissions Inventory

**8. What is the projected incremental change in emissions (for each constituent pollutant), with the proposed plant upgrade?**

**UNC Response:** The proposed equipment changes have no effect on the coal burning capacity of the plant. Any increase in coal consumption beyond the amounts shown in answer 5 is due to fluctuations in the weather (hot or cold) or campus growth.

**9. Please provide an inventory of “greenhouse gases” (such as CO<sub>2</sub>, Methane, N<sub>2</sub>O, Tetrafluoromethane, Sulfur Hexafluoride, etc.) for the most recent year it is available.**

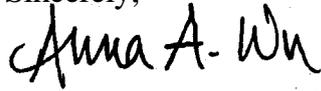
**UNC Response:** There is no inventory of these greenhouse gases currently available; these greenhouse gases are not currently regulated under the Clean Air Act. CO<sub>2</sub>, Methane and N<sub>2</sub>O can be estimated based on the volume of coal consumed. By producing combined heat and power, the Cogeneration facility produces approximately

half the greenhouse gasses that would be emitted if the same energy were obtained from a coal fired electric generating utility.

Tetraflouromethane and SulfurHexaflouride are not known to be associated with coal burning facilities; they are typically associated with industrial processes.

I hope this information clarifies the points of concern that were raised at the previous meeting.

Sincerely,

A handwritten signature in black ink that reads "Anna A. Wu". The signature is written in a cursive, slightly slanted style.

**Anna A. Wu, AIA**  
Director of Facilities Planning

Enc: Cogeneration Facility 2004 Air Emissions Inventory

cc: Pat Crawford  
Ray DuBose  
Carolyn Elfland  
Mary Jane Felgenhauer  
John Masson  
Bruce Runberg