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Over 30 Years of Regional Leadership

June 27, 2006

Ms. Kay Prince
US Environmental Protection Agency
Region 4
61 Forsyth St. S.W.
Atlanta, GA 30303-8960

Dear Ms. Prince:

Attached is the June 30, 2006 Progress Report for the Unifour Early Action Compact submitted on behalf of the Unifour Air Quality Committee. From January1, 2006 until present, the UAQC and local members of the Unifour EAC have made continued progress addressing ozone pollution in the Hickory-Morganton-Lenoir metropolitan area. Please see the attached report which details the emission reduction strategies that are being implemented throughout the region to help diminish ozone concentrations in the Unifour.

We look forward to continuing to work with the USEPA and the NC Division of Air Quality in efforts to improve the air quality in the Greater Hickory Metro Area. Thank you for all the support you provide in helping to make this process successful. If we can provide any additional information please contact me at 828-485-4283.

Sincerely,

Ron Hancock, Planner WPCOG

cc: Kitty Barnes, Chair UAQC
Doug Taylor, Executive Director WPCOG
John Tippett, Planning Director WPCOG

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Unifour Early Action Compact Biannual Progress Report
June 30, 2006

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(Attachment: *UnifourEAC_Prog_Rep_0606.xls* **)**

Appendices

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PART A

Local Member Progress

Submitted by the Unifour Air Quality Committee and the Western Piedmont Council of Governments

Contributors:

Alexander County
Town of Taylorsville
Burke County
City of Morganton
Caldwell County
City of Lenoir
Catawba County
City of Hickory
City of Conover
City of Newton

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Overview of Unifour EAC Program

As a requirement of the Unifour Early Action Compact (EAC) reporting schedule, this document represents the Unifour's progress in continued implementation of the local emission reduction strategies.

This document illustrates efforts being made in the Unifour to reduce the formation of ground level ozone pollution. It serves to "facilitate self-evaluation and communication with EPA, NCDENR, stakeholders, and the public" in regards to the EAC program and to promote the program's goal to achieve cleaner air faster in the Unifour region. It documents the area's progress regarding the implementation of local control measures and provides specific information identifying the government agency or department that has the responsibility for implementation of each measure. In December 2005, the Unifour submitted the previous biannual progress report detailing activities that have taken place in the region up to that point and significant progress being made implementing the control measures. This document builds on previous progress reports and describes stakeholder meetings and other activities by local members that have occurred since January 1, 2006.

The local emission reduction strategies were adopted and implemented based on their suitability for addressing ozone pollution from three primary approaches: education/awareness, transportation, and land use activities. Throughout the Unifour region there have been widespread efforts towards educating the public and raising awareness about air quality while also suggesting practical methods individuals can use to help improve the region's ambient air quality. Presentations to school children and elected officials, as well as a sustained media campaign focusing on ozone, have been the foundation of the education/outreach program. Local and regional newspapers, television and radio, and a growing internet presence, have also been very useful in making Unifour residents aware about ozone and air quality conditions.

This report provides a summary of the local control measures and assesses the Unifour's progress toward completion of the current milestone of implementing each strategy.

<u>Local Control Measures Implemented in the Unifour</u>
Please also see attached summary file: UnifourEAC_Prog_Rep_0606.xls

1. Expand the Inspection and Maintenance program for passenger vehicles. Catawba County began July 1, 2003; Burke and Caldwell Counties began July 1, 2005. Authority and responsibility: NCDMV.

2. Expand Public Transportation and Ridesharing Programs. Implemented/Ongoing. A significant fixed route modification has been implemented in the Piedmont Wagon Transit System, effectively increasing the system's service area. Five new less polluting and more efficient buses have been purchased by PWTS. Authority and responsibility: Greater Hickory MPO and City of Hickory/PWTS.

3. Promotion of Compressed Work Weeks and Flex-time. All ten members have agreed to this measure which is estimated to reduce NOX 1.3 tons/year. Authority and responsibility: Local EAC members.

4. Develop Regional Bicycle and Pedestrian Plan. Has been estimated to reduce NOx 1.6 tons/year and VOCs 2 tons/year. Greater Hickory MPO/Local EAC members.

5. Outdoor Burning Ban. The NC Environmental Management Commission approved a new rule that bans open burning on "Air Quality Action Days" when the AQI is Code Orange or above. Authority and responsibility: NCDAQ.

6. City and County Energy Plans. An energy conservation plan has been developed and adopted by all ten local EAC members that directs city and county departments to reduce energy consumption and conserve natural resources in an effort to reduce emissions from EGUs. Authority and responsibility: Local EAC members.

7. Alternative Fuel Vehicles and the Clean Cities Program. The UAQC is a Core Stakeholder in the Centralina Clean Fuels Coalition and all members of the EAC are committed to the pursuit and use of alternative fuel technologies. The area has several refueling stations for AFVs including biodiesel, CNG, and ethanol. Authority and responsibility: UAQC, Greater Hickory MPO, and Local EAC members.

8. Support Efforts and Coordination of Metropolitan Planning Organization and Rural Planning Organization. The Greater Hickory MPO and Unifour RPO do long range transportation planning to ensure that highway and transit programs conform to the air quality goals established by the EAC. Authority and responsibility: MPO/RPO and Local EAC members.

9. Improve Traffic Operational Planning, Engineering, and Maintenance. The City of Hickory optimized its synchronized traffic signals along US 321, effectively increasing traffic flow and reducing congestion. Authority and responsibility: MPO/RPO and Local EAC members.

10. Implement Smart Growth, Mixed Use and Infill Development Policies. This measure helps reduce vehicle miles traveled and improve air quality through land use management programs. Several members have adopted land use regulations based upon Smart Growth concepts. Authority and responsibility: Local EAC members.

11. Air Awareness Program. All local members participate in the Air Awareness program and have adopted "Ozone Action Plans" that include provisions to help reduce ozone formation. Authority and responsibility: UAQC and Local EAC members.

12. Adopt a Local Clean Air Policy. Local stakeholders promote air quality awareness and work to minimize ozone pollution in their respective local communities. Authority and responsibility: Local EAC members.

13. Air Quality Contacts for Each Local Member of the EAC. Contacts disseminate information to local governments and assure adherence to goals of the EAC program. Authority and responsibility: Local EAC members.

14. Landscaping Standards and Urban Forestry. Implementation throughout Unifour to help mitigate the effect of the “Urban Heat Island” and promote energy conservation and reduce emissions from EGUs. Authority and responsibility: Local EAC members.

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Update on Local EAC Member Activities

UAQC, UAQOC, and WPCOG

During the past six months, staff at the Western Piedmont Council of Governments (WPCOG) has continued to work on air quality issues in the Unifour Area related to the formation of ground level ozone pollution. Kitty Barnes, Chair of the Catawba County Board of Commissioners, has continued to serve as Chair of the Unifour Air Quality Oversight Committee (UAQOC) and regularly presided over the group's monthly meetings. The UAQOC is made up of elected officials from the local members of the Unifour Early Action Compact for Ozone and oversees actions taken relevant to air quality. Along with other stakeholders, the group has been instrumental in the implementation of the local control measures and in the promotion of outreach and educational initiatives to improve both air quality and air quality awareness throughout the region. The following is a list of major tasks WPCOG staff has recently been engaged in during the past several months:

- Gather results and distribute information about the most current values from the region's ozone monitors in Alexander and Caldwell County.
- Provide technical assistance and information to EAC members and stakeholders relevant to alternative fuels and alternative fuel vehicles. Core stakeholder in the Centralina Clean Fuels Coalition and active participant in the Southeast Diesel Collaborative.
- Assist local environmental organization and UAQC stakeholder, the Catawba Valley Heritage Alliance, in acquiring grant funding from NCDAQ in the amount of $25,000 for installing a commercial biodiesel refueling station in Catawba County.
- Serve as liaison between the UAQC and staff of the U.S. EPA and NCDAQ to help assure that all requirements of the EAC program are followed and that the Unifour area maintains its deferred nonattainment status for ozone.
- Host monthly UAQC meetings to coordinate EAC efforts and provide administrative support to the members of the EAC. During the period January 1, 2006 through June, 30, 2006 meetings were held on the following dates: January 24, February 28, March 28, April 25, May 23, and June 27.
- Continue the education and outreach component of the EAC to help make area residents aware of health effects of ozone pollution in the Unifour. John Tippett appeared on local radio station WHKY to report on the beginning of ozone season.
- Make presentations to local governments and other stakeholders regarding ozone pollution. WPCOG Planning Director, John Tippett was a panelist and presenter at the Carolina Air Pollution Control Association spring meeting in April and at the Clean Air: Community Strategies for Action regional conference held at Catawba College in March.

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- Distribute informational materials throughout the region providing residents with information about the NC Air Awareness program and ways to help reduce ozone pollution.

- Support efforts to maintain media coverage on the ozone issue throughout the region. Area newspapers, radio and cable television stations have been publishing reports about air quality issues and the NC Air Awareness ozone forecasts

- Coordinate a regional transit consolidation study that has a focus on air quality and congestion mitigation as one of the key issues and benefits of combining the four county's community transportation programs.

Local Member Activities

All ten local members of the Unifour Early Action Compact have been actively participating in the EAC program. During the past six months activities have consisted of continued participation in the NC Air Awareness program, maintaining a vigorous education/outreach program, and sustaining a dynamic media campaign concerning ozone pollution. The following summary details the local member's progress towards implementing local measures to reduce ozone pollution.

Alexander County and Taylorsville

Both Alexander County and Taylorsville are continuing to implement emission reduction strategies during the current ozone season. Each has an air quality contact person on staff who regularly attends the meetings of the UAQC. They have established a joint stakeholder group to focus on local air quality issues. Taylorsville has been researching alternative fuels and alternative fuel vehicles and are currently examining the feasibility of replacing existing fleet vehicles with hybrid electric vehicles. Alexander County has achieved the following during the past few months:

- Presentation to Alexander Board of Commissioners about the 2006 ozone season and the need to maintain commitment to the EAC program.

- Proclamation by Board of Commissioners recognizing May as Asthma Awareness Month.

- Monthly representation at the Unifour Air Quality Committee and Unifour Air Quality Oversight Committee Meetings.

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- Continued the 'Alexander County Clean Air Campaign' with 19 participating organizations or companies from the public education to industrial/ manufacturing sectors.

- Posted asthma and ozone awareness notices on the Government Channel of Charter Communications for Alexander County

- Send daily NC Air Awareness forecasts to variety of organizations

- Send a daily ozone forecast to the local radio station, WACB 860, for announcement

- Attendance and participation in the Greater Hickory MPO and Unifour RPO.

- Ozone awareness notices broadcast on the local government cable channel potentially reaching over 3,000 subscribers daily.

- Daily local radio announcements of forecasted ozone conditions.

- "Smart Summer Fun!" ozone workshops for area teachers, childcare providers, and over 500 children.

- Flags representing high ozone action days flown in prominent locations along several thoroughfares throughout the area reaching passengers in approximately 9,000 vehicles.

- Revised landscaping ordinance increasing requirements for plantings between varied land uses.

- 91 Alexander County Government employees work a compressed work week, flexible hours, or hours when vehicle travel is outside peak driving times.

Caldwell County and Lenoir

Caldwell County continues its innovative approach towards air quality awareness and reducing ozone pollution. The County has formed a stakeholder group comprised of representatives from local governments, industry, and education to address local air quality issues. Some of the highlights and recent implementations from their program include:

- Creation of the Alternative Energy Task Force, a committee appointed by the Caldwell County Board of Commissioners to research the development and use of alternative fuels and renewable energy sources such as biodiesel and landfill gas.

- Posted ozone awareness notices on the Government Channel of Charter Communications for Caldwell County, running daily during ozone season, reaching a potential 17,000 subscribers; representing 56.7% of the households in Caldwell

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County. In addition, notices were also posted on the UHF channel 49 increasing a potential of 72.4% of the households in Caldwell County.

- Send daily ozone forecasts to 12 businesses/organizations, 500 county employees, 30 schools and community college, 13 townships, NC Forest Service five to local media outlets and 20 fire/emergency management personnel. All receiving daily alerts were instructed to post a printed copy of the daily alert on entrance/exit doors so those without email could read the daily forecast.

- Send a daily ozone forecast to the three local radio stations, WJRI 1340, WKGX 1081 and WKVS-KICKS 103.3 FM.

- Fly color-coded ozone flags-green, yellow and orange/red daily throughout the ozone season to alert county residents of the air quality index for the day. The flags are flown at selected businesses, fire departments, NC Forest Service, county offices, local municipalities and schools/community college as visual alerts of the air quality.

- Produced and aired a 30 minute ozone program on government cable channel to educate the public about ground level ozone and ways to help reduce the ozone levels.

- Initiated widespread media campaign via local newspaper and radio to notify residents of ozone conditions.

- Continued the use of a zero emissions electric vehicle for parking enforcement in the Lenoir Central Business District.

- Implemented portions the Lenoir Air Quality Awareness Plan and alerted all City departments of high ozone forecasts so that they could make adjustments to various work programs if necessary.

- Constructed a one-half mile extension of the Lenoir Greenway. When completed, the greenway will provide a 5-miles non-motorized transportation alternative connecting four public recreation facilities with the Caldwell County Library.

- Continued the implementation of "Smart Growth" strategies that allow the reuse of vacant residential structures for neighborhood businesses and institutional uses.

- Continued the use of a four-bicycle patrol unit in the Lenoir Police Department. One bicycle is used to patrol the Lenoir Greenway and the others are used in densely populated neighborhoods and in the Central Business District.

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Burke County and Morganton

Burke County has implemented its "Air Quality Awareness and Action Plan" and has adopted the "Energy Conservation Plan" to help reduce ozone pollution in the area. The City of Morganton also remains active promoting air awareness through an ongoing media campaign and the City's web page (http://www.ci.morganton.nc.us/Morganton_City_Hall/morganton_ozone_.html). In addition to these activities Morganton is implementing its strategy to reduce ozone pollution through progressive land use activities. The 400 Union Square Project is a mixed use redevelopment project realized as a result of actions by the Morganton Redevelopment Commission and the City of Morganton which is "designed to reduce vehicle traffic by placing residential properties in the heart of downtown within walking distance of many retail shops and service locations." The City has also established a stakeholder group to focus on local air quality issues and under the direction of the City Manager's office continues to implement its "Ozone Action Plan" which includes the following components:

- Notice of the NC Air Awareness forecasts are put on COMPAS, the City's cable TV system, and local news media are notified.
- Fueling from the City's gasoline pumps is limited to before 9am or after 6pm.
- Public works crews modify work schedules to work earlier shifts and end work earlier in the day. Use of gasoline powered tools and equipment is limited.
- Electric Department workers and meter readers end outdoor work at noon and do office work in the afternoon.
- Several Departments curtail outdoor field work and inspections and have employees perform inside work.

Catawba County, Hickory, Newton, and Conover

Catawba County and the Cities of Hickory, Newton, and Conover have been very proactive in the development of an air quality program for several years. This has continued to be true throughout the past several months with their many ongoing ozone related activities. The City of Hickory has been instrumental in promoting AFVs in the region through their CNG refueling station, which remains open to the public. Hickory also continues to implement its Hickory by Choice planning initiative focusing on smart growth, as well as other land use activities that help to improve air quality in the region.

Catawba County has maintained its progressive air quality program through sustained outreach and education, awareness and behavior modification programs, and land use regulations that are designed to improve air quality. The County actively promotes air quality improvement to all employees and sponsors an air quality "contest" providing incentives to those who help reduce ozone pollution. This initiative takes an innovative approach to air awareness by using the county's intranet to track and report activities that help improve air

quality, including car pooling, ride sharing, transit usage, compressed work weeks and other actions that help reduce vehicle miles traveled. Additional activities include presentations made by Health Department employees throughout the County school system, including to 10th grade high school students and approximately 2000 elementary school students. There have been air quality PSAs broadcast on the local television station, several newspaper articles featuring air quality issues, and a variety of other awareness activities including information being provided in Spanish to the local Hispanic population. Other air quality activities by Catawba County include:

- 2nd grade tours – ozone education and prevention information was provided to approximately 2000 students from all public and private area schools
- Catawba County Ozone Intranet Contest is up and running again this ozone season where county employees get points and awards for the individual earning the most points for participation in ozone prevention activities on a monthly basis as well as for the ozone season.
- A friendly competition with City of Hickory employees is up and running again for this ozone season to determine whether county or city employees are the most ozone friendly.
- Air quality information is again featured on the county web site.
- Linked county website with Dept of Air Quality ozone and PM 2.5 daily forecasts.
- Provided air quality presentations and information upon request to various county agencies, schools, churches and community organizations.
- All new county employees are provided a brief air quality presentation via county orientation on a bi-monthly basis throughout ozone season, which includes distribution of orange and red ozone alert buttons to be worn by county employees on ozone alert days.
- The county has completed the "draft" of the Unified Development Ordinance (UDO), which calls for reducing the amount of asphalt in parking lots, thereby reducing the temperatures in urbanized areas. Internal landscape islands disbursed throughout the parking lots along with additional landscaping around parking lots will help do a better job of filtering the air close to land surfaces. The county anticipates that the UDO will be considered for adoption in the fall of 2006.

As part of the NC Air Awareness program, the City of Newton has adopted and is actively implementing its “Ozone Action Day Plan.” Newton has also formed a local stakeholder group to address local air quality issues and the City distributes informational material to its residents regarding ozone pollution and has been researching alternative fuel vehicles. The City of Newton is promoting the development of a Regional Transit Authority to help expand transit services throughout the Unifour area. As a participant in the Unifour EAC, Newton promotes compressed work weeks and flexible schedules for city employees.

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Other air quality activities in Newton since January include:

- Construction of the Heritage Trail greenway project.
- Continued implementation of Air Quality Action plan through involvement and participation of all city departments.
- Air quality links and information made available via city website.
- Staff has made presentations to civic and other interest groups that incorporated information about air quality during the year.
- The City of Conover is participating in a Regional Transit Implementation Study.
- Continued participation in the NC Air Awareness program.
- Attend and regularly participate in meetings and actions of the regional air quality committee in an effort to identify and develop local air quality improvement actions
- Continued membership in the Greater Hickory MPO.
- Continued funding contribution to Piedmont Wagon Transit System.
- Included funds in fiscal year 2006-07 budget to purchase alternative fuel vehicles.
- Working with internal group of city employees to explore the use of biodiesel and alternative fuels, oils and lubes.

The City of Conover is an active participant in the Unifour Early Action Compact (EAC) and activities over the past 6 months include:

- Implementation of the City of Conover Energy Conservation Policy and Energy Plan.
- Furthered implementation of EAC & Air Quality Awareness Action Plan including:
  - Active participation and notification of Ozone Action Days (OADs)
  - Implemented use of alternative fuel by converting fleet vehicles to biodiesel.
  - Continued use of summer bike patrol by Conover Police Department.
  - Implementation of flex time for certain departments.
  - Start time for trash pick-up moved to 5am to reduce effects of vehicle emissions and traffic congestion.
- Continued membership in the NC Air Awareness Program/Enviroflash.
- The Planning Director has continued to serve as the air quality and EAC contact.

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- Actively participated in the local Unifour Air Quality Committee (UAQC) as a means to identify and recommend locally feasible air improvement actions.

- Collected reports of measures taken by department heads on high ozone action days, including the encouraged use of carpooling and non-use of 2 cycle engines.

- Continued implementation of minimum landscape standards for new developments that promote strategic tree planting, street trees, and parking lot trees in an effort to reduce the heat island effect, reduce the need for air conditioning and help reduce energy usage.

- Continued evaluation of a tree preservation ordinance.

- Continued use of Smart Growth based ordinances that encourage compact development and mixed uses in an effort to help reduce vehicle travel and encourage pedestrian activity.

- Implementation of a citywide bicycle and sidewalk plan requiring sidewalks along new streets, future implementation along existing streets, and incorporation of a future municipal greenway project.

- Participation and support of the Greater Hickory Metropolitan Planning Organization and Unifour Rural Planning Organization.

- Contribute to and encourage use of Piedmont Wagon system and require bus stops be implemented in new development where feasible.

- Member of Regional Transit Steering Committee formed to investigate expansion of Piedmont Wagon services throughout the four county area.

- Continued study on implementation of increased citizen notification of high ozone days via web page notification and the use of colored flags at key locations.

- Provided press releases during peak season to demonstrate the steps taken by the City of Conover to reach the goals of the EAC.

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PART B

Assessment of Local Air Quality and Ozone Trends

Prepared by NCDAQ

Assessment of Air Quality for Unifour EAC Area

Compact areas must certify progress toward attainment since their previous milestone, e. g., continued implementation and progress toward improvement in air quality and emissions reductions. Based on this June 30, 2006, progress report, the U.S. Environmental Protection Agency (USEPA) will determine whether or not to defer the effective date of the nonattainment designation to April 15, 2008 for the counties participating in the Unifour Early Action Compact (EAC) area.

The North Carolina Division of Air Quality (NCDAQ) evaluated design value (DV) trends and ozone exceedance trends from 1994 to 2005 to determine if the Unifour EAC area shows decreases in ozone formation. Specifically, the NCDAQ evaluated the following data as part of the air quality analyses:

- 1-Hour Ozone Design Value Trends – Most recent 1-hour ozone design values compared to the trend in 1-hour ozone design values from the 1994-1996 timeframe to present.
- 8-hour Ozone Design Value Trends – Most recent design values (3 year average of the 4th highest 8-hour ozone average), compared to the trend in design values from the 1994-1996 timeframe to present.
- 1-Hour Ozone Exceedances – Number of exceedances of the 1-hour ozone standard at each monitor in the EAC area for the most recent ozone season, compared to the number of exceedances at each monitor from 1994 to present.
- 8-Hour Ozone Exceedances – Number of exceedances of the 8-hour ozone standard at each monitor in the EAC area for the most recent ozone season, compared to the number of exceedances at each monitor from 1994 to present.

The National Ambient Air Quality Standard (NAAQS) for 1-hour ozone is 0.12 parts per million (ppm). When a monitor measures ozone above 0.124 ppm (per rounding convention), an exceedance of the NAAQS occurs. The design value for 1-hour ozone is calculated by rank ordering the highest monitor reading for a three-year period and the 4th highest value is the design value for that monitor. The design value for an area would be the highest monitor design value.

The NAAQS for 8-hour ozone is 0.08 ppm. When a monitor measures ozone above 0.084 ppm, an exceedance of the NAAQS occurs. The design value for 8-hour ozone is calculated by averaging the annual 4th highest daily maximum for three consecutive years for a monitor. The design value for an area would be the highest monitor design value.

In the sections below the four matrices listed above are discussed.

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1-hour Design Value Trends

In the Unifour EAC area, 1-hour ozone design values peaked during the 1997-1999 and 1998-2000 periods, followed by a decline in more recent years (see Table 1 below). The design values are presented in parts per million.

Table 1: 1-Hour Ozone Design Values for Unifour EAC Area

Monitoring Sites	AIRS ID	Design Value Summary (ppm)									
		94-96	95-97	96-98	97-99	98-00	99-01	00-02	01-03	02-04	03-05
Waggin Trail	37-003-0004	0.094	0.094	0.110	0.110	0.111	0.106	0.110	0.106	0.104	0.095
Lenoir/ Caldwell Co.	37-027-0003	0.095	0.097	0.111	0.114	0.114	0.107	0.099	0.105	0.098	0.094

Figure 1 below shows the trend in highest monitor 1-hour DVs for the Unifour EAC area. A peak is seen in the 1997-1999 and 1998-2000 time periods, followed by a decline in more recent years.

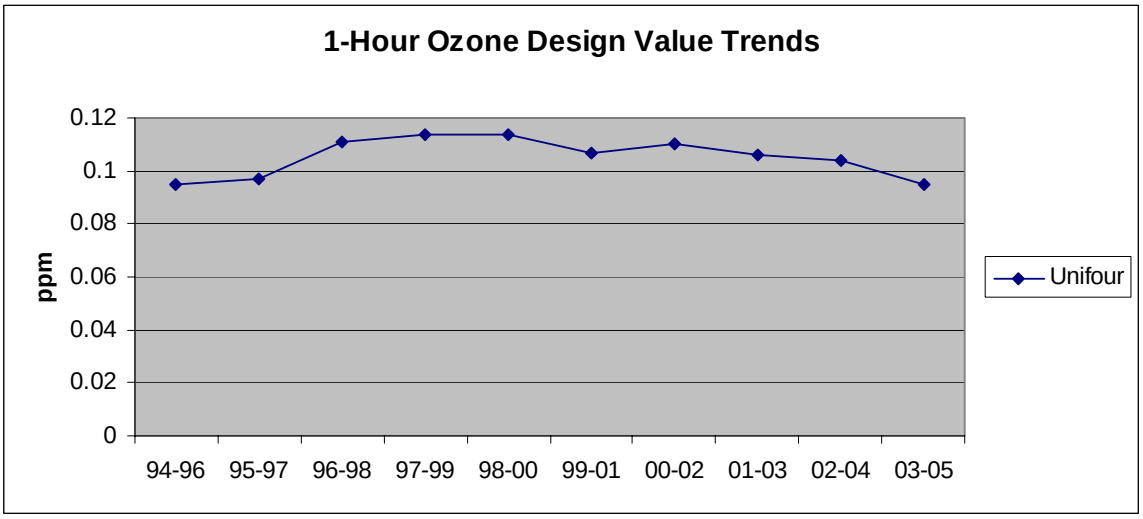

Figure 1: Trend in the area-wide 1-hour design values (in parts per million) for the Unifour EAC area from 1994 to 2005.

8-hour Design Value Trends

The 8-hour design values peaked in 1998-2000, with a steady decline in DVs in following years. There is an increase in the 2000-2002 time period for the Waggin Trail monitor. As for the 2002-2004 and 2003-2005 DVs, all were 0.082 ppm or less. The design values are presented in parts per million, with design values exceeding the standard highlighted in orange. An underlined value indicates fewer than three years or previous site data was used in the DV calculation and the light shading indicates that no data was available.

Table 2: 8-Hour Ozone Design Values for the Unifour EAC Area

Monitoring Sites	AIRS ID	Design Value Summary (ppm)									
		94-96	95-97	96-98	97-99	98-00	99-01	00-02	01-03	02-04	03-05
Waggin Trail	37-003-0004	0.076	0.079	0.084	**0.086**	**0.089**	**0.087**	**0.091**	**0.088**	0.082	0.077
Lenoir / Caldwell Co.	37-027-0003		0.079	**0.088**	**0.090**	**0.092**	**0.087**	**0.086**	0.084	0.080	0.074

Figure 2 below shows the trend in the highest monitor 8-hour DVs for the Unifour EAC area. The graph shows a peak in the 1998-2000 design values and a smaller peak in the 2000-2002 period. Design values decrease steadily through the rest of the graph. The Unifour area drops below the 8-hour standard by the 2002-2004 period.

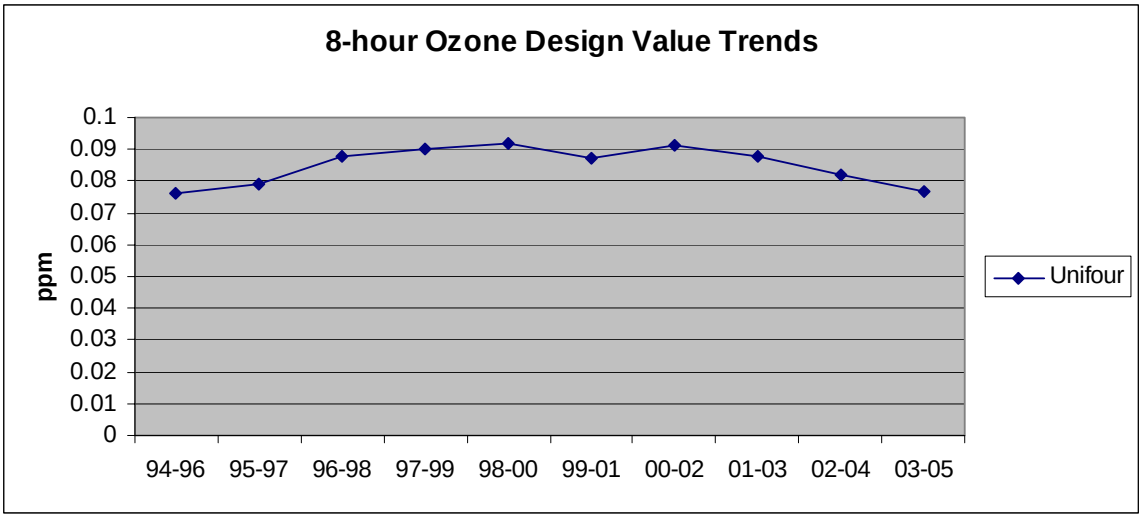

Figure 2: Trend in the area-wide 8-hour design values (in parts per million) for the Unifour EAC area from 1994 to 2005.

1-hour & 8-Hour Ozone Exceedance Trends

No exceedances of the 1-hour standard occurred in the 1994-2005 time frame in the Unifour EAC area with the exception of two exceendances in 1998 at the Waggin Trail monitor (see Table 3 below). The light shading indicates that no data was available.

Table 3: The Number of 1-Hour Ozone Exceedances Within the Unifour EAC Area

Number Of 1-Hour Exceedances Per Year		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Waggin Trail	37-003-0004	0		0	0	2	0	0	0	0	0	0	0
Lenoir	37-027-0003		0		0	0	0	0	0	0	0	0	0

The number of 8-hour ozone exceedances (Table 4) shows a peaking in 1998, 1999 and again in 2002 in the Unifour EAC area. No exceedances occurred in 2004 or 2005. The orange

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highlighting indicates a monitor with four or more exceedances for that year and the light shading indicates that no data was available.

Table 4: The number of 8-Hour Ozone Exceedances Within the Unifour EAC Area

Number Of 8-Hour Exceedances Per Year		**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Taylorsville	37-003-0003	1		0	3	**15**	2	**7**	**5**	**17**	1	0	0
Lenoir	37-027-0003		1		1	**10**	**18**	**4**	2	**10**	3	0	0

Conclusions

The Unifour EAC area continues to show decreases in both the 1-hour and 8-hour ozone design values. In fact, the summer of 2005 was both hot and dry and none of the Unifour area monitors had exceedances of the 8-hour ozone standard. It is believed that the Unifour EAC area is well on its way to meet the December 2007 milestone of having a design value below the 8-hour ozone standard.

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Part C

Assessment of Changes in NOx and VOC Emissions

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Appendices

Appendix A

The National Arbor Day Foundation®
211 N. 12th St. • Lincoln, NE 68508 • 402-474-5655 arborday.org

We inspire people to plant, nurture, and celebrate trees.

March 27, 2006

Adrian T. Miller
City Planner
P.O. Box 398
Hickory, NC 28603

Dear Adrian,

Congratulations to Hickory on being named as a 2005 Tree City USA!

Trees are a vital component of the infrastructure in our cities and towns, and provide environmental and economical benefits. A community, and its citizens, that recognize these benefits and provide needed care for its trees deserves recognition and thanks.

This year we are excited to celebrate the 30th Anniversary of Tree City USA. From its humble beginning in 1976, the program has grown to be the leading community forestry recognition program in the country. Communities like yours, who emphasize the important role trees play to the well being of its citizens, have made this program such a success.

Tree City USA is sponsored in cooperation with the National Association of State Foresters and the USDA Forest Service. State foresters are responsible for the presentation of the Tree City USA flag and other materials. We will forward your awards to Nancy Stairs in your state forester's office. They will be coordinating the presentation with you. It would be especially appropriate to make the Tree City USA award a part of your Arbor Day ceremony.

Again, congratulations on receiving this national recognition for your tree-care program.

Best regards,

John Rosenow
President

cc: Tammy Teague

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Appendix B

Current Smart Growth, Mixed use, and Redevelopment Projects in Morganton, NC

Appendix C

The Charlotte Observer

Catawba Valley

www.charlotte.com

WEDNESDAY, FEBRUARY 15, 2006

SECTION V

PEOPLE | 2V
Hickory High biology teacher named regional teacher of the year

HIGHER EDUCATION | 2V
ASU students to participate in spring break service trips

Regional Roundup

Catawba County

Second Harvest reception Feb. 27

Second Harvest Food Bank of Metrolina will mark the opening of its new Catawba County branch with a drop-in reception Feb. 27.

The event will be 2–4 p.m. at the new branch, 538 First Ave. S.W. in Hickory. The location will serve primarily as a distribution point, but will also accept donations.

Second Harvest, the largest hunger relief charity in the Charlotte region, decided to open a Catawba branch to better serve community agencies in Burke, Catawba and Lincoln counties, said Kathy Helms, manager of agency services and programs.

Previously, agencies Second Harvest served here had to drive to Charlotte to pick up food, Helms said. — JEN ARONOFF

Hickory

Meet community watch officer

Residents of Northeast Hickory can meet Hickory Police Department Community Watch Officer Bob Winters from 5 to 6:30 p.m. Thursday at Argyle Place Apartments Clubhouse, 2830 16th St. N.E., Hickory.

(828) 256-9877. — CASEY CHILDERS

Catawba County

GOP to host candidates

The Republican Party of Catawba County will feature candidates for upcoming elections at Bennett's BBQ, 1819 Fairgrove Church Road, Conover.

■ 7 p.m. Thursday for District and Superior Court judge.

First scrubber will open in fall

Cleaner air to rise soon at coal-fed power plant

GAYLE SHOMER – gshomer@charlotteobserver.com

A $450 million pollution control project at Duke Power's Marshall Steam Station on Lake Norman is under way. Parts of the three scrubbers and the new larger smokestack under construction are visible in the distance. The two smokestacks in the foreground are part of an existing emissions system.

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Appendix D

Memorandum of Understanding
Southeast Diesel Collaborative

The eight southeastern states and the public and private diesel stakeholders listed below committed on April 26, 2006, to work together in a voluntary collaborative to reduce air pollution in the Southeast caused by diesel exhaust and to promote renewable forms of energy through locally produced agriculture. The goals of this collaborative include:

- The protection of public heath from air pollutants created by diesel sources
- The protection of the Region's natural resources
- The promotion of the use of biodiesel and other sustainable fuels

The purpose of this Memorandum of Understanding is to articulate the common goals of the collaborative and to bolster the relationships between these diverse stakeholders and Region 4 EPA. The signatories below join together in this regional effort based on the following principles.

Whereas, we believe diesel emissions contribute to air pollution in the Southeast;

Whereas, we strive to protect public health from the harmful effects of diesel emissions;

Whereas, we believe the natural environment in the Southeast will benefit from reduced diesel emissions;

Whereas, we believe that the expansion of renewable energy is critical for homeland security and energy independence;

Whereas, we believe that agriculture in the Southeast can provide a ready source of renewable energy feedstocks;

Whereas, the stakeholders agree that by forming voluntary partnerships through this collaborative diesel emissions can be reduced;

Whereas, the stakeholders affirm that this collaborative will target reducing diesel emissions from existing engines and equipment from the agriculture, heavy construction, and on-road sectors and other sectors identified through these efforts;

Therefore, to promote the reduction of diesel emissions though voluntary initiatives, the undersigned commit to the extent feasible to:

- Promote retrofit technology on mobile and stationary agricultural equipment to reduce diesel emissions.
- Promote retrofit technology on city and state-owned construction equipment to reduce diesel emissions.
- Evaluate and promote financial incentives to encourage the use of clean diesel equipment.
- Establish programs to promote the growth of crops such as canola and soy to increase sustainable energy sources.
- Promote the use of biodiesel fuels and reduced idling practices.
- Secure funds from governmental and nongovernmental sources to implement these programs and initiatives.
- Work regionally on issues that require multi-state involvement in order to be effective and equitable.

The signatures below confirm the agreement of participating stakeholders to support, develop, and implement the goals and programs of the Southeast Diesel Collaborative, as stated above.

Kitty Barnes

_____ April 26, 2006

Chair, Unifour Air Quality Committee

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Appendix E

Press Release

City of Conover

Tuesday June 27, 2006

Conover, NC Mayor Bruce Eckard is pleased to announce the use of biodiesel in all diesel powered vehicles and implements for the City of Conover effective immediately. Biodiesel is a renewable diesel fuel that is made from soybean oil or other domestic fats and vegetable oils. It can be used in any diesel engine with few or no modifications, and can be blended with petroleum at any level. The City is using B20, a blend of 80 percent diesel and 20 percent biodiesel.

Councilman Johnny Brown made the official announcement at the Unifour Air Quality Committee (UAQC) in Hickory NC, Tuesday morning; citing Conover's desire to help improve air quality, lessen our nation's dependency on foreign, oil, and aid the American farmer. The use of alternative fuels is a part of the city's Air Quality Awareness Program Action Plan, adopted in 2005.

Ron Brown, Fleet Manager for the City of Conover said; as of Friday June 23, the city's 23 on-road and 31 off-road implements are now using B20. Conover is one of 600 major fleets to use biodiesel nation-wide. In an effort to encourage the use of biodiesel all diesel powered vehicles will be equipped with a sticker that says "Powered by Biodiesel." Additionally, Mayor Eckard encourages all local governments and commercial fleets to begin using biodiesel to help reduce harmful emissions, promote energy independence, and boost the economy.

For more information about biodiesel contact the National Biodiesel Board at www.biodiesel.org or contact the City of Conover City Manager's office at (828) 464-1191.

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8 Unifour Area, NC (Effective date of nonattainment designation deferred)

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, $$)	H. Additional Information
Open burning ban-ozone action days	The NC Environmental Management Commission approved a new rule that would ban open burning during the ozone season on code orange and code red ozone action days for those counties that NCDAQ forecasts next day ozone levels, including the Unifour area.	This is a mandatory no burn rule for metropolitan areas around the state of NC including the Hickory area. The NCDAQ has formed an Open Burning Outreach Team (OBOT) responsible for helping to disseminate information to the public regarding open burning.	June 1, 2004	0.7 TPD	0.5 TPD		The emissions are calculated for open burning by multiplying the rural population by an emission factor provided by the U. S. Environmental Protection Agency. To model the open burning rule, a conservative 50% compliance/penetration/effective combined rate was assumed for those counties in our ozone forecast areas.
Local governments join NC Air Awareness Program	Local governments join and participate in the NC Air Awareness Program. This measure calls for the development, adoption, and implementation of an "Ozone Action Day Plan." These plans include provisions that help reduce ozone pollution on "alert days." The Air Awareness program also includes outreach and education programs designed to inform residents on issues relevant to air quality.	Each local member of the EAC has adopted an "Ozone Action Day Plan" with provisions that help reduce ozone pollution.	2004 and 2005				The NC Division of Air Quality issues a ground-level ozone forecast every day from May 1st through September 30th that consists of a color-coded forecast and corresponding Air Quality Index (AQI) number The AQI values predict the maximum 8 hour ozone concentration for the following day. This information is distributed to participants via email and the NC Ozone Forecast Center website. The ozone forecasts allow organizations to make preparations to take action and implement their Ozone Action Plans.
Enhanced awareness; outreach;educate	This activity has been combined with the measures related to the NC Air Awareness Program and local clean air policies.						
Energy conservation plan	An energy conservation plan will be developed that directs local EAC members to reduce the consumption of electricity in public facilities through practical measures related to: lighting systems, HVAC, weatherproofing, insulation, electrical equipment, etc.	Each local member of the EAC has adopted an "Energy Conservation Plan," or policy with provisions that help conserve natural resources and reduce emissions from EGUs.	2005	0.5 TPY	0.4 TPY		
Staff person-air quality contact	Designation of air quality contacts for each EAC local member will help guarantee each organization's adherence to all other local control measures. These contacts will be responsible for the dissemination of air quality information throughout their respective organizations and for the oversight of air quality programs and EAC reporting requirements as well as local outreach and education programs.	Each local EAC government have appointed staff members as their air quality contact.	2004				
Adopt local clean air policy	Adopt a local clean air policy and appoint stakeholder group to identify and recommend locally feasible air quality improvement strategies.	Each local member of the EAC has adopted clean air policies.	2005				
Landscape/tree ordinances	Planted trees and vegetative landscaping reduce the need for air conditioning, reduce the heat island effect in urban areas, and help reduce consumption of electricity. Landscaping ordinances establish minimum standards for new developments and promote the concepts of "Urban Forestry" in an effort to reduce emissions from EGUs.	Each local member of the EAC has adopted landscaping standards for new developments in their jurisdictions. The City of Hickory has been designated as a Tree City USA. Criteria for this designation include: establishment of a Tree Board, adoption of a Tree Ordinance, and spending at least two dollars per capita on the urban forestry program. Hickory fulfills all these requirements. See Appendix A.	2003 / 2005				

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Early Action Compacts June 2006 Progress Summary Table

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, $$)	H. Additional Information
Implement Smart Growth	Each local EAC member will actively encourage compact development that provides air quality benefits by promoting land use activities and associated travel behavior which minimizes vehicle miles traveled.	Catawba County has completed several Small Area Plans and is implementing a new Unified Development Ordinance that are based largely on Smart Growth principles. Lenoir is in the midst of developing a comprehensive plan with many provisions preventing sprawl and requiring more dense developments. Morganton has initiated a public/private redevelopment plan for much of its downtown area. Hickory continues to implement its Hickory by Choice growth management plan which incorporates Smart Growth techniques and regulations. See Appendix B.	2003 / 2005				
Encourage bicycle and pedestrian usage	Each member will contribute to a regional bicycle and pedestrian plan that includes provisions for the establishment of a network of greenways paths, trails, and bicycle facilities for the continued pursuit of additional non-motorized travel opportunities throughout the Unifour.	The WPCOG has documented such ongoing efforts throughout the Unifour in the Greater Hickory Urban Area Transportation Plan. (http://trans.wpcog.org/planning.asp)	2003 / 2005	2.0 TPY	1.6 TPY		
Support coordination of transportation planning organizations	The Greater Hickory MPO, and the Unifour RPO, do long range transportation planning on a five year cycle to ensure that highway and transit projects conform to the air quality goals established by the EAC's air quality SIP.	All ten members of the EAC participate and make significant contributions to the MPO planning process and all four counties in the region participate and contribute to the RPO.	2003				The Greater Hickory MPO and RPO will coordinate transportation activities in the Unifour Area in such a way that does not cause new air quality violations, worsen existing violations, or delay attainment of the national ambient air quality standards for ozone. The MPO and RPO will use the directionally appropriate concepts of Transportation Conformity as a foundation for transportation planning activities. The WPCOG conducts these activities based largely on results from the modeling of mobile source emission budgets supplied by the NCDAQ.
Encourage compressed/flexible work schedules	In an effort to reduce emissions from mobile sources, members encourage the use of compressed work weeks and flexible hours for government employees wherever appropriate.	Currently, several of the stakeholders, including Caldwell County, Catawba County, and the City of Hickory actively use this technique to help reduce traffic congestion and related air quality problems. All members have adopted resolutions supporting this measure.	2004	1.5 TPY	1.3 TPY		
Expand transit and ridesharing	The Piedmont Wagon Transit System (PWTS) and the Piedmont Wagon Manager's Consortium is committed to air quality improvements by continually evaluating expanding transit service and the number of system users. The system has adopted policies that limit bus idling and incorporate the latest transit technology into the system. The Piedmont Wagon Transit System will seek to play a useful role in not only providing an efficient public transit service but also in fostering the implementation of ridesharing programs by area businesses.	The Piedmont Wagon Transit System has increased its service area and is taking delivery of new equipment to replace older less efficient buses. The WPCOG has initiated a feasibility study for the development of a regional transit authority to serve the greater metro area.	2005	0.5 TPY	0.4 TPY		In an effort to protect health and improve air quality, all of the school districts in the Unifour have adopted idle reduction policies for the operation of all school buses.

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Early Action Compacts June 2006 Progress Summary Table

A. Control Measure	B. Summary Description of Measure	C. Program/Measure Status	D. Specific Implementation Date	E. VOC Reduction	F. NOx Reduction	G. Resources (FTE's, $$)	H. Additional Information
More efficient trafficking systems	A Transportation Demand Management (TDM) plan will complement the ongoing transportation planning activities in the region and help alleviate air quality problems through efficient traffic management, engineering, and maintenance.	The City of Hickory currently uses coordinated signalization and traffic management in efforts to avoid idling problems and to help decrease traffic congestion. The City of Lenoir has performed major route configurations to several thoroughfares, effectively reducing congestion in the City's CBD.	2005				
Expand vehicle I&M	The vehicle emissions inspection and maintenance program has been expanded in the Unifour to include Caldwell, Burke, and Catawba Counties. Vehicles are tested using the onboard diagnostic system (OBDII), an improved method of testing, which indicates NOx emissions, among other pollutants. The previously used tailpipe test (i.e., idle test) did not measure NOx. The inspection and maintenance program is above and beyond what is federally required for these areas.	The Inspection and Maintenance program has been implemented in three Unifour counties, Caldwell, Catawba, and Burke.	July 2003 - July 2005	0.8 TPD	0.8 TPD		
Clean Smokestacks Act	In June 2002, the N.C. General Assembly enacted the Clean Smokestacks Act, requiring coal fired power plants to reduce annual NOx emissions by 78% by 2009. These power plants must also reduce annual sulfur dioxide emissions by 49% by 2009 and by 74% in 2013.	This measure was modeled in the attainment demonstration and included in the SIP as a state measure. See Appendix C.	June 2005		4.95 TPD		One of the first state laws of its kind in the nation, this legislation provides a model for other states in controlling multiple air pollutants from old coal-fired power plants.
Comments:							
Clean Cities and AFVs	The UAQC will continue its participation as a stakeholder in the Carolina Clean Fuels Coalition and utilize the concepts and methods of the Department of Energy Clean Cities program in order to bring more alternative fuels and alternative fuel vehicles (AFVs) to the Unifour. Members of the EAC will commit to replacing conventional vehicles with AFVs and towards the creation or expansion of alternative fuel delivery systems within the region.	Each local member of the EAC has committed to the research and pursuit of additional Alternative Fuel Vehicles and alternative fuel delivery systems wherever feasible. The UAQC is a participant in the Southeast Diesel Colaborative, an initiative that is working to reduce emissions from diesel engines. Caldwell County has committed significant staff and resources to the Alternative Energy Task Force. This committee is developing a landfill gas recovery system and a 5,000,000 gallon per year biodiesel production facility. The City of Conover has converted its entire fleet of diesel vehicles, both on and off-road, to biodiesel. See Appendix D & E.	2005			UAQC stakeholder, the Catawba Valley Heritage alliance has received funding from the NCDAQ in the amount of $25,000 to place a commercial biodiesel station in Catawba County.	This measure was not included in the summary table provided by EPA. It is one of the original local control measures and the WPCOG and UAQC have been actively pursuing funding to help increase AFVs and the AFV infrastructure in the region.
Comments:							

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