Updating Environmental Justice Guidelines at GTC

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1. INTRODUCTION

GTC is an electric transmission cooperative established under the laws of the State of Georgia in 1996. The cooperative owns, maintains, and builds electric power facilities (high voltage transmission lines, substations, and switching lines) in order to provide reliable, cost-effective service to distribution cooperatives that in turn provide retail electrical services to approximately 4.5 million homes, schools, businesses and other organizations located within Georgia[1].

GTC is a non-governmental organization. The cooperative, however, typically seeks loans to fund the construction of new facilities from the U.S. Department of Agriculture, Rural Utilities Service (RUS). Receiving financing assistance from RUS makes the projects being funded by RUS a federal action subject to review by the *National Environmental Policy Act*, 7 CFR Part 1794, RUS' Environmental Policies and Procedures, and all applicable federal environmental laws, including Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

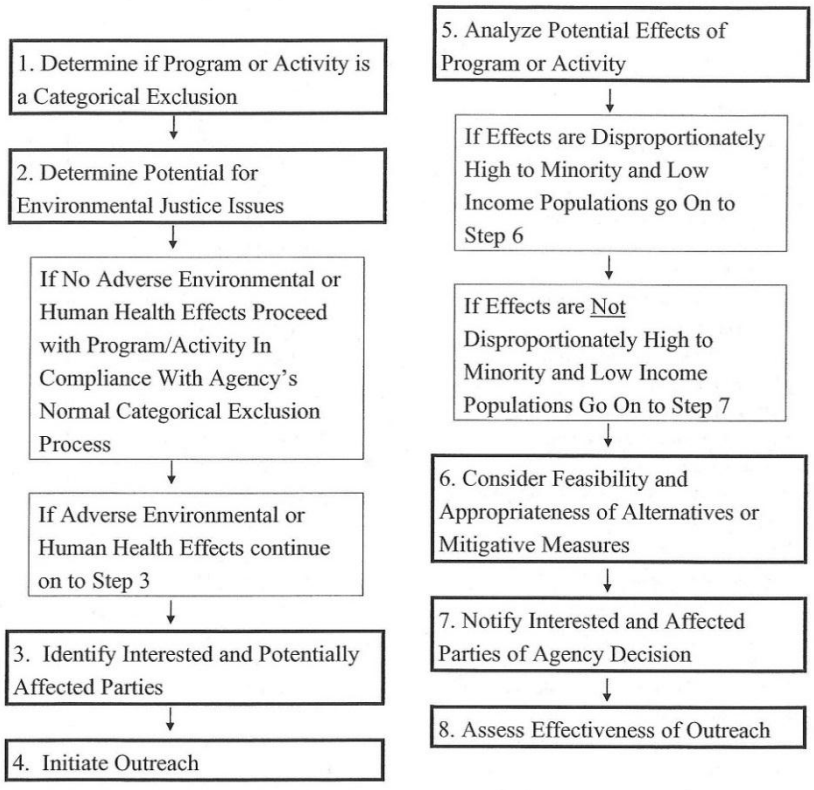
Even though GTC must comply with NEPA and all applicable federal environmental rulings, this capstone paper will focus exclusively on how GTC complies with Executive Order 12898, the executive order to address disproportionate impacts to minority and low-income populations. More specifically, this capstone paper would like to suggest ways to update the cooperative's current environmental justice guidelines by revisiting thresholds, better defining potential impacts and avoidance and mitigation strategies, and also by developing public notification and involvement procedures.

2. RUS ENVIRONMENTAL POLICIES AND PROCEDURES

For any project receiving federal funding, GTC is required by RUS' Environmental Policies and Procedures to include environmental justice issues into its NEPA documents[2]. This holds true for categorical excluded projects even though construction and operation of such projects normally do not have an adverse impact on the human environment[3] or similarly any direct socioeconomic impact on the area in the vicinity of the project[2].

So for all projects, RUS directs its applicants to use the following procedure shown in **Figure 1** to determine whether or not environmental justice issues are present[4]: 1) determine if the activity is a categorical exclusion; 2) determine if the proposed project might have an adverse environmental, human health or related socioeconomic effect; 3) identify any minority or low-income populations in the area of the project that may be potentially affected; 4) notify affected parties of proposed project; 5) analyze potential effects; 6) consider feasibility and appropriateness of alternatives or mitigation measures; 7) notify all parties initially contacted in the outreach program of the agencies decision; and 8) assess the effectiveness of outreach. (It is worth noting that if in step 2, it is determined that the proposed project will not have an adverse environmental, human health, or socioeconomic effect then further analysis (i.e., steps 3-8) is not needed.)

Figure 1: Flowchart of RUS Environmental Justice Procedures[4]:



3. COUNCIL ON ENNVIRONMENTAL QUALITY GUIDANCE UNDER THE NEPA

The Council on Environmental Quality (CEQ) considers environmental justice issues to be an important part of the NEPA process. While acknowledging that there is not a "standard

formula" for how to identify and address environmental issues, the Council on Environmental Quality (CEQ) encourages agencies to consider environmental justice related issues at every applicable step in the NEPA process by following six general principles.

Several of these principles recommended by the Council reiterate what has been spelled out in 7 CFR 1794 RUS' Environmental Policies and Guidelines. For instance, both suggest that either federal agencies or their applicants consider the racial and socioeconomic composition of the area affected by the proposed action[5]. The guidance given by RUS and CEQ also converge on topics of public participation: Both require "effective public participation" and "meaningful" community involvement[6]. Accordingly, agencies and federal applicants like GTC must make sincere attempts to involve the public and to learn what particular issues are of concern to the public.

The CEQ guidance also introduces several new principles that may be used to strengthen GTC current environmental justice procedures. For one, the CEQ guidance suggests doing background research in order to learn about the history surrounding an affected population's circumstances[6]. CEQ also recommends the collection data relating to public health and industry data so as to address cumulative effects of other actions in addition to what the agency is proposing. Lastly, CEQ stipulates that agencies are to involve tribal governments whenever appropriate.

4. PROCEDURAL GUIDELINES ADOPTED BY GTC

4.1 Current Guidelines

In 2001, to facilitate compliance with 7 CFR 1794 RUS's Environmental and Procedures, GTC developed internal guidelines for determining whether projects receiving federal funding adversely or disproportionately affected minority or low-income populations. The guidelines utilize a methodology and adopt thresholds recommended in the *Interim Policy to Identify and Address Potential Environmental Justice Areas* published by Environmental Protection Agency, Region 4 Office in 1999.

The methodology consists is as follows[7]: Racial composition and low-income populations in the project study area are analyzed at the 2000 U.S. Census block and block group level. However, thresholds are reviewed are based on the 1990 Census: In 1999, EPA determined that environmental justice issues should be reviewed by utilizing "relative thresholds" that essentially

compare the population within an area of concern to statewide populations. The EPA Region 4 threshold values represent 1.2 times the state minority and low-income populations. For the State of Georgia, the EPA evaluation process yielded relative values of 35.72% for minority populations and 17.58% for families in poverty. If a census block or block group contains percentages exceeding these thresholds, GTC considers the area to be a potential area of concern.

4.2 Issues with Current Procedural Guidelines

The procedural guidelines are based on outdated data: The EPA "relative threshold" values of 35.72% for minority populations and 17.58% for low-income populations were developed in 1999 with data from the 1990 Census. EPA has not yet updated these figures[7]; and meanwhile the demographic and socioeconomic characteristics of Georgia's residents have changed.

The statewide minority population increased from approximately 30% in 1990 to 37.3% in 2000 and to 54.5% in 2010[8]. The poverty rate also increased, rising from 14.7% to 15.8%. Despite changes in the population, GTC continues to use the 1990 thresholds because there are no federally approved alternatives. As a result, the minority and low-income analyses are both more inclusive than what would be required by future EPA thresholds. In other words more areas are flagged as potential environmental justice areas than what would be required if new thresholds based on the 2010 Census were adopted.

While this particular scenario of including more areas than what would be required by updated 2010 thresholds is preferable to other scenarios where populations that should be flagged are excluded, it is still problematic: The outdated thresholds potentially compromise the validity of the environmental justice analysis. Since, the minority population has almost doubled since 1990, approximately 50% of the areas flagged as for exceeding the minority thresholds have been identified in "error," albeit an error on the side of caution. By casting such a broad net and flagging areas that would not be needed under revised guidelines, the cooperative risks losing focus on areas of real concern.

If EPA adopted a similar methodology and thresholds were based on 2010 U.S. Census, then the relative thresholds would be 65.4% and 19% *(instead of 37.3% and 14.7%)* for minority and low-income populations, respectively.

4.3 Discussion of Project Impacts and Mitigation Strategies

It is the cooperatives opinion that electrical transmission facilities (high power transmission lines, substations, and switching stations) do not pose a threat to public health and safety under normal or contingency conditions: To provide for public protection these facilities are designed, built, and operated so as to comply with the National Safety Code as well as to North American Electric Reliability Corporation (NERC) standards. Also, many of GTC's projects are categorical exclusions; and, as supported by RUS, these classes of projects normally do not individually or cumulatively have a significant impact on the human environment[3]. Similarly, they also rarely have direct impacts on the socioeconomic characteristics of the community surrounding the project[2]. Given the above, in most circumstances, the only potential impact to an area would be that to aesthetics. Accordingly, mitigation strategies may include landscaping (e.g., vegetative screenings and/or fencing) for substations and altering the colors or placement of transmission lines structures. This may help the proposed electric transmission facility blend into the surrounding environment.

Admittedly, when GTC engages the public, the affected community may want to address other concerns that they perceive to be related to electric facilities. GTC will need to address these potential concerns as well.

4.4 Public Notification Process

Tittle 22 of the Official Code of Georgia requires electrical utilities, like that of GTC, that have the power of eminent domain to hold public meetings and to provide both public and written notices of those public meetings when constructing one or more miles of electric transmission lines with a designed operating voltage of 115 kilovolts or greater[9]. The purpose of the meetings is to inform affected property owners about the project being proposed by the electrical utility. During the public meetings, which are held in an open house rather than town hall format, GTC provides displays of technical information, maps of the transmission line project, and the opportunity for the community to ask questions of the subject experts.

In cases where minority or low-income population exceed updated environmental justice threshold, it is the suggestion of this capstone paper that those invited should include more than just the property owners directly affected by the line. So as to better comply with 7 CFR 1794 RUS Environmental Policies and Procedures, efforts should be made to include civic

organizations, religious organizations, superintendents of schools, local parent-teacher associations, and other community organizations that can help facilitate the outreach process[4]. Since we have the subject experts and maps already setup, this will be an efficient way to satisfy both federal and state requirements.

5. CASE STUDY – BECKHAM ROAD 115/25KV SUBSTATION

5.1 1990 Threshold Results

An environmental justice analysis was performed in 2006. At the time of the survey, despite the availability of 2000 U.S. Census data, GTC used the 1990 EPA thresholds for environmental justice evaluations. By 2006, the minority population within Georgia had grown, and the low-income had decreased. Therefore, the minority analysis was more inclusive than will be required by future EPA thresholds, but the low-income analysis was less inclusive. The results of the survey are detailed below.

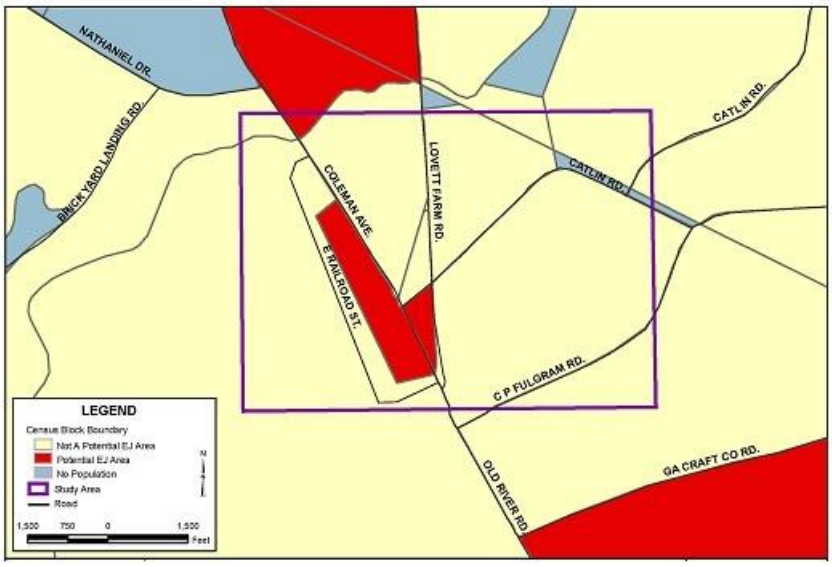
5.1.1 Minority Populations

Minority populations were analyzed at the Census 2000 block level. The minority population was defined by grouping together all non-white races, Hispanics, and those whose race is described as the combination of two or more races. The block is considered to be a potential environmental justice (EJ) area if the minority population percentage of a block is greater than the percentage specified as the 1990 EPA minority threshold (35.72% of the total population).

The study area is located within 26 Census blocks **(Figure 2)**. Interior blocks are located entirely within the study area, while those on the perimeter are located partially within the study area. Each entire block was evaluated for EJ purposes. Three blocks have minority population percentages that are above the EPA threshold; therefore, these blocks are considered to be potential EJ areas. The minority population percentages of these blocks range from 50.0% to 100.0% of the total populations. Two of the high minority blocks are located between Lovett Farm Road and East Railroad Street. The third high minority block is situated along the east side of Coleman Avenue and is located partially within the study area. Two blocks have no population, and the remaining eleven blocks have minority population percentages below the EPA threshold.

The minority populations of these blocks range from 0.00% to 25.74% of the total populations.

Figure 2: 1990 Thresholds, Potential EJ Areas for Minority Populations

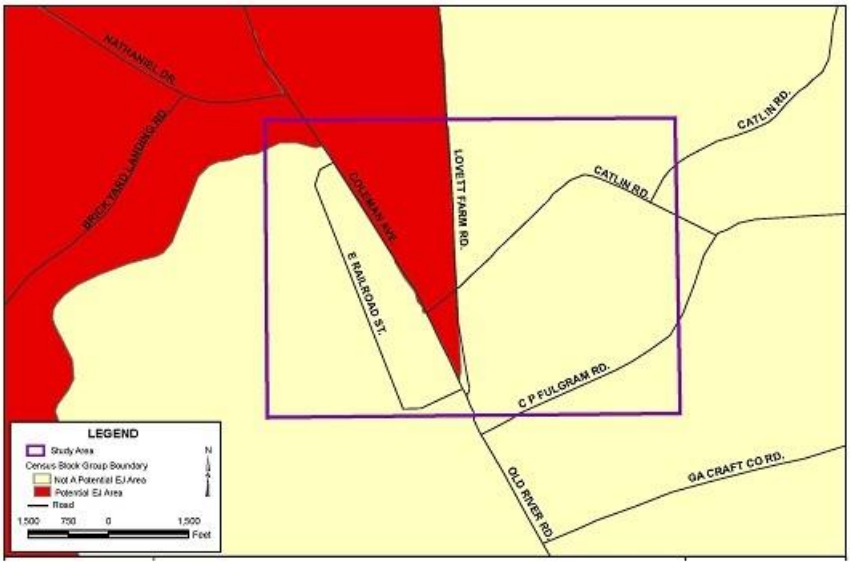


5.1.2 Low-Income Populations

Low-income populations were analyzed at the Census 2000 block group level. The low-income population was defined as those individuals living below the 1999 U.S. poverty levels. The block group is considered to be a potential EJ area if the low-income population percentage of a block group is greater than the percentage specified as the EPA low-income threshold (17.58% of the total population).

The study area is located within two Census block groups (Figure 3). Both of these block groups are located partially within the study area, but each entire block group was evaluated for EJ purposes. The low-income population percentage of one block group, at 32.35%, is above the EPA threshold for environmental justice and is considered to be a potential EJ area. This irregularly-shaped block group is located between Coleman Road and Lovett Farm Road and north of Shaddock Creek. The low-income population percentage of the second block group is 14.10%, which is below the EPA environmental justice threshold.

Figure 3: 1990 Thresholds, Potential EJ Areas for Low-Income Populations



5.2 2010 Threshold Results

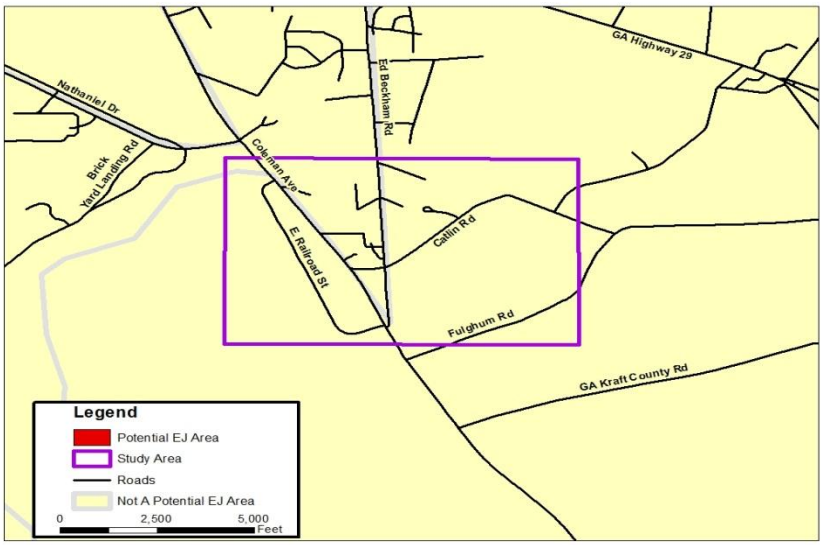
The same project study area has been re-evaluated using different thresholds. Recall that if EPA adopted a similar methodology as used in 1999 and thresholds were based on 2010 U.S. Census, then the relative thresholds would be 65.4% and 19% *(instead of 37.3% and 14.7%)* for minority and low-income populations, respectively. It is worth noting that the minority and low-income populations are now summarized at the block group and tract level. The results of the new survey are detailed below.

5.2.1 Minority Populations

Minority populations were analyzed at the Census 2010 block group level. The block is considered to be a potential EJ area if the minority population percentage of a block is greater than the percentage specified as the 2010 minority threshold (65.4% of the total population).

The study area is located within 2 Census blocks groups—block group 3 and block group 7 **(Figure 4)**. Block group 3 has minority population of 24.5%; and block group 7, 40.4%. None of the block groups have minority population percentages that exceed the 2010 threshold. If the 1990 threshold were utilized then block group 7 would have been identified as a potential environmental justice area.

Figure 4: 2010 Thresholds, Potential EJ Areas for Minority Populations



5.2.2 Low-Income Populations

Low-income populations were analyzed at the Census 2010 tract level. The tract is considered to be a potential EJ area if the low-income population percentage of a block group is greater than 19.0% of the total population.

The study area is located within one Census tract—tract 9510 **(Figure 5)**. Approximately 23% of the residents in this tract are below the poverty 2010 threshold. The low-income population percentage exceeds the both the 1999 and the 2010 threshold percentages for poverty.

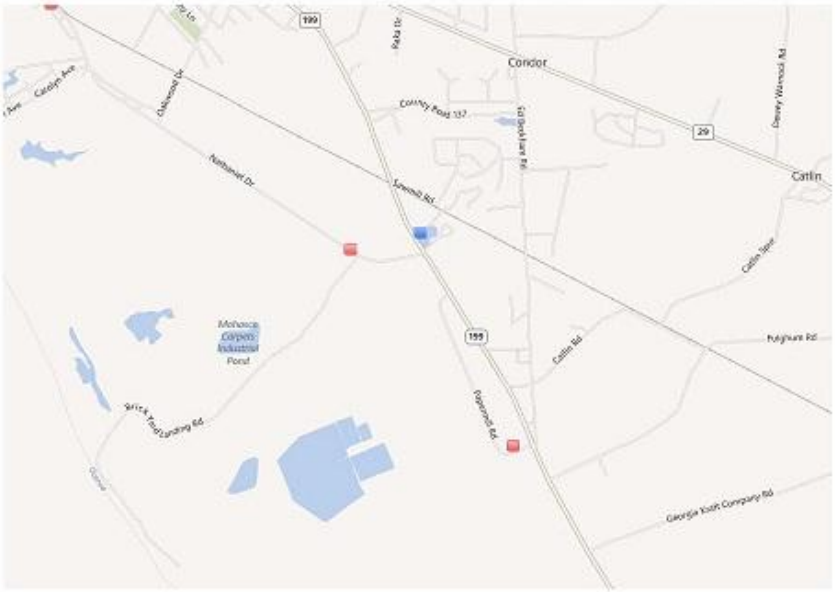
Figure 5: 2010 Thresholds, Potential EJ Areas for Low-Income Populations

5.3 Further EJ Data

Other tools exist to help analyze the potential for projects to individually as well as cumulatively affect minority and low-income populations. One such tool is EJView, an online interactive GIS mapping tool supported the Environmental Protection Agency (EPA). EJView houses a wealth of information relating to a wide range of human health and environmental interests. Some of the data available include locations community based EPA grants, sites reporting to EPA, nonattainment areas, and areas with high incidences of cancer, infant mortality and low birth weight rates[10].

The tool revealed that three sites report to EPA regarding air emissions. Two of these sites also report to EPA for the following reasons: they discharge large quantities of water; they are considered hazardous waste sites, and release toxins. The location of the facilities is shown in **Figure 6**. Health indicators for this area vary. While several are above the state average, many others are well below the state average. Overall, the area should be flagged as a potential environmental justice concern due to high levels of poverty and the number of sites reporting to the EPA.

Figure 6: Results of EJ View



6. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, GTC is a not-for-profit organization whose projects must often comply with the *National Environmental Policy Act* and other federal regulations, including Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.* The cooperative does not site new electric transmission facilities (transmission lines, substations, and switching stations) based on the socioeconomic or racial makeup of property owners. However, to better demonstrate compliance, the cooperative adopted procedural guidelines to better ensure compliance with Executive Order 12898.

The current guidelines, which date back to 1990s, are helpful to the cooperative but could also be improved. Below is a list of recommendations on how to potentially enhance GTC's current environmental justice guidelines:

- Update thresholds so that they are based on more current data (the 2010 Census) instead of the 1990 Census. Consult EPA Region 4 for guidance, if necessary.
- Make a better effort to invite civic and religious organizations as well as other community organizations to public meetings when there are potential environmental justice impacts.
- Strengthen environmental justice analysis by conducting more research:
    - Learn more about background surrounding affected population, and
    - Collect public health data and industry reporting data.

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[2] Engineering and Environmental Staff, Rural Utilities Service, U.S. Department of Agriculture. (1998). *RUS Bulletin 1794a-600: Guide for Preparing Environmental Reports for Water and Environmental Program Proposals*. (p. 26). Retrieved from: http://www.rurdev.usda.gov/RegulationsAndGuidance.html

[3] Engineering and Environmental Staff, Rural Utilities Service, U.S. Department of Agriculture. (1998). *RUS Bulletin 1794a-600: Guide for Preparing Environmental Reports for Water and Environmental Program Proposals*. (p. 1). Retrieved from: http://www.rurdev.usda.gov/RegulationsAndGuidance.html

[4] Engineering and Environmental Staff, Rural Utilities Service, U.S. Department of Agriculture. (1998). *RUS Bulletin 1794a-600: Guide for Preparing Environmental Reports for Water and Environmental Program Proposals*. (p. 66). Retrieved from: http://www.rurdev.usda.gov/RegulationsAndGuidance.html

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[6] Council on Environmental Quality. (1997). Environmental Justice: Guidance Under the National Environmental Policy Act. (p.9). Retrieved from: www.whitehouse.gov/CEQ

[7] Georgia Transmission Corporation (GTC). (2001). Environmental Justice Procedural Guidelines.

[8] U.S. Census Bureau. (2010). Georgia Quick Facts. Retrieved September 20, 2012, from U.S. Census Website: http://quickfacts.census.gov

[9] Title 22 of the Code of Georgia. (2006).

[10] Environmental Protection Agency. (2012). EJ View: Summary Report. Retrieved from http://epamap14.epa.gov/ ejmap/entry.html.