PMBelCOL PEmails

From: Tomeka Terry
Sent: Monday, September 22, 2008 12:00 PM
To: BelCol Resource
Subject: FW: ER Letter 09 Pgs 20-29
Attachments: ER Ltr 09 Pg. 20-29 Socioconomics.pdf

From: Creek, Carolyn P [mailto:cpcreek@tva.gov]
Sent: Thursday, July 03, 2008 4:11 PM
To: Tomeka Terry
Subject: ER Letter 09 Pgs 20-29

<<ER Ltr 09 Pg. 20-29 Socioconomics.pdf>>

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Hearing Identifier: Bellefonte_COL_Public_EX
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Subject: FW: ER Letter 09 Pgs 20-29
Sent Date: 9/22/2008 12:00:01 PM
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From: Tomeka Terry

Created By: Tomeka.Terry@nrc.gov

Recipients:
"BelCol Resource" <BelCol.Resource@nrc.gov>
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MESSAGE	367	9/22/2008 12:00:04 PM
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Priority: Standard
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11. Revise COLA Part 3, ER Chapter 4, Section 4.4, by replacing Figure 4.4-2 with the **revised Figure 4.4-2** (BLN Construction Staffing by Craft), as provided as Attachment SE-09-A.

12. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.1, third paragraph, as follows:

    An estimated 1000~~850~~ operations workers are needed for operation of the BLN. The impacts from these workers on the local and regional area are discussed in Subsection 5.8.2.

13. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.1.2, third paragraph, as follows:

    For plant operations, it was assumed that the BLN site would operate in three shifts. The day shift would be composed of 60 percent of the workers, the night shift would be composed of 30 percent of the workers, and the midnight (graveyard) shift would be composed of 10 percent of the workers. It was also assumed that 20 percent of ~~all~~ the workers would carpool, and the remaining 80 percent of the workers would not carpool with another plant employee. The BLN site expects to employ~~s~~ approximately 1000~~850~~ operations workers at the new units. Therefore, the 1000~~850~~ workers needed for operation of the new facility would add approximately 800~~680~~ additional vehicles on the roadway. Of these, approximately 480~~408~~ are associated with the day shift, 240~~204~~ are associated with the night shift, and 80~~68~~ are associated with the midnight (graveyard) shift. Assuming ~~the~~ most of the vehicles are on the roadway at the end of the day shift and the start of the night shift (shift change), there is a maximum of 720~~612~~ additional vehicles entering and leaving the site. Additional impacts may be present during outages and during refueling periods when more workers are present. Additional information on transportation, including current traffic counts, is discussed in Subsection 2.5.2.

14. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.2.1, first and second paragraphs, as follows:

    The 2007 estimated permanent population within the 50-mi. BLN region is 1,158,869. Population projections are discussed in Subsection 2.5.1. The BLN site is expected to employ approximately 1000~~850~~ operations workers at the new units. Based on preliminary estimates, and to provide a maximum impact scenario, it is assumed that 50 percent of the new units' employees migrate into the region, and that each operations worker brings their family. The assumed family size of four is based on U.S. Census Bureau 2000 data (Reference 2), which states that the average family size in the United States is 3.14 persons. For estimating family size, the value of 3.14 persons per family was rounded up to bound the U.S. Census Bureau value. Expectations are that the worker family size would be typical of the U.S. Census Bureau data. The U.S. Census Bureau data is used instead of Jackson County family size, because the in-migrating construction workers are expected to come from outside Jackson County. ~~The average family size in the United States is 3.18 in 2000. To be conservative, an average family size of four was used to estimate the increase in population within the 50-mi. region.~~ An operational workforce of 1000~~850~~ increases the population in the 50-mi. region by approximately 2000~~1700~~ people. Of the operations workers who migrate into the region, it is assumed that all settle in Jackson

County. In 2015, the Jackson County estimated population is 61,249. Based on these estimates, the influx of operations workers and families would likely represent a 3~~2.8~~ percent increase in population in Jackson County. The operations workers and their families represent a very small percent increase in the existing population.

Within the communities in the vicinity, the influx of operational workers during outages helps reduce the bust effect of population decline caused by the departure of construction workers. At the current rate of population growth it would take approximately 15~~fifteen~~ years for the population in the vicinity to reach the population peak experienced during construction. However, the approximate 600 to- 800 temporary employees required for the scheduled refueling outage every 18 months act to offset this impact. These workers are expected to work at the plant for a 30-day period. The impact of plant operations on local and regional demography is considered to be SMALL, as the percent increase in population is below 4~~four~~ percent for Jackson County, and mitigation is not warranted.

15. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.2.2, second paragraph, as follows:

For every plant operations employee, an estimated additional 0.759 jobs are created in the 50-mi. region, which means that 1000~~850~~ direct operations jobs resulted in ~~an additional~~ 759~~645~~ indirect jobs for a total of 1759~~1495~~ new jobs in the region. For the operations phase, it is assumed that the operations workforce is in place having in-migrated during or near the end of the construction phase. Because most indirect jobs are service-related and not highly specialized, it is likely that most, if not all, indirect jobs are filled by the existing population, including both unemployed workers and persons not currently in the workforce within the 50-mi. region. This is a positive impact on the economy by providing new business and job opportunities for local residents. In addition, these businesses and employees generate additional profits, wages, and salaries, upon which taxes are paid.

16. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.2.3.1, **to update ER revisions provided in response to comment ER64 in TVA's May 2, 2008, letter**, as follows:

5.8.2.3.1 Social and Public Services

Water Supply Facilities

Subsection 2.5.2 describes the public water supply systems in the area, their capacities, and current demands. Subsection 4.4.2.3 describes the public water supply system usage during construction. The BLN site is not anticipating the use of groundwater as a safety-related water source, and it does not plan to use groundwater as its primary water supply resource for any purpose. Potable water is supplied by the Scottsboro Municipal Water System, operated by the city of Scottsboro, Alabama.

The demand on potable water utilities is anticipated to decrease during operations at the BLN site. Taking into consideration the estimated number of operational workers (1000~~850~~) with families moving into Jackson County, the population is expected to decrease by 5800~~4300~~ people (estimated construction

population increase [7800~~6000~~], minus the result of multiplying one-half of the anticipated operational workers by the estimated family size of four [2000~~1700~~]). During operation, the Scottsboro Municipal Water System would use approximately 77.2~~77~~ percent (6.2 Mgd) of its normal capacity of 8 Mgd. It is anticipated that the average per capita amount of water consumed per day is 90 gal. (Reference 3). Based on these values, an overall decrease in consumption is anticipated at approximately 522,000~~387,000~~ gal., from the construction phase to the operational phase. This represents a reduction of 6.6~~5~~ percent usage of system capacity.

The current maximum capacities for the potable water supplies would not be reached during the peak construction phase, the period of highest use of service. Because the Scottsboro Municipal Water System is expected to be capable of handling the additional water use for construction, capacity is not expected to be reached during operation, when water demand decreases and approaches preconstruction levels.

Impacts to municipal water supplies from the operations-related population increase are considered SMALL and mitigation is not warranted.

Wastewater

Wastewater treatment is provided by the city of Scottsboro, Alabama. Currently, there are five wastewater treatment systems in the county, the largest of which is operated by the city of Scottsboro, Alabama. This plant has a maximum capacity of 5 Mgd. Estimated wastewater amounts for operations are based on expected water supply usage. With the understanding that some water is lost before it reaches the wastewater treatment facility due to watering lawns, evaporation, etc., the values for wastewater are conservative.

During the construction phase, the wastewater treatment facility operated by the city of Scottsboro is expected to operate at 94~~91~~ percent of its capacity or 4.7~~4.5~~ Mgd. Following construction, during reactor operation, facility use is anticipated to drop to 83.6~~83~~ percent or approximately 4.2 Mgd, which is approximately 3.6~~3~~ percent more than the wastewater system's current, preconstruction use of 4 Mgd (80 percent of capacity).

The current maximum capacity for the wastewater treatment facility is not expected to be surpassed during the peak construction phase, the period of greatest use of services. Because this facility is expected to process the increased wastewater produced during construction without a change in capacity, no anticipated capacity increases are expected during operation. Indeed, wastewater production during operation is anticipated to approach preconstruction levels.

Based on system capacity and expected utilization, impacts to wastewater treatment facilities from an operations-related population increase are considered SMALL and mitigation is not warranted.

Police and Fire Protection Services

Because the number of police officers in Jackson County is not expected to increase during construction or operation, the ~~resident-to-~~police-officer-to-resident ratio is anticipated to be 1:586~~583~~ ~~persons per officer~~ during operations, a decrease of 61~~45~~ persons per officer from the construction period. According to the U.S. military, ~~resident-to-police~~ the recommended police officer-to-resident ratios should be between 1 and 4 officers per 1000 citizens, or 1 police officer for every 250 to 1000 persons ~~250 to 1000 persons per police officer~~ (Reference 14). Police-officer-to-resident ratios in Jackson County during ~~C~~construction and operations ~~values~~ fall within this~~ese~~ recommended range~~ratios~~.

Because the number of firefighters is not expected to increase during construction or operation, the ~~resident-to-~~firefighter-to-resident ratio is anticipated to be 1:128~~127~~ ~~persons per firefighter~~ during operation, ~~a decrease of 10 persons per firefighter~~ an increase from 1:141 ratio during the peak construction period. The derived ~~resident-to-~~firefighter-to-resident ratio for the United States in 2006 was 1:262 ~~residents per firefighter~~ (References 15 and 16). Firefighter-to-resident ratios in Jackson County during construction and operations are greater than the national average.

Even with the anticipated increase and decrease of population in Jackson County due to construction and operations, the predicted ratios for ~~persons per~~ police officers and ~~persons per~~ firefighters per resident fall within the recommended ratios or cited national values. Potential impacts of the BLN operations on police protection and firefighting are considered SMALL, and mitigation is not warranted.

Medical Services

In Jackson County, the ratio of primary-care-physicians-to-persons ratio is 6.2 doctors per 10,000 people; however, the state ratio for rural areas is 5.74 doctors per 10,000 people. Jackson County is considered to be an area with a physician shortage. Alabama's shortage of physicians is a state-wide problem (Reference 17).

The construction and operation of the BLN station is expected to stimulate the local economy and make the area more attractive to physicians and medical investors. Because the county is currently experiencing a shortage, an excess of physicians is not anticipated during the transition from the construction phase to the operational phase of the BLN. Minor injuries to operations workers are assessed and treated by on-site medical personnel. Other injuries are treated at Highland Medical Center (Subsection 2.5.2).

Based on these factors, the impact of plant operations on medical services is considered SMALL and mitigation is not warranted.

17. Revise COLA Part 3, ER Chapter 5, Subsection 5.8.2.3.2, fourth paragraph, as follows:

The plant employs approximately 1000~~850~~ people for operations. As stated previously, based on an assumption that 50 percent of the workers in-migrate to Jackson County, a conservative estimate of 484~~425~~ housing units are needed for

the new workers. Jackson County has a total of 2553 vacant housing units, with 894 available for sale or rent.

18. Revise COLA Part 3, ER Chapter 4, Subsection 5.8.4, by adding the following references:

    14. Broemmel, Major J., Major T. L. Clark, and Major S. Nielsen, U.S. Army, "The Surge Can Succeed," *Military Review*, July-August 2007, p. 110.

    15. National Fire Protection Association, Fire Service Statistics, The U.S. Fire Department Profile, Website, http://www.nfpa.org/assets/files//PDF/FDprofilefactsheet.pdf, accessed June 2008.

    16. U.S. Census Bureau, State & County QuickFacts USA, Website, http://quickfacts.census.gov/qfd/states/00000.html, accessed March 11, 2008.

    17. Alabama Rural Health Association, Alabama Rural Health Report "Selected Indicators of Rural Health Status in Alabama," March 2003, Website, http://www.arhaonline.org/PDF%20Files/RHRv3no1.PDF, accessed April 27, 2008.

19. Revise COLA Part 3, ER Chapter 10, Subsection 10.1.1, Subpart **Socioeconomic Impacts**, first paragraph, sixth bullet, as follows:

    - A total of approximately 3900~~3000 operative~~ workers on site during peak construction period, of which about 50 percent migrate into the region. This worker impact is deemed to be SMALL. The projected influx of workers and their families have a SMALL demographic impact upon the county.

20. Revise COLA Part 3, ER Chapter 10, Subsection 10.1.2, Subpart **Socioeconomic Impacts**, first paragraph, fifth bullet, as follows:

    - Operation of the two units requires approximately 1000~~850~~ workers, of which about 50 percent migrate into the region. This worker impact is deemed to be SMALL. The projected influx of workers and their families would increase the population of Jackson County by approximately 3~~2.8~~ percent which represents a SMALL demographic impact upon the county.

21. Revise COLA Part 3, ER Chapter 10, Subsection 10.1.3, Subpart **Construction Impacts**, only paragraph, as follows:

    Construction impacts and mitigation measures are summarized in Table 10.1-1. As outlined in Section 2.5.2, during the peak phase of construction, up to 3900~~3,000 operative~~ workers are on site~~ at the peak period of construction~~. All of the impacts, other than socioeconomic, from the construction of BLN and initial re-clearing of existing transmission lines are SMALL and short-term. Most socioeconomic impacts can either be partly mitigated or are expected to dissipate after construction is complete.

22. Revise COLA Part 3, ER Chapter 10, Subsection 10.1.3, Subpart **Operational Impacts**, second paragraph, as follows:

    Socioeconomic: As outlined in Section 2.5.2, the estimated number of operations workers to staff the two BLN units is approximately 1000~~850~~ people, a

small fraction of the total projected population of the region. Because of the smaller number of workers involved in operation of the BLN, the socioeconomic impacts are generally smaller but ~~are~~ sustained over a longer period of time when compared to that of construction. An increased volume of traffic from operational workers may adversely affect traffic patterns and levels of service in the vicinity of BLN. Mitigation measures for partially offsetting some impacts may include promoting carpooling, implementing staggered shifts, and using signage and turn lanes to alleviate traffic concerns.

23. Revise COLA Part 3, ER Chapter 10, Table 10.1-2 (Sheet 5 of 9), second paragraph under column heading "Adverse Impact" as follows below. [Only affected text is shown.]

Socioeconomics	Operation of the BLN is projected to increase the population in the region by approximately 1000~~850~~ workers and their families, which increases traffic, school crowding, and puts an additional burden on community infrastructure and services. This impact is short-term and is expected to dissipate over time.

ATTACHMENTS:

The following figure and document are provided as Attachments SE-09-A and SE-09-B, respectively:

SE-09-A. Tennessee Valley Authority, Environmental Report Figure 4.4-2, BLN Construction Staffing by Craft, June 2008.

SE-09-B. U.S. Census Bureau, 2000 Demographic Data for Jackson County, (Website accessed May 8, 2007).

NRC Review of the BLN Environmental Report

NRC Information Needs - BLN ER Site Audit Exit Meeting

NRC Environmental Category: SOCIOECONOMICS/EJ

During the BLN Environmental Report site audit exit meeting on April 4, 2008, the NRC staff identified the following information need:

> Page 2.5-12 – Please describe the type of local governments in place in Jackson County, including the relationship between the County and the unincorporated areas and "towns".

BLN INFORMATION NEED: SE-16

BLN RESPONSE:

The Jackson County Commission is the governing body for county government. This Commission consists of five members: the Chairman and four Commissioners. Jackson County is divided into four districts, but the Commissioners are elected countywide. The County Chairman is also elected by countywide vote. Commissioners are elected at the same time for a four-year term.

In addition to the County Commission, Jackson County has five other elected county officials: a board of education superintendent, county sheriff, county engineer, county revenue commissioner, and county court clerk. The Jackson County Sheriff's Department provides law enforcement and protection for the unincorporated areas of the county. The Jackson County Public Works Department oversees public works projects throughout the county and is responsible for maintaining 1100 miles of county roads in Jackson County. In addition, the department issues permits for utilities in the unincorporated areas of Jackson County. The Public Works Department operates on local gasoline and fuel taxes only.

Scottsboro is the county seat. There are 13 incorporated municipalities in the county, and services offered by each vary. The incorporated municipalities are categorized as cities (Bridgeport, Stevenson, and Scottsboro) and towns (Dutton, Hollywood, Hytop, Langston, Paint Rock, Pisgah, Pleasant Groves, Section, Skyline, and Woodville). City governments within Jackson County each have a mayor and five council members.

In addition to Scottsboro, Stevenson and Bridgeport have their own planning and zoning regulations, and they issue their own building permits. As discussed in Subsection 2.5.2.4, unincorporated portions of Jackson County do not have zoning regulations.

ASSOCIATED BLN COL APPLICATION REVISIONS:

1. Revise COLA Part 3, ER Chapter 2, Subsection 2.5.2.3.1, by inserting the following new paragraphs between the existing second and third paragraphs, and adding text to and after the third paragraph as follows:

   > The Jackson County Commission is the governing body for Jackson County government. This Commission consists of five members: the Chairman and four Commissioners. Jackson County is divided into four districts, but the Commissioners are elected countywide. The County Chairman is also elected by

countywide vote. Commissioners are elected at the same time for a four-year term (Reference 143). In addition to the County Commission, Jackson County has five other elected county officials: a board of education superintendent, county sheriff, county engineer, county revenue commissioner, and county court clerk (Reference 135).

Scottsboro is the county seat. There are 13 incorporated municipalities in the county, and services offered by each vary. The incorporated municipalities are categorized as cities (Bridgeport, Stevenson, and Scottsboro) and towns (Dutton, Hollywood, Hytop, Langston, Paint Rock, Pisgah, Pleasant Groves, Section, Skyline, and Woodville). City governments within Jackson County each have a mayor and five council members (Reference 135).

Emergency planning in Jackson County, Alabama, is handled by the Jackson County Emergency Management Agency (EMA) (Reference 97). The city of Scottsboro and towns located in the BLN site vicinity either provide and maintain their own community services and infrastructure or contract with one another to provide specific services to their individual populations. Jackson County's role is to maintain and build county roads, maintain county property records, perform district and circuit court actions, and operate the Sheriff's Department. The Jackson County Sheriff's Department provides law enforcement and protection for the unincorporated areas of the county. The Jackson County Public Works Department oversees public works projects throughout the county and is responsible for maintaining 1100 miles of county roads in Jackson County. In addition, the department issues permits for utilities in the unincorporated areas of Jackson County. The Public Works Department operates on local gasoline and fuel taxes only. Their responsibilities include the following (Reference 137):

- Issuing permits for utilities
- Sizing driveway tile and inspecting for drainage prior to installation
- Inspecting and maintaining 186 bridges and culverts on Jackson County roads
- Inspecting and approving subdivision roads according to regulations
- Utilizing federal and state funds for paving roads and replacing bridges
- Taking requests from citizens for maintenance, routing the requests, and tracking them for completion
- Repairing and maintaining drainage ditches and cross-drain pipes to prevent flooding and washouts
- Paving (tar and gravel paving) of dirt roads and repaving of previously paved roads in need
- Patching, mowing, blading, and other routine maintenance
- Placing and maintaining road signs
- Maintaining department trucks, vehicles, and equipment

At the local and county government level, the roles are unique in the services provided, but they do work together when applicable, such as fire, police, and sheriff's departments.

2. Revise COLA Part 3, ER Chapter 2, Subsection 2.5.2.4, second paragraph, as follows:

   The largest city that is partially located within the vicinity of the BLN is the city of Scottsboro, Alabama, which is also the county seat of Jackson County (Reference 18). This city has a well developed zoning plan and supporting zoning laws in place for land inside the city limits. The cities of Stevenson and Bridgeport also have their own planning and zoning regulations, and issue their own building permits (Reference 136).

3. Revise COLA Part 3, ER Chapter 2, Subsection 2.5.6, by adding the following references:

   135. National Association of Counties, Find a County – Jackson County, AL, Website, http://www.naco.org/Template.cfm?Section=Find_a_County&Template=/cffiles/counties/county.cfm&id=1071, accessed March 25, 2008.

   136. Jackson County Economic Development Authority, Executive Summary, March 2008, Website, http://www.jacksoncountyeda.org/data/execsum.pdf, accessed June 16, 2008.

   137. Jackson County Alabama, Jackson County Department of Public Works, Website, http://www.jacksoncountyal.com/courthouse/main/public_works.htm, accessed March 25, 2008.

   143. Tennessee Valley Information Center, Scottsboro/Jackson County, Website, http://www.tennessee-valley.org/communities/jackson/comm_profile.html, accessed June 19, 2008.

ATTACHMENTS:

None.

NRC Review of the BLN Environmental Report

NRC Information Needs - BLN ER Site Audit Exit Meeting

NRC Environmental Category: SOCIOECONOMICS/EJ

During the BLN Environmental Report site audit exit meeting on April 4, 2008, the NRC staff identified the following information need:

> Page 2.5-14 - Please provide update on the number of vacant units in Jackson County and/or the communities in the vicinity of the site. Add a description of Mud Creek and Creeks Edge developments.

BLN INFORMATION NEED: SE-18

BLN RESPONSE:

The real estate market in Jackson County, Alabama, was fairly steady between 2000 and 2007. In April 2008, 141 houses in Jackson County were listed by realtors. Additional real estate might be available as for-sale-by-owner properties. Approximately 10 to 15 properties were available near the Mud Creek embayment. The Creeks Edge development is not listed through a real estate agency, but through the developer. As of April, Creeks Edge had 73 lots available for purchase.

A new subdivision called Riverside, located in Scottsboro, is in the first phase of development, with 45 lots available. Riverside is a 200-acre planned residential development with many amenities. Seven phases of development are planned. The development trend will adjust to the market conditions.

ASSOCIATED BLN COL APPLICATION REVISIONS:

Revise COLA Part 3, ER Chapter 2, Subsection 2.5.2.6, by inserting the following new paragraph between the existing third and fourth paragraphs:

> The real estate market in Jackson County, Alabama, was fairly steady between 2000 and 2007. In April 2008, 141 houses in Jackson County were listed by realtors. Approximately 10 to 15 properties were available near the Mud Creek embayment. The Creeks Edge development had 73 lots available for purchase. A new subdivision called Riverside, located in Scottsboro, is in the first phase of development, with 45 lots available. Riverside is a 200-ac. planned residential development with many amenities. Seven phases of development are planned.

ATTACHMENTS:

None.