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ABSTRACT

The city of Artesia (New Mexico) was considering the issuance of $210 million in industrial revenue bonds (IRB) for construction of a new poultry processing plant 5 miles west of Artesia in Eddy County. Since property financed with IRB is exempt from all state and local property taxes for the life of the bonds, the city of Artesia requested an independent analysis of the economic, demographic, and fiscal impact of the plant on Artesia and its public schools, as well as a critique of a similar analysis conducted by a Texas consultant. The Texas report was found to be unreliable because it had too many unjustified assumptions and inaccurate data, it revealed a lack of knowledge of state and local finance issues in New Mexico, and its projected demographic impacts were unreasonable in light of the region's experience. The present analysis projected the creation of 1,596 new direct jobs and 1,946 new secondary jobs, with a total new payroll of $62.2 million. Area population was expected to increase by 4,716 to 6,079 persons. An increase of 763-984 new students was projected for Artesia public schools, which would require one new elementary school, one-half of a new middle school, and one-quarter of a new high school. The local school district would be responsible for financing the new classrooms, equipment, and other capital facilities out of the local property tax base. Depending on the population increase, the Artesia general fund could expect an annual net fiscal deficit of between $248,021 and $583,848, assuming that the current level of per capita general fund spending is maintained. A brief review outlines other studies of impacts of similar plants on small rural communities. (TD)

ECONOMIC, DEMOGRAPHIC, AND FISCAL IMPACT OF NUCHIK, INC. POULTRY PROCESSING PLANT ON THE CITY OF ARTESIA AND THE ARTESIA PUBLIC SCHOOLS

Prepared for the City of Artesia

by

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February 18, 1998

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TABLE OF CONTENTS

LIST OF CHARTS

LIST OF CHARTS
(continued)

LIST OF TABLES

1.0 Introduction

Background

The City of Artesia has been requested to approve the issuance of $210 million in industrial revenue bonds (IRB) for the construction of a new integrated poultry processing facility to be located five miles west of Artesia, New Mexico in Eddy County. The facility will be owned and operated by NuChik, Inc., a New Mexico corporation. Under the Industrial Revenue Bond Act (3-32-1 NMSA 1978), property financed with industrial revenue bonds is exempt from the payment of all state and local property taxes for the life of the bonds, but not to exceed 30 years.

The NuChik plant will have a major economic impact on the local economy. The company reports that new direct employment will reach 1,596 jobs in a community where the resident employment is estimated at 4,500 in 1996.[1] Accounting for the secondary or multiplier jobs, the NuChik plant will be a major economic stimulus to the local economy. These additional jobs and payroll will expand the gross receipts and property tax base of Artesia and other local communities. More jobs will also bring more people for whom the City of Artesia will have to provide public services and more school children for whom the Artesia Public Schools will have to provide educational services.

Research Assignment

In light of the property tax exemption for IRB-financed plant and equipment the City of Artesia requested that the University of New Mexico Bureau of Business and Economic Research (BBER) conduct an independent analysis of the economic, demographic, and fiscal impact of the NuChik plant on the City of Artesia and the Artesia Public Schools.[2] BBER was also asked to critique and provide comments on the Economic and Fiscal Impact Analysis, A Cost-Benefit Analysis of NuChik, Inc. report, which had been prepared for the Greater Artesia Chamber of Commerce by Impact DataSource, a consultant in Bryan, Texas.

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[1] This is an estimate of the University of New Mexico Bureau of Business and Economic Research based upon the ratio of resident employment to population from the 1990 Census of Population and Housing for Artesia, New Mexico, applied to the 1994 estimate of city of Artesia population.

[2] This research was conducted under a contract between the University of New Mexico and the City of Artesia.

BBER was not asked to take a position with respect to the approval of the IRBs by the City of Artesia. And this report deliberately and purposefully does not take a position. BBER was asked to provide objective information from a neutral third party with respect to the estimated impacts of the NuChik facility. These impacts then can be considered in the city's decision making process. This economic/demographic/fiscal impact report is not the final answer regarding the approval of the IRBs, but should only be viewed as a tool by the policy makers who must ultimately make the final decision, after a thoughtful balancing of all aspects of this new industrial facility.

BBER's independent analysis of the impact of the NuChik project included economic impacts such as new jobs, both direct and secondary, and the increase in local personal income; demographic impacts such as the estimated increase in local population and school enrollment; and fiscal impacts such as the increase in tax revenues and public service costs to the City of Artesia and the Artesia Public Schools. BBER's review of the Impact DataSource report involved a careful assessment of the reasonableness of each assumption which went into the consultant's economic and fiscal impact of the NuChik plant on the local economy.

BBER's independent assessment of the NuChik plant was limited to the economic, demographic, and fiscal impact on the City of Artesia and the Artesia Public Schools. There will be obvious impacts on other local governments[3] in the region as well as on the state of New Mexico[4]. However, time and resources constrained this study's evaluation to the City of Artesia and the Artesia Public Schools. BBER's study also did not evaluate the economic feasibility of the NuChik integrated poultry processing plant. The market place will be the ultimate evaluator in this regard, if NuChik can successfully place the $210 million industrial revenue bonds with outside investors. Finally, BBER's study did not provide any assessment of the water requirements or the environmental impacts of the NuChik facility on the region.

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[3] For example, Eddy and Chaves counties, the cities of Carlsbad and Roswell, and school districts in Lake Arthur, Dexter, Hagerman, Carlsbad, and Roswell. However, the primary and largest impacts will be felt in the City of Artesia and the Artesia School District.

[4] The state of New Mexico will benefit from the NuChik project by an expansion of the gross receipts taxbase, individual income taxes, and corporate income taxes. The state of New Mexico will also have to pay for the increase in operational expenditures at the Artesia Public Schools and other school districts, since in New Mexico school operating expenses are funded by the state general fund via an enrollment-driven funding formula.

Organization of The Report

Chapter 2.0 contains BBER's comments and critique of Impact DataSource's Economic and Fiscal Impact Analysis, A Cost-Benefit Analysis of NuChik, Inc. The latter report was prepared for the Greater Artesia Chamber of Commerce and contains Impact DataSource's own evaluation of the economic, demographic, and fiscal impacts of the NuChik facility on the local economy. Chapter 3.0 provides BBER's independent assessment of the economic, demographic, and fiscal impact of the NuChik facility on the City of Artesia. Fiscal impacts are measured for the city's general fund as well as for the waste water fund and the solid waste fund. Chapter 4.0 includes the estimated impacts on the Artesia Public Schools in terms of the increase in school enrollment and the estimated increase in property taxes which will be available to the school district to fund new school facilities necessary to accommodate the anticipated enrollment increase. Chapter 5.0 provides a review of recent economic literature on the economic, demographic, fiscal, and social impacts of meat processing plants[5] which have located in other rural communities across the United States. This provides, as a background, the experience of other rural communities where the meat processing industry has located or expanded operations. Finally, Chapter 6.0 provides the summary and conclusions of this report.

[5] Meat processing includes beef, pork, and chicken processing plants.

2.0 Comments on Impact DataSource's Economic and Fiscal Impact Analysis, A Cost-Benefit Analysis of NuChik, Inc.

Overview

The Greater Artesia Chamber of Commerce contracted with Impact DataSource, a consultant located in Bryan, Texas, to conduct an economic and fiscal impact assessment of the NuChik facility on the regional economy. BBER was provided a copy of Impact DataSource's October 20, 1997 report[6] entitled Economic and Fiscal Impact Analysis, A Cost-Benefit Analysis of NuChik, Inc. BBER carefully reviewed the individual assumptions contained in Impact DataSource's report and spoke at length with Mr. Aubrey D. Haines, a principal of Impact DataSource and the individual responsible for the preparation of Impact DataSource's report.

Impact DataSource's analysis concluded that there would be a total economic impact of 3,542 new jobs in the region--1,596 direct employment at NuChik and 1,946 additional secondary jobs created as the multiplier effects of the NuChik employment.[7] Each direct job is expected to pay $20,000 per year, while each secondary job is expected to pay $18,317 per year. Total new payroll for the region is thus estimated at $67.56 million by Impact DataSource.

Impact DataSource's estimate of the increase in regional population was somewhat more difficult to determine. At one point they report a 489 increase in "new resident employees"--212 new resident employees associated with the increase in direct employment and 277 new resident employees associated with the increase in secondary employment.[8] However, this presumably does not account for other household members of these new resident employees.

At page 6 of their report, demographic impacts are reported--68 new residents for the City of Roswell, 384 new residents for other NM schools, 341 new residents for the City of Artesia, 469 new residents for the Artesia Ind. School District, and 273 new residents for Eddy County

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[6] There have been other versions of the Data Source's report, which contained alternative scenarios with respect to the NuChik direct employment and the increase in regional population. The October 20, 1997 version is considered to be the final report based upon NuChik's final determination of the number of new direct jobs (1,596) that will be created at the plant.

[7] See page 3, Employment Projections, and page 4, Projections of Secondary Economic Benefits, of the Impact DataSource's report.

[8] Ibid.

outside the cities. There is an overlap in these numbers. For example, the 341 new residents of the City of Artesia also are new residents of the Artesia Public Schools. Nowhere in the Impact DataSource report is the total increase in the population for the region reported. Since presumably the school districts' new residents are not overlapping, the total increase in regional population is assumed to be 853 (384 plus 469).

Based upon this population increase of 853, Impact DataSource estimates that school enrollment will increase by 191--105 new students at the Artesia Public Schools and 86 new students at other (unspecified) New Mexico school districts. This then assumes that 22.4% of the population increase will be school aged children.

Impact DataSource also provides estimates of the fiscal impact of the NuChik facility on the City of Artesia, Eddy County, and the Artesia Public Schools. Using various assumptions about the increase in the appropriate tax bases and the various applicable tax rates, estimates of gross receipts tax revenue and property tax revenue are developed. Estimates of the increase in public services required by the expanding population are also made. Impact DataSource concludes that "....the City of Artesia and Artesia Public Schools will more than likely experience highly positive fiscal impacts."[9]

Comments on Impact DataSource Report of Economic and Fiscal Impacts

The economic impact of the NuChik facility in terms of total employment--1,596 direct jobs and 1,946 secondary or multiplier jobs--is reasonable. The direct employment is based upon information from NuChik concerning their hiring plans. The secondary job estimate is also reasonable in light of employment multipliers for New Mexico and this region. Impact DataSource relied upon the U.S. Bureau of Economic Analysis RIMS II input/output multipliers for New Mexico.

Impact DataSource uses a figure of $20,000 per direct job at NuChik. BBER is uncertain from where this annual wage was derived. In the various NuChik reports provided to BBER there was no mention of any average annual wage for the 1,596 jobs. There was a listing of the many different occupations (and hourly wage rates) which NuChik expects to hire. The majority of the

[9] Op. cit., page 5.

processing jobs are to pay $7.50 per hour ($15,600 per year). However, there are many other occupations listed that would pay well in excess of this. Since the poultry processing industry in the United States is a very competitive one, driven by the incentive to keep costs low, it seems more appropriate to use a national average wage paid by the poultry processing industry. Based upon the 1995 Annual Survey of Manufacturers[10] the average annual U.S. wage paid to production workers in SIC 2015 Poultry Slaughtering and Processing is $15,505. In 1998 dollars this is estimated by BBER to be $17,108 assuming national average wage increases since 1995. Thus, Impact DatSource's average annual wage at NuChik of $20,000 per job seems too high.

Impact DataSource uses a figure of $18,317 per secondary job created by the NuChik project. From the Impact DataSource report it is not clear what the basis for this $18,317 annual wage for secondary jobs is. Based upon U.S. Bureau of Economic Analysis data for Eddy County, in 1995 the average job in retail trade and services paid on average $16,253 annually. Expressed in 1998 dollars, BBER estimates this average annual wage in Eddy County for retail trade and services jobs to be $17,933. Thus, the average annual wage for secondary jobs of $18,317 also seems too high.

At this point it should be noted that the annual wage per job assumption impacts not only the economic impact in terms of the additional personal income expected to be generated within the regional economy but also affects the measurement of the fiscal impact. In Impact DataSource's model to estimate the fiscal impact, the increase in the local gross receipts tax base and therefore local gross receipts tax revenues are ultimately based upon the estimate of the new payroll generated by the project.

Impact DataSource's estimate of the demographic impacts are too low and are inconsistent with this region's historical experience. A more detailed justification of this conclusion will be provided in Chapter 3.0 where BBER's independent estimate of demographic impacts is documented. At this point it can be noted that the Artesia region[11], broadly defined as Eddy and Chaves County, had a total 1996 population of 115,922 according to the U.S. Bureau of the

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[10] 1995 Annual Survey of Manufactures, Statistics for Industry Groups and Industries, M95(AS)-1, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, Table 2.

[11] Artesia is located in northern Eddy County and is about equidistant from the population center of Chaves County which is Roswell to the north and the population center of Eddy County which is Carlsbad to the south.

Census. Total nonagricultural employment[12] in the Artesia region in 1996 was 38,829. This represents a ratio of almost 3 people residing in the Artesia region for every 1 nonagricultural job. Impact DataSource's assumption of 3,542 new jobs due to NuChik and an increase in population of only 853 represents a ratio of 0.24 people per 1 new job. On this basis alone, one could conclude that the demographic impact of Impact DataSource is unreasonable and too low.

Impact DataSource's rationale for these demographic impact assumptions rests heavily on the "Task Force on Labor" report of Benny Inman, area director of the New Mexico Department of Labor. In that report Benny Inman states that "...I believe that NuChik will have no problem filling their employment needs in this area without an influx of families moving into the community." As justification, Mr. Inman notes the number of unemployed in the Eddy and Chaves county region (3,946 as of June, 1997) as well as his estimates of the underemployed, who are persons receiving public assistance or working at minimum wage jobs with few benefits.

Mr. Inman, however, failed to consider the historical unemployment rate situation of the Artesia region. The unemployment rate in the Artesia region, or for that matter in most regions of this country, cannot fall to zero. There are always unemployed, representing people who are newly entering the local labor force, involuntarily laid off, or voluntarily quitting in search of a better job. Chart 2.1 plots the unemployment rate for the Artesia region for the time period 1970 through 1997. The last data plotted in Chart 2.1 is for November, 1997 when the unemployment rate fell to 5.7%.

Beginning in 1973 the Artesia region boomed due to the increase in oil prices after the OPEC oil embargo. Oil and gas production and exploration is an important economic sector in this region. Between 1973 and 1982 regional nonagricultural employment increased by 11,444[13], which was a 45.7% increase. The unemployment rate in the Artesia region fell to a low of 4.5% in 1978, which also turned out to be the lowest unemployment rate in this region in the time

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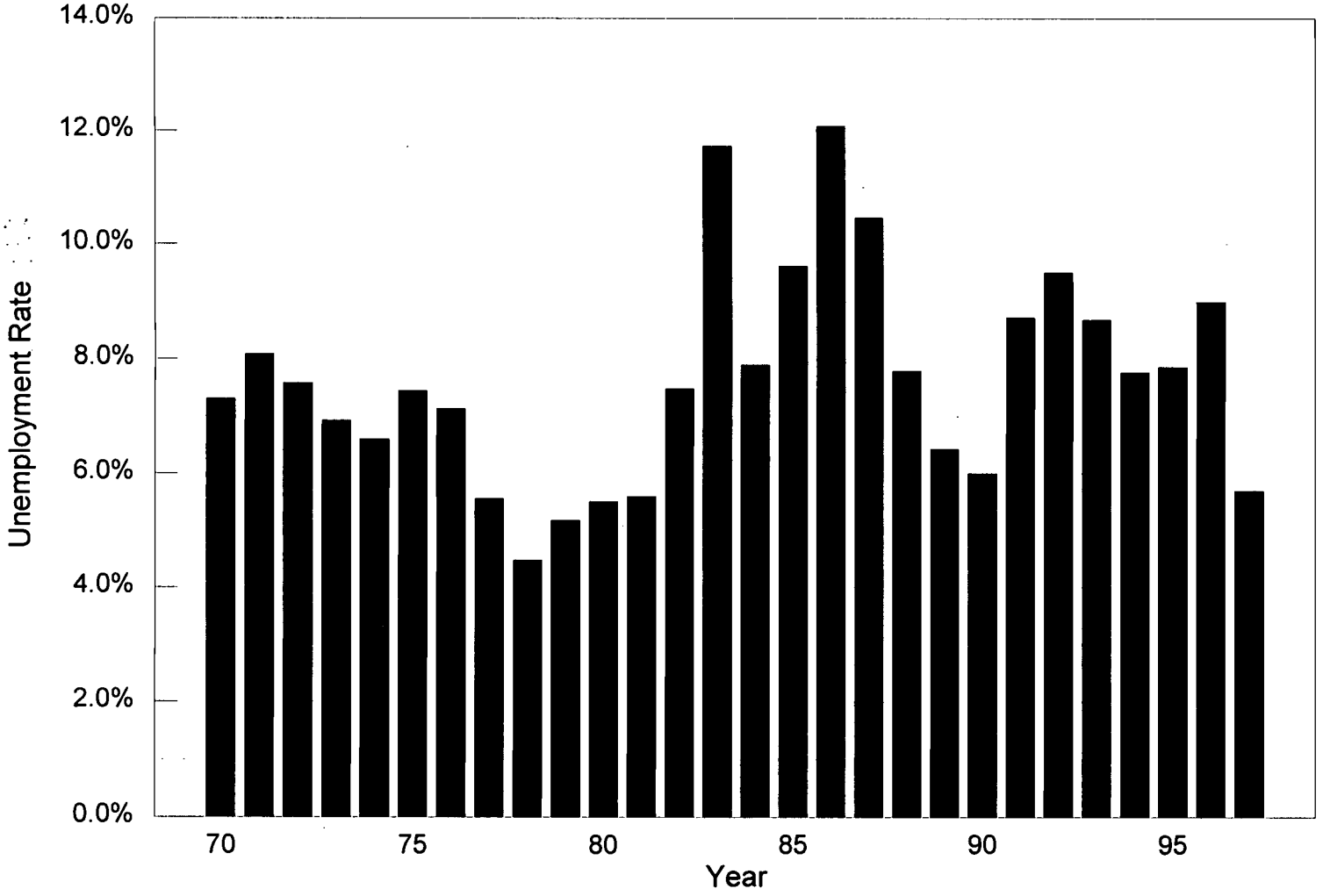
[12] Nonagricultural employment is used here as the measure of the region's employment, since this employment series is available consistently since 1960 for Eddy and Chaves counties. In 1995 farm employment in Chaves County was 1,594; and 801 in Eddy County. Farm employment in both counties has been in an historical decline since 1970 based upon available data. Including farm employment in the region the ratio of population to employment would still be 2.8 persons per job. And Impact DataSource's assumptions of 0.24 people per 1 new job would still be unreasonable and too low in our judgment.

[13] Note that between 1973 and 1982 the Artesia region's population increased almost 20,000. This represents an incremental 1.75 persons per new job in this time period. This historical experience also indicates the unreasonableness of Impact DataSource's 0.24 persons per new job as the demographic impact of NuChik.

Chart 2.1

ARTESIA REGION UNEMPLOYMENT RATE

1970 -1997



Nov. 1997 = 5.7%

Eddy and Chaves = Artesia Region

period plotted in Chart 2.1. After 1978, even in the midst of the economic boom, the region's unemployment rate rose. This can occur if the region gets a reputation as a "hot" economy with plentiful jobs. People will migrate to the region in search of work, expanding the local labor force and driving up the regional unemployment rate.

Assuming that 4.5% is as low as the regional unemployment rate can fall based upon this historical experience and given a current (November, 1997) unemployment rate of 5.7%, the region's unemployment rate may be able to fall by about 1.0% in response to the economic stimulus of the NuChik plant. A 1.0% decline in the unemployment rate represents about 490 workers, given a current labor force of about 49,000 in the region. Thus, it appears that only 490 local unemployed workers would be available to fill the anticipated increase of 3,542 jobs due to the direct and secondary economic impacts of NuChik.

Aubrey Haines, principal of Impact DataSource, was asked for further justification of the demographic impact assumptions. He stated that he also relied upon the experience of the Sanderson Farms poultry processing facility in Bryan, Texas, which reportedly hired 80% of its workers from the local population. However, this rationale for a low demographic impact ignores the general equilibrium impacts of NuChik hiring. NuChik may be able to hire local workers--workers that already have jobs with other local employers. These local employers will then find themselves with job vacancies which must be filled by workers who will ultimately come from population that migrates[14] to the region. In the end, NuChik may be able to hire local workers, but local employment and population will still increase. And the City of Artesia must provide services to all residents, not just employees of NuChik. And the Artesia Public Schools must provide educational services to all school children, not just the children of NuChik employees.

BBER's analysis of Impact DataSource's assumptions in the fiscal impact area revealed a lack of knowledge or a misunderstanding of state and local pubic finance issues in New Mexico. For example, in the calculation of the increase in gross receipts taxes for the City of Artesia, Impact DataSource did not include the 1.225% municipal distribution which all municipalities in

[14] It is important to keep in mind that migration data for a region is a net figure--the number of persons migrating to the region minus the number of persons leaving the region. There is always a churning of the population. Thus, if the local economy improves and if people, who would have left the region due to a lack of job opportunities, now can remain in the region, then migration increases. However, this migration does not represent "new" people coming into the region, but rather the region holding onto people already there who would have left such as high school graduates or new college graduates.

New Mexico receive from the state portion of the gross receipts tax rate. Impact DataSource included only the local option gross receipts tax rates which are imposed by the city.

Impact DataSource also did not differentiate between those local option gross receipts taxes which go to the city's general fund from those which are dedicated to specific funds such as the waste water and solid waste funds of the City of Artesia. The latter gross receipts tax revenues are earmarked for specific projects and are not available to the city to spend on police, fire protection, libraries, and parks. In the estimation of gross receipts tax revenue for Eddy County, Impact DataSource failed to account for the differential rates in incorporated areas and unincorporated areas of the county. For example, the environmental and fire protection gross receipts tax rate for the county applies only in the unincorporated parts of the county.

Impact DataSource also did not account for New Mexico's broad gross receipts tax base which includes food, health care, and services. They assumed that only 20% of employee payroll would be subject to the gross receipts tax. BBER's analysis indicates for New Mexico this percentage is 63.65%.[15]

In the calculation of new property taxes which would be generated by the NuChik project, Impact DataSource estimates property taxes for both residential and non-residential property at full market value rather than on taxable assessed value, which in New Mexico is one-third of market value. Thus, property taxes are overestimated by a factor of three in the Impact DataSource fiscal impact. Also, they use residential property mill rates applied to both residential and non-residential property. In Artesia, Eddy County, New Mexico non-residential property mill rates are different from residential mill rates and are slightly higher.

Finally, in the estimation of the increase in public service costs to the City of Artesia, Impact DataSource uses a figure of $255.45 per capita spending, multiplied by the estimated increase in city population. This per capita spending for the City of Artesia is too low. In FY 1997 the City of Artesia actually spent $509.39 per capita out of the city's general fund. And this does not include other city expenditures out of other funds such as the waste water and solid waste funds. The estimate of increased public service costs to the City of Artesia by Impact DataSource is

[15]BBER's assumption of 63.65% of payroll subject to gross receipts tax is based upon BBER's New Mexico Tax Study, which was completed for the Legislative Finance Committee in 1996. This study involved an extensive analysis of New Mexico's gross receipts tax base as well as consumer expenditure patterns based upon data from the periodic Consumer Expenditure Survey of the U.S. Bureau of Labor Statistics.

only about one-half of the current per capita level of services and implies a deterioration in per capita services with the NuChik expansion.

Summary and Conclusion

Based upon the above analysis and critique of the Impact DataSource's Economic and Fiscal Impact Analysis, A Cost-Benefit Analysis of NuChik, Inc., BBER believes that this report cannot and should not be relied upon by the City of Artesia. This report of the economic, demographic, and fiscal impacts of the NuChik project incorporates unreasonable assumptions and inaccurate data. The report reflects a lack of understanding of state and local public finance issues in New Mexico. Thus, the fiscal impact results are unreliable. And the estimate of demographic impacts such as the increase in regional population and school enrollment do not have sufficient analytical justification and are clearly inconsistent with the historical employment and population growth patterns within this region.

3.0 Independent Assessment of Impacts on the City of Artesia

Background

As the second phase of its research, BBER evaluated independently the economic, demographic, and fiscal impacts of the NuChik facility on the City of Artesia and the Artesia Public Schools. This chapter documents these impacts for the City of Artesia, while the next chapter focuses on the Artesia Public Schools. The discussion here will focus on the justification or rationale for the critical assumptions which go into this analysis as well as the presentation of the results.

Economic Impacts

BBER started with the assumption that NuChik will employ 1,596 people at the integrated poultry processing facility five miles west of the City of Artesia. This figure was provided by the company and was the same direct employment number used by Impact DataSource. BBER also concurs with Impact DataSource's estimate of 1,946 secondary or multiplier jobs within the regional economy due to the economic stimulus of the NuChik plant. This represents a 2.2 employment multiplier, which is not unreasonable for this type of economic activity. Total new employment in the region due to the NuChik project is then 3,542.

Based upon an analysis of commuting patterns in the region from Roswell to Artesia to Carlsbad using the 1990 Census of Population and Housing, it was determined that 70% of these new workers would live in the City of Artesia, 10% would live in the unincorporated areas around Artesia, and the remaining 20% would live in Chaves County and/or Carlsbad. Thus, total employed residents within the City of Artesia are expected to increase by 2,479, which is an estimated 55% increase over 1996.

BBER assumed that NuChik would pay its employees the average annual wage paid to production workers in the U.S. poultry processing industry. Since this is a very competitive industry with strong incentives to control costs, it is unlikely that NuChik will be able to pay wages higher than the national average. Based upon the 1995 Annual Survey of Manufacturers,

this national average wage in the poultry processing industry is $15,505[16] in 1995 dollars. Expressed in 1998 dollars, this is estimated by BBER at $17,108. Multiplying the 1,596 NuChik jobs times this $17,108 average wage yields an estimated annual payroll at NuChik of $27.3 million in 1998 dollars.

BBER assumed that the secondary or multiplier jobs will primarily be in the retail trade and services sectors of this regional economy. The most current data for the average annual wage paid in retail trade and services in Eddy County, New Mexico is 1995 data of the U.S. Bureau of Economic Analysis. These data indicate an average annual wage of $16,253 in 1995. Expressed in 1998 dollars, this is estimated by BBER at $17,933. Multiplying the 1,946 secondary jobs times this $17,933 average wage yields an estimated annual payroll from secondary jobs of $34.9 million in 1998 dollars. Thus, the total expected new payroll in the region due to the NuChik project is estimated at $62.2 million--$27.3 million direct payroll and $34.9 million secondary payroll. Of this latter amount, 70% would be new payroll to residents of the City of Artesia.

Demographic Impacts

BBER's evaluation of the demographic impacts associated with the NuChik project started with an analysis of the historical experience of the Artesia region.[17] Historical trends in employment and population were observed and plotted for the 1960 to 1996 time period. These historical trends are shown in Chart 3.1 (Population) and Chart 3.2 (Employment). Population data are from the U.S. Bureau of the Census for Eddy and Chaves counties, while the employment data are the Table B county nonagricultural employment data of the New Mexico Department of Labor with one adjustment. That adjustment is the addition of active duty military employment to Chaves County employment in the 1960-1966 time period, when Walker AFB was open. The Table B data of the New Mexico Department of Labor is civilian nonagricultural employment and excludes uniformed military. Walker AFB was the major employer in Chaves County during this time period and the closing of Walker AFB in 1966 had a major economic impact on Chaves County employment and population. For completeness, BBER obtained

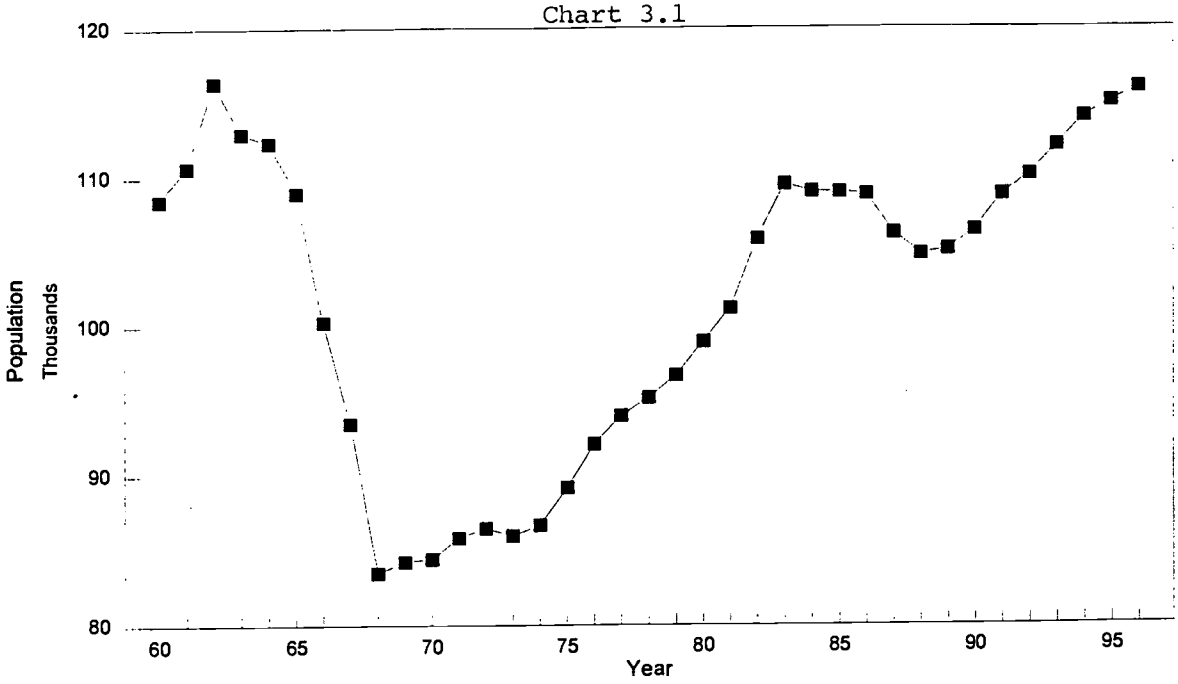
[16] The average wage paid in Eddy County in 1995 was $22,666, while in Chaves County it was $18,810. Thus, the NuChik jobs are expected to pay below the regional average per job.

[17] The Artesia region here is Eddy and Chaves counties.

ARTESIA REGIONAL POPULATION

1960 - 1996

Chart 3.1



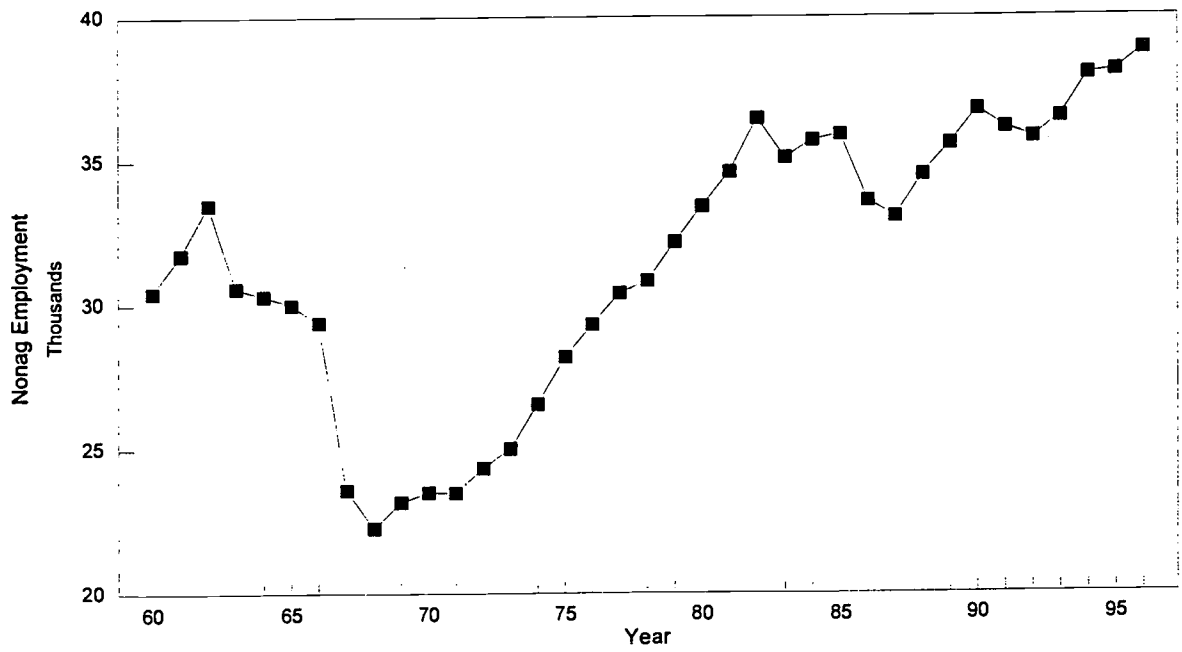
Source: U.S. Bureau of the Census

Eddy and Chaves = Artesia Region

Chart 3.2

ARTESIA REGIONAL NONAG EMPLOYMENT

1960 - 1996



Source: NM Department of Labor, Table B
Adjusted For Military Employment

Eddy and Chaves = Artesia Region

estimates of the active duty military at Walker AFB in the 1960-1966 time period and added them to the Table B data.

The Artesia region in the 1960-1996 time period provides an excellent case study to investigate the correlation between employment and population trends. In the 1960s with the closing of Walker AFB regional employment and population fell, as is evident in Charts 3.1 and 3.2. The regional economy and population stabilized by 1970. Then the region experienced an economic boom beginning in 1973 with the sharp increase in oil prices after the OPEC oil embargo. Both employment and population surged. This economic boom peaked in 1982, when oil prices fell from a high of about $36/barrel to $28/barrel. Then in 1986, the boom was clearly over after oil prices fell to as low as $10/barrel. Regional employment fell in 1986 and 1987, as did population. An economic recovery began in 1988 with the expansion of employment at the TMC bus manufacturer in Roswell and the WIPP project in Carlsbad. The temporary TMC layoffs in the early 1990s caused regional employment to decline slightly then. But the employment and population trend has been upward since 1988.

Charts 3.1 and 3.2 clearly demonstrate visually a strong positive correlation between the level of employment and the level of population in the Artesia region over the 1960-1996 time period. When employment levels fell, population fell as people left the region. When employment levels increased, population increased as the region attracted new migrants. When the employment levels stabilized, population also stabilized. With the large increase in employment expected from the NuChik project (3,542 new jobs) and based upon the region's historical experience, population should also increase in the Artesia region. The issue is by how much should population be expected to increase.

BBER more formally analyzed the correlation between employment and population in the Artesia region using statistical regression analysis. The dependent variable--Artesia region population--was regressed against two independent variables: Artesia employment lagged one year and the U.S. labor force participation rate. Statistical analysis indicated that the Artesia employment level, lagged one year, had the strongest positive correlation with regional population. This indicates that the regional population response to a change in Artesia region employment takes a year to become most effective.

The U.S. labor force participation rate was included in the statistical regression as a proxy variable to account for the increasing labor force participation of women and teenagers over the 1960-1996 time period. An Artesia region labor force participation rate was not available from published data sources. Thus, the U.S. data were used as a proxy--a common econometric technique. It is important to account for the historical rise in the labor force participation rate in this statistical regression, since an increase in the labor force participation rate implies that more employment can be sustained from a given level of population. In Charts 3.1 and 3.2 such an increase in the Artesia region's labor force participation rate can be observed. Note that in 1996 regional population is finally back to its former peak level in 1962. However, regional employment passed its former 1962 peak by 1981 and in 1996 is some 4,000 higher than its previous peak in 1962. There has been an increase over the 1960-1996 time period in the region's employment-to-population ratio, which is a crude measure of the regional labor force participation rate.[18]

Using the results of the statistical analysis of the Artesia region's employment and population[19], BBER developed a low and high range estimate for the expected increase in population in the Artesia region. The high range estimate of the increase in regional population--6,079-- used the results of the statistical regression, applied to an increase of 3,542 in regional employment and assuming a 2.5% increase in the historical labor force participation rate[20] over the time period when the NuChik plant is brought on line. The latter assumption is consistent with the historical increase in the labor force participation rate in the U.S. in the 1960-1996 time period and basically assumes that this trend will continue into the future.

The low range estimate of the increase in regional population--4,716--assumed that some of the increase in regional employment will be accommodated by a drop in the regional

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[18] The labor force participation rate is the percentage of the working age population that is employed.

[19] The statistical regression results were as follows:

Population = 123,570 + 2.78163 * Employment(-1) - 174,374 * Labor Force Participation Rate
(13.8) (-5.1)

$R^2 = 0.887$

t-statistics in parentheses indicate coefficients are statistically significant at 0.01 level of confidence.

[20] Based upon the crude employment-to -population ratio for the Artesia region, the regional labor force participation rate appears to be increasing 0.5% per year. Thus, an assumption of a 2.5% increase in the labor force participation rate incorporates an expected rise in labor force participation in the Artesia region as the NuChik plant is brought on line, presumably over a three to five year time period.

unemployment rate. Given a November, 1997 regional unemployment rate of 5.7%, it was assumed that the unemployment rate could drop by no more than 1.0%. See the discussion in Chapter 2.0 above for the justification for this assumption. A 1.0% decrease in the regional unemployment rate represents approximately 490 workers. Factoring this into the statistical analysis resulted in a low range estimate of a 4,716 increase in regional population due to the NuChik project.

Note that BBER's range estimate of the increase in regional population--4,716 to 6,079 new people--is considerably higher than the Impact DataSource's estimate of 853. Chart 3.3 and Chart 3.4 put these differences into a visual perspective. Chart 3.4 plots the actual 1960-1996 nonagricultural employment for the Artesia region and adds as an additional data point the level of total employment in the region with the additional 3,542 jobs which can be attributed to the NuChik plant. In Chart 3.4 this results in a steady upward trend in the region's total employment.

Chart 3.3 plots the actual 1960-1996 population for the Artesia region and adds as additional data points the level of total population under three alternatives: BBER's low and high population increase scenarios and Impact DataSource's' population increase estimate. Comparing Charts 3.3 and 3.4 clearly indicates that Impact DataSource's estimate of an 853 increase in regional population would be inconsistent with the historical relationship between regional employment and population. Chart 3.4 displays a sharp increase in regional employment, while Chart 3.3 displays only a small, nominal increase in population based upon the Impact DataSource assumption. BBER's conclusion of an increase in population ranging from 4,716 to 6,079 is more in keeping with the strong, positive correlation observed in the past between the level of employment and the level of population in the Artesia region.

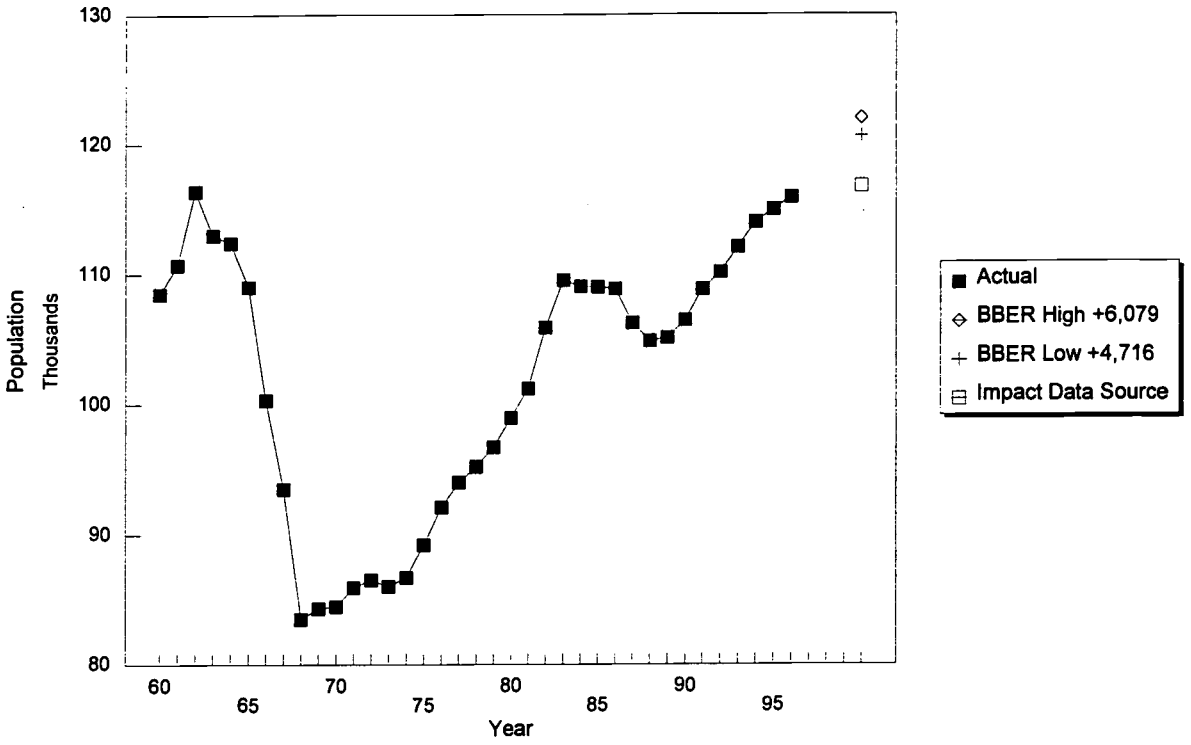
Based upon the assumption that 70% of the new workers will live within the City of Artesia, BBER assumed that 70% of the population increase would be within the city limits. Thus, the population increase for the City of Artesia is expected to range from 3,301 to 4,255, which represents a 29.5% to 38% increase over the current city population.

Fiscal Impact

BBER developed estimates of the fiscal impact of the NuChik project on the City of Artesia's general fund. The general fund in Artesia finances most city services such as police,

Chart 3.3

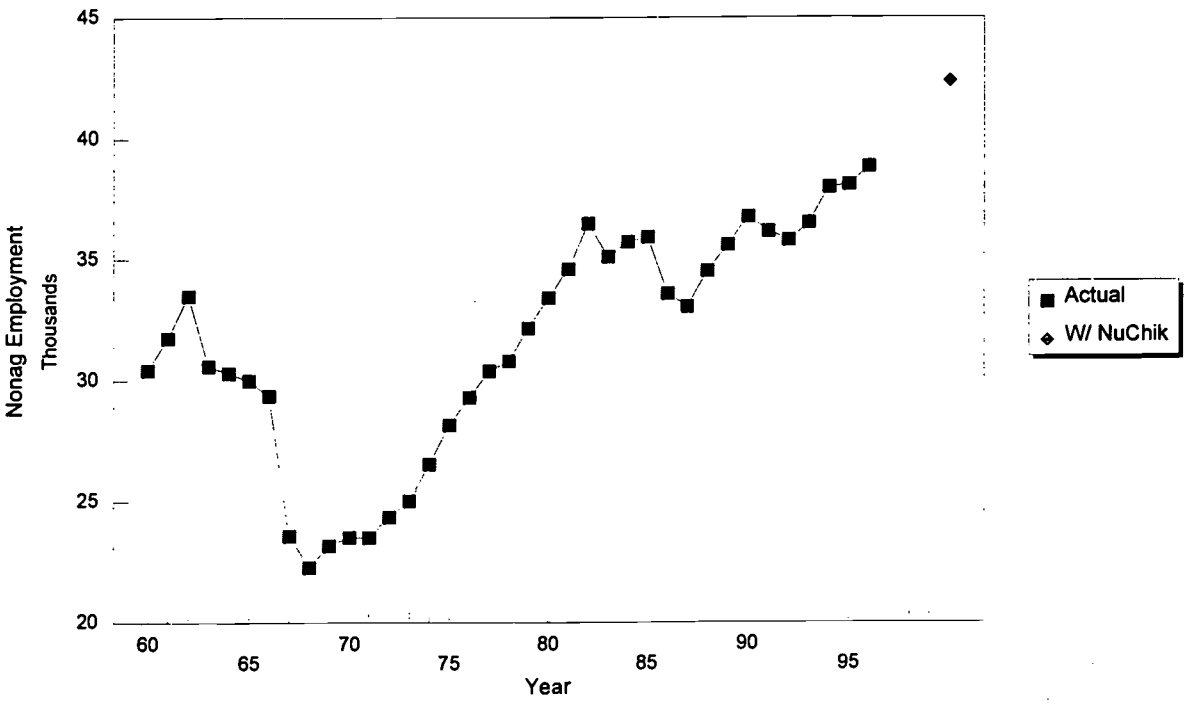
ARTESIA REGIONAL POPULATION



Eddy and Chaves = Artesia Region

Chart 3.4

ARTESIA REGIONAL NONAG EMPLOYMENT



Total Employment Increase W/ NuChik = 3,542

Eddy and Chaves = Artesia Region

fire protection, libraries, and parks. The city also funds many capital type projects such as roads and buildings out of the general fund, using either surplus cash balances or bonds secured by gross receipts tax revenue. The primary revenue source of the Artesia general fund is the gross receipts tax, which accounted for 78% of total recurring general fund revenue in FY 96-97. Other revenue sources include property taxes, franchise fees, gasoline and cigarette taxes, and licenses and other fees.

Any collected tax revenue represents the product of a tax base and a tax rate. In order to estimate the increase in the Artesia general fund gross receipts tax base due to the NuChik project BBER started with the expected increase in regional payroll, which was earlier estimated above at $62.2 million including both the direct and secondary jobs. It was assumed that 80% of this new payroll would be spent in Artesia. This latter assumption is ultimately based upon an assumption about where the new workers would live. Based upon an analysis of commuting patterns in the region from Roswell to Carlsbad from the 1990 Census of Population and Housing, it was determined that 70% of the new workers would live in the City of Artesia city limits and 10% would live in the unincorporated areas around Artesia. The new workers living in and around Artesia will spend their payroll in the city limits. The remaining 20% would commute from Chaves County and/or Carlsbad and therefore spend their payroll within those communities. Also, BBER analyzed New Mexico Taxation and Revenue Department data on retail gross receipts in the cities of Roswell, Artesia, and Carlsbad on a per capita basis. The latter analysis indicated that there does not appear to be any significant spending leakages from Artesia to the larger cities of Roswell and Carlsbad.

Based upon an analysis of the New Mexico gross receipts tax base[21] BBER concluded that of the payroll spent in Artesia 63.65% would be spent on goods and services which are subject to tax under the New Mexico gross receipts tax statute. Thus, the increase in the City of Artesia's gross receipts tax base due to the NuChik project was $31.67 million, which is $62.2 million times 80% times 63.65%.

The City of Artesia collects general fund gross receipts taxes based upon a rate of 2.475%. Of this 2.475%, 1.225% represents the municipal distribution of the state-imposed gross receipts

[21] See the New Mexico Tax Study, prepared for the Legislative Finance Committee by the University of New Mexico Bureau of Business and Economic Research, September, 1996.

tax rate, which is 4.5% in incorporated areas. The City of Artesia also has local option gross receipts tax authority and currently imposes 1.25% which goes to the city's general fund.[22]

In order to estimate other general fund revenues as a result of the NuChik project a per capita approach was taken. These other revenue sources are varied and account for only 22% of total recurring general fund revenue. In FY 96-97 these other general fund revenues were $157.36 per capita in the City of Artesia. This per capita amount was multiplied by the expected increase in the population of the City of Artesia to derive the estimate of other general fund revenues in the fiscal impact analysis.

Based upon company data, NuChik expects to spend $3,000,000 per year within the City of Artesia on goods and services that will be subject to the gross receipts tax. Thus, it was assumed that Artesia would collect 2.475% times this $3.0 million expenditure by NuChik as an addition to the city's general fund tax base.

On the general fund expenditure side, BBER analyzed historical Artesia general fund spending for the last five fiscal years on a per capita basis. Over this period per capita general fund spending had been relatively constant. In FY 96-97 Artesia general fund recurring expenditures per capita were $509.38. This latter amount was used to estimate the increase in Artesia general fund expenditures, multiplying it by the expected increase in city population. This $509.38 amount allows the city to maintain its current level of services in the face of a significant population increase.

As noted above, based upon an analysis of commuting patterns in the Eddy and Chaves county area it was determined that 70% of the new workers (and population) would live within the Artesia city limits. Thus, the population increase for the City of Artesia is estimated to range from 3,301 to 4,255, which represents a 29.5% to 38% increase in the city's 1994 population of 11,743.

Other assumptions used in the fiscal impact analysis include: (1) NuChik and secondary job wage increases will be 3.5% in the future; (2) NuChik purchases of goods and services and Artesia general fund expenditures per capita will increase at 3.0% per year in the future due to

[22] The City of Artesia also imposes another 0.125% gross receipts tax which goes to the waste water fund and another 0.0625% which goes to the solid waste fund. These gross receipts tax revenues do not go to the city's general fund.

expected inflation; (3) the IRBs will have a 30 year maturity; and (4) a 5.0% discount rate is used to discount future revenues and expenditures to present value, since the fiscal impact analysis involves a projection of the fiscal impacts over the 30 year life of the IRBs.

Tables 3.1 and 3.2 contain the results of the fiscal impact of the NuChik project on the Artesia general fund for the 30 year period from 2000 through 2029. Table 3.1 assumes the low population scenario, while Table 3.2 assumes the high population scenario of BBER. Since general fund expenditures and non-gross receipts tax revenues were estimated on a per capita basis, the fiscal impact results differ based upon the assumed increase in Artesia population.

In the year 2000, which is the assumed first full year of operation by NuChik, total general fund revenues are expected to increase by $1,433,443 in the low population scenario (Table 3.1). However, the increase in general fund expenditures for the expanded population is expected to be $1,681,463 in the year 2000 for an expected annual net fiscal deficit of $248,021. In FY 96-97 total Artesia general fund spending was $5,703,542 so that this negative fiscal deficit would represent 4.4% of current general fund spending levels. In Table 3.1 this slight net fiscal deficit is expected to continue over the life of the IRBs. In present value over the 30 year life of the IRBs the net fiscal deficit would amount to $4,016,233.

In the high population scenario (Table 3.2) the annual net fiscal deficit to the Artesia general fund is somewhat greater. More people will require more public services. However, there will not be sufficient new revenue sources to pay to this increase in public services. In the year 2000 in Table 3.2 the annual net fiscal deficit is $583,848 and this annual net fiscal deficit continues in each year over the 30 year life of the IRBs. In present value the net fiscal deficit amounts to $11,026,802 in the high population scenario.

Artesia also imposes additional gross receipts tax rates, the revenues from which do not go to the general fund. Artesia imposes a 0.125% gross receipts tax which goes to its waste water fund and an another 0.0625% which goes to its solid waste fund. BBER has separately estimated the increase in gross receipts tax revenues for these two additional Artesia funds. Table 3.3 contains these calculations over the 30 year life of the IRBs. In the year 2000 the waste water fund is expected to take in another $46,161 in gross receipts taxes, while the solid waste fund is expected to take in another $23,081. In present value over the life of the IRBs the waste water fund will increase $1,022,299, while the solid waste fund will increase $511,149 in present

TABLE 3.1

FISCAL IMPACT ANALYSIS
CITY OF ARTESIA
GENERAL FUND

NUCHIK, INC. INDUSTRIAL REVENUE BOND

LOW POPULATION SCENARIO

YEAR	GR TAX DIRECT EMPLOYEES	GR TAX SECONDARY EMPLOYEES	GR TAX NUCHIK PURCHASES	OTHER GEN. FUND REVENUES	TOTAL NEW GEN. FUND REVENUES	TOTAL NEW GEN. FUND SPENDING	NET GAIN/LOSS	@ 5.0% PRESENT VALUE
2000	368,618	471,129	74,250	519,445	1,433,443	1,681,463	(248,021)	(224,962)
2001	381,520	487,619	76,478	535,029	1,480,645	1,731,907	(251,263)	(217,050)
2002	394,873	504,685	78,772	551,080	1,529,410	1,783,864	(254,455)	(209,341)
2003	408,693	522,349	81,135	567,612	1,579,790	1,837,380	(257,591)	(201,829)
2004	422,998	540,632	83,569	584,640	1,631,839	1,892,502	(260,663)	(194,511)
2005	437,802	559,554	86,076	602,180	1,685,612	1,949,277	(263,665)	(187,382)
2006	453,126	579,138	88,658	620,245	1,741,167	2,007,755	(266,588)	(180,437)
2007	468,985	599,408	91,318	638,852	1,798,563	2,067,988	(269,425)	(173,673)
2008	485,399	620,387	94,058	658,018	1,857,862	2,130,028	(272,165)	(167,086)
2009	502,388	642,101	96,879	677,758	1,919,127	2,193,928	(274,801)	(160,671)
2010	519,972	664,574	99,786	698,091	1,982,423	2,259,746	(277,323)	(154,424)
2011	538,171	687,834	102,779	719,034	2,047,819	2,327,539	(279,720)	(148,341)
2012	557,007	711,909	105,863	740,605	2,115,383	2,397,365	(281,981)	(142,420)
2013	576,502	736,825	109,039	762,823	2,185,189	2,469,286	(284,096)	(136,655)
2014	596,680	762,614	112,310	785,708	2,257,312	2,543,364	(286,053)	(131,044)
2015	617,564	789,306	115,679	809,279	2,331,827	2,619,665	(287,838)	(125,583)
2016	639,178	816,932	119,149	833,557	2,408,817	2,698,255	(289,438)	(120,268)
2017	661,550	845,524	122,724	858,564	2,488,362	2,779,203	(290,841)	(115,096)
2018	684,704	875,118	126,406	884,321	2,570,548	2,862,579	(292,031)	(110,063)
2019	708,668	905,747	130,198	910,851	2,655,463	2,948,456	(292,993)	(105,168)
2020	733,472	937,448	134,104	938,176	2,743,199	3,036,910	(293,710)	(100,405)
2021	759,143	970,258	138,127	966,321	2,833,850	3,128,017	(294,167)	(95,772)
2022	785,713	1,004,217	142,271	995,311	2,927,513	3,221,858	(294,345)	(91,267)
2023	813,213	1,039,365	146,539	1,025,170	3,024,288	3,318,513	(294,226)	(86,886)
2024	841,676	1,075,743	150,935	1,055,925	3,124,279	3,418,069	(293,790)	(82,626)
2025	871,134	1,113,394	155,463	1,087,603	3,227,595	3,520,611	(293,016)	(78,484)
2026	901,624	1,152,363	160,127	1,120,231	3,334,345	3,626,229	(291,884)	(74,458)
2027	933,181	1,192,695	164,931	1,153,838	3,444,645	3,735,016	(290,371)	(70,545)
2028	965,842	1,234,440	169,879	1,188,453	3,558,614	3,847,067	(288,453)	(66,741)
2029	999,647	1,277,645	174,975	1,224,107	3,676,374	3,962,479	(286,105)	(63,046)
TOTALS	19,029,043	24,320,954	3,532,475	24,712,829	71,595,301	79,996,319	(8,401,019)	(4,016,233)

TABLE 3.2

FISCAL IMPACT ANALYSIS
CITY OF ARTESIA
GENERAL FUND

NUCHIK, INC. INDUSTRIAL REVENUE BOND

HIGH POPULATION SCENARIO

YEAR	GR TAX DIRECT EMPLOYEES	GR TAX SECONDARY EMPLOYEES	GR TAX NUCHIK PURCHASES	OTHER GEN. FUND REVENUES	TOTAL NEW GEN. FUND REVENUES	TOTAL NEW GEN. FUND SPENDING	NET GAIN/LOSS	@ 5.0% PRESENT VALUE
2000	368,618	471,129	74,250	669,567	1,583,564	2,167,412	(583,848)	(529,567)
2001	381,520	487,619	76,478	689,654	1,635,270	2,232,434	(597,165)	(515,853)
2002	394,873	504,685	78,772	710,343	1,688,673	2,299,407	(610,734)	(502,452)
2003	408,693	522,349	81,135	731,654	1,743,831	2,368,390	(624,558)	(489,358)
2004	422,998	540,632	83,569	753,603	1,800,802	2,439,441	(638,640)	(476,563)
2005	437,802	559,554	86,076	776,211	1,859,644	2,512,624	(652,981)	(464,061)
2006	453,126	579,138	88,658	799,498	1,920,420	2,588,003	(667,583)	(451,847)
2007	468,985	599,408	91,318	823,483	1,983,194	2,665,643	(682,449)	(439,913)
2008	485,399	620,387	94,058	848,187	2,048,032	2,745,613	(697,581)	(428,254)
2009	502,388	642,101	96,879	873,633	2,115,001	2,827,981	(712,980)	(416,864)
2010	519,972	664,574	99,786	899,842	2,184,174	2,912,820	(728,646)	(405,738)
2011	538,171	687,834	102,779	926,837	2,255,622	3,000,205	(744,583)	(394,868)
2012	557,007	711,909	105,863	954,642	2,329,421	3,090,211	(760,791)	(384,251)
2013	576,502	736,825	109,039	983,281	2,405,648	3,182,917	(777,270)	(373,880)
2014	596,680	762,614	112,310	1,012,780	2,484,384	3,278,405	(794,021)	(363,750)
2015	617,564	789,306	115,679	1,043,163	2,565,712	3,376,757	(811,045)	(353,856)
2016	639,178	816,932	119,149	1,074,458	2,649,717	3,478,060	(828,342)	(344,193)
2017	661,550	845,524	122,724	1,106,692	2,736,490	3,582,402	(845,912)	(334,756)
2018	684,704	875,118	126,406	1,139,893	2,826,120	3,689,874	(863,754)	(325,540)
2019	708,668	905,747	130,198	1,174,089	2,918,702	3,800,570	(881,868)	(316,540)
2020	733,472	937,448	134,104	1,209,312	3,014,335	3,914,587	(900,252)	(307,751)
2021	759,143	970,258	138,127	1,245,591	3,113,120	4,032,025	(918,904)	(299,169)
2022	785,713	1,004,217	142,271	1,282,959	3,215,161	4,152,985	(937,825)	(290,789)
2023	813,213	1,039,365	146,539	1,321,448	3,320,565	4,277,575	(957,010)	(282,608)
2024	841,676	1,075,743	150,935	1,361,091	3,429,445	4,405,902	(976,457)	(274,620)
2025	871,134	1,113,394	155,463	1,401,924	3,541,915	4,538,079	(996,164)	(266,821)
2026	901,624	1,152,363	160,127	1,443,982	3,658,096	4,674,222	(1,016,126)	(259,207)
2027	933,181	1,192,695	164,931	1,487,301	3,778,108	4,814,448	(1,036,340)	(251,775)
2028	965,842	1,234,440	169,879	1,531,920	3,902,081	4,958,882	(1,056,801)	(244,520)
2029	999,647	1,277,645	174,975	1,577,878	4,030,145	5,107,648	(1,077,503)	(237,438)
TOTALS	19,029,043	24,320,954	3,532,475	31,854,919	78,737,391	103,115,522	(24,378,132)	(11,026,802)

TABLE 3.3

FISCAL IMPACT ANALYSIS
CITY OF ARTESIA
OTHER GROSS RECEIPTS TAXES

NUCHIK, INC. INDUSTRIAL REVENUE BOND

YEAR	WASTE WATER FUND GR TAX DIRECT EMPLOYEES	GR TAX SECONDARY EMPLOYEES	GR TAX NUCHIK PURCHASES	TOTAL NEW GR TAXES	@ 5.0% PRESENT VALUE	SOLID WASTE FUND GR TAX DIRECT EMPLOYEES	GR TAX SECONDARY EMPLOYEES	GR TAX NUCHIK PURCHASES	TOTAL NEW GR TAXES	@ 5.0% PRESENT VALUE
2000	18,617	23,794	3,750	46,161	41,870	9,309	11,897	1,875	23,081	20,935
2001	19,269	24,627	3,863	47,758	41,255	9,634	12,314	1,931	23,879	20,628
2002	19,943	25,489	3,978	49,411	40,650	9,972	12,745	1,989	24,705	20,325
2003	20,641	26,361	4,098	51,120	40,054	10,321	13,191	2,049	25,560	20,027
2004	21,364	27,305	4,221	52,889	39,466	10,682	13,652	2,110	26,444	19,733
2005	22,111	28,260	4,347	54,719	36,888	11,056	14,130	2,174	27,359	19,444
2006	22,885	29,249	4,478	56,612	36,317	11,443	14,625	2,239	28,306	19,159
2007	23,686	30,273	4,612	58,571	37,756	11,843	15,137	2,306	29,286	18,878
2008	24,515	31,333	4,750	60,598	37,202	12,258	15,666	2,375	30,299	18,601
2009	25,373	32,429	4,893	62,695	36,657	12,687	16,215	2,446	31,348	18,328
2010	26,261	33,564	5,040	64,865	36,119	13,131	16,782	2,520	32,433	18,060
2011	27,180	34,739	5,191	67,110	35,590	13,590	17,370	2,595	33,555	17,795
2012	28,132	35,955	5,347	69,433	35,069	14,066	17,977	2,673	34,717	17,534
2013	29,116	37,213	5,507	71,837	34,555	14,558	18,607	2,754	35,918	17,277
2014	30,135	38,516	5,672	74,323	34,048	15,068	19,258	2,836	37,162	17,024
2015	31,190	39,864	5,842	76,896	33,550	15,595	19,932	2,921	38,448	16,775
2016	32,282	41,259	6,018	79,559	33,058	16,141	20,630	3,009	39,779	16,529
2017	33,412	42,703	6,198	82,313	32,574	16,706	21,352	3,099	41,157	16,287
2018	34,581	44,198	6,384	85,163	32,097	17,290	22,099	3,192	42,581	16,049
2019	35,791	45,745	6,576	88,112	31,627	17,896	22,872	3,288	44,056	15,814
2020	37,044	47,346	6,773	91,163	31,164	18,522	23,673	3,386	45,581	15,582
2021	38,341	49,003	6,976	94,320	30,708	19,170	24,501	3,488	47,160	15,354
2022	39,682	50,718	7,185	97,586	30,258	19,841	25,359	3,593	48,793	15,129
2023	41,071	52,493	7,401	100,966	29,815	20,536	26,247	3,700	50,483	14,908
2024	42,509	54,330	7,623	104,462	29,379	21,254	27,165	3,811	52,231	14,690
2025	43,997	56,232	7,852	108,080	28,949	21,998	28,116	3,926	54,040	14,475
2026	45,537	58,200	8,087	111,824	28,526	22,768	29,100	4,044	55,912	14,263
2027	47,130	60,237	8,330	115,697	28,108	23,565	30,119	4,165	57,849	14,054
2028	48,780	62,345	8,580	119,705	27,697	24,390	31,173	4,290	59,853	13,849
2029	50,487	64,528	8,837	123,852	27,292	25,244	32,264	4,419	61,926	13,646
TOTALS	961,063	1,228,331	178,408	2,367,802	1,022,299	480,531	614,166	89,204	1,183,901	511,149

value. No estimates of required increases in the waste water and solid waste fund expenditures have been made, although presumably the city can only spend what revenues are available.

4.0 Impacts On The Artesia Public Schools

Background

The NuChik project will lead to a substantial increase in population within the Artesia region. In Chapter 3.0 BBER has estimated that the regional population will increase in the range of 4,716 and 6,079 persons due to the economic stimulus of the NuChik plant. Some of these additional people will be school children, who will require the educational services of the Artesia Public Schools and other regional school districts.

In New Mexico the operational costs of the public schools are financed by the state general fund through a funding formula which is enrollment driven. Thus, the increased cost of school teachers, counselors, and other educational staff will be paid for by the state of New Mexico. However, the local school district must pay for the capital costs associated with any enrollment increase. In New Mexico the school buildings and equipment are paid for by the local school district using local property tax revenues.

NuChik, while located outside the city limits of Artesia, is within the school boundaries of the Artesia Public Schools. Using IRBs to finance its plant construction, NuChik will be exempt from the payment of property taxes to the school district as well as other property taxing authorities. The NuChik project will stimulate the expansion of other new property investment within the region such as new residential housing and commercial construction. The issue is whether enough new property taxes will be generated so that the Artesia School District can afford to construct the new capital facilities to accommodate the expected increase in school enrollment.

NuChik Property Tax Abatement - School District Taxes

BBER has estimated that NuChik will be exempt annually from $364,996 in Artesia Public School property taxes. This estimate is based upon a market value of the poultry processing plant of $146,000,000[23], a taxable assessed value of $48,666,180, and the current mill levies which go to the Artesia Public Schools. The total mill levies are 7.500, which includes 0.500 for

[23] This figure was obtained from information provided to BBER by NuChik.

operations, 2.153 for debt service, 2.000 for capital improvements, and 2.847 for HB 33 capital projects.

School Enrollment Increase

It was assumed that 80% of the new population would live within the Artesia Public School district boundaries. This is consistent with the assumption in Chapter 3.0 concerning where the new workers will live. The other 20% would live in other nearby school districts such as Lake Arthur, Dexter, Hagerman, Roswell, and Carlsbad.

Based upon existing school enrollment data within Eddy and Chaves counties, 20.23% of the region's population is of school age. It was assumed that this same percentage of the new population would be school children. Thus, the increase in Artesia Public School enrollment due to the NuChik project ranges from 763 to 984[24]. This represents then a 19.7% to 25.4% increase in Artesia Public School enrollment over the FY 96 funded enrollment level of 3,878.

The Artesia Public Schools currently have about one-half of enrolled students in elementary school, one-quarter in middle schools, and the final one-quarter in high school. Assuming the same distribution for the new students expected from the NuChik project, the expected increase in school enrollment by level of school is as follows:

	Low	High
Elementary	381	492
Middle School	191	246
High School	191	246
Total	763	984

The Artesia Public Schools currently have five elementary schools with an average student body of approximately 370 students per school. Thus, it appears that the Artesia Public Schools would need at least one new elementary school to accommodate the expected increase in school enrollment. Artesia has two middle schools with an average student enrollment of approximately

[24] The increase in regional population times 80% times 20.23%.

430 students. Thus, the Artesia Public Schools would need to add another 0.5 middle schools to accommodate the expected increase in school enrollment. And finally, Artesia has one high school with a total current enrollment of 918. The Artesia Public Schools would need to add another 0.25 high schools to accommodate the expected increase in school enrollment.

Increase in School District Property Taxes

NuChik has indicated that they will have $15.0 million in property that will be subject to the property tax and not exempt under the provisions of the IRB. This would represent an increase of $5.0 million in taxable assessed value to the school district and annual property taxes of $37,500 from NuChik to the school district based upon the current mill levy of 7.500 mills.

The expected increase in population will result in an increase in demand for housing and new housing construction. Assuming an average household size of 2.7, under the low population scenario there would be an increase in the demand for housing of 1,397 units within the Artesia school district; under the high population scenario, 1,801 units. Based upon the 1990 Census of Population and Housing there were 600 vacant housing units in Artesia in 1990. Assuming that 300 units of the expected increase in housing would be accommodated by existing vacancies, there will be the need to construct between 1,097 and 1,501 new houses in the Artesia school district to accommodate the population increases expected. These new houses would pay property taxes to the school district.

Assuming an average house value of $55,000, assessed value at one-third of market value, and 7.192 residential mills to the school district, the new residential property will generate between $144,498 and $197,714 in new property taxes to the Artesia school district. There will also be additional commercial development of retail stores and offices, associated with the population increase, which will pay new property taxes to the school district. Assuming the new non-residential commercial property will be equal to 50%[25] of the expected increase in residential values, the new non-residential property will generate between $72,249 and $98,857 in new property taxes to the Artesia school district.

[25] In Roswell and Carlsbad the assessed value of non-residential property is about 50% of the assessed value of residential property. This ratio is higher for the city of Artesia, but this reflects the high non-residential property values derived from the location of the Navajo Refinery within the city limits.

The expected increase in annual property taxes to the Artesia Public Schools is summarized below:

	Low	High
NuChik	$ 37,500	$ 37,500
Residential	144,498	197,714
Non-Residential	72,249	98,857
Total	$254,247	$334,071

It was beyond the scope of this research to estimate the construction costs for the new school facilities which would be required to accommodate the expected increase in school enrollment. Above it was estimated that the Artesia Public Schools would most likely need one new elementary school, one-half of a new middle school, and one-quarter of a new high school. If the annual increase in property taxes above were dedicated to debt service for a 15 year bond paying 5.0% interest, the Artesia Public Schools could borrow between $2.6 million and $3.5 million to finance school construction. This does not seem to be sufficient to meet the expected capital needs. However, we will leave it to others to make this final determination.

5.0 Recent Research On The Social and Demographic Impacts of Meat Processing Plants

Background

As part of its research effort, BBER conducted a literature review of recent economic and demographic research on the issue of the impact of poultry processing plants on rural communities in the United States. BBER did find one research study which measured quantitatively the economic and demographic impacts of a new pork processing plant on Guymon, Texas County, Oklahoma, a small rural community.[26] This new meat processing plant would bring 989 new direct jobs to the community, create an additional 2,176 secondary jobs for a total employment increase of 3,165. The population increase expected in Texas County with this economic stimulus was estimated at 7,573.

These demographic impact results for Guymon, Oklahoma are even greater than those expected by BBER for the Artesia region (3,542 total jobs and an increase in population ranging from 4,716 to 6,079). However, it is evidence from one other impact study in a rural community where sizable demographic impacts where expected from the location of a new meat processing plant.

Most of the other studies which were located by BBER dealt with more qualitative analysis and assessment of the impact of new or expanding meat processing industry on small rural communities. Four studies are reviewed below which are from credible research sources such as the U.S. Department of Agriculture or other university researchers. The research results are not always favorable to the meat processing industry. However, out of a sense of fairness and balance BBER believes that it is important to report these results to the policy makers in the City of Artesia. No judgment is made about these studies or their conclusions. The research results are presented as information concerning the positive and negative impacts of meat processing plants on other small rural communities.

Research Results

[26] "The Economic Impact of a Pork Processing Plant on the City of Guymon and Texas County, Oklahoma," Cheryl F. St. Clair, et.al., Rural Development, Oklahoma Cooperative Extension Service, Oklahoma State University, September, 1994.

In "Assessing the Regional Impact of Changes in the Meatpacking Industry" Dennis M. Brown of the Economic Research Services, U.S. Department of Agriculture, notes that the production jobs in this industry are very difficult, involving long hours, repetitive activities, and dangerous working conditions. As a result, many local residents tend to shun this type of work. And the work force of many, especially newer packing plants is often largely comprised of individuals who have few employment alternatives such as new immigrants, disadvantaged minorities, and young women. The influx of working age women into rural communities results in increases in school enrollment, crowded housing conditions, and an increase in the crime rate.

In Any Way You Cut It: Meat Processing and Small-Town America, edited by Donald D. Stull, Michael J. Broadway, and David Griffith and published by the University Press of Kansas, the authors review recent studies dealing with rural communities that have attracted meat processing plants since the early 1980s. In many cases they discover unintended negative consequences such as increased crime, school overcrowding, housing shortages, and higher poverty. They find that many small communities are ill-prepared to deal with the significant economic and demographic changes brought about by rapid employment growth concentrated among immigrants, minorities, and women.

In "Immigrants in the Delmarva Poultry Processing Industry: The Changing Face of Georgetown, Delaware and Environs," Roger Horowitz and Mark J. Miller in September, 1997 report recent research on the impact of the expanding poultry processing industry on Georgetown, Delaware with a population of 4,500. This rural community experienced an influx of immigrants, many of whom took up employment in the poultry processing firms. By 1996, poultry firms in the area employed at least 3,200 immigrants, and non-citizens comprised between 40 and 60 percent of the workforces in some plants. Most of the immigrants during the 1990s were single young men who were sending money home to families in Central America. Later on, family formation took place with more female immigrants and children.

Finally, in "Integrated Poultry Operations Opportunities Along the Tennessee-Tombigbee Waterway Corridor," published by the Food and Fiber Center, Mississippi State University in August, 1993, the authors report that unskilled labor accounts for approximately 70 to 75 percent of the processing labor and that a similar percentage of the poultry industry labor force is female.

It is anticipated that the majority of labor needed will be unskilled labor with correspondingly lower than average manufacturing wage rates.

6.0 Summary and Conclusions

This report has provided comment and critique on the economic and fiscal impact study, completed by Impact Data Source for the Greater Artesia Chamber of Commerce. This latter study separately estimated economic, demographic, and fiscal impacts of the NuChik integrated poultry processing plant on the Artesia region. This report also presents the results of BBER's own independent assessment of these economic, demographic, and fiscal impacts on the City of Artesia and the Artesia Public Schools.

Based upon BBER's review and analysis of the Impact DataSource report, BBER believes that the City of Artesia cannot rely upon the results of this study for its decision in the NuChik IRB. BBER found too many unjustified assumptions and inaccurate data in this research. Furthermore, the Impact DataSource fiscal analysis revealed a lack of knowledge or misunderstanding of state and local finance issues in New Mexico. And the demographic impacts were unreasonable in light of the historical experience for this region.

The NuChik project will have a significant economic impact on the Artesia region. It will create a total of 3,542 jobs including 1,596 new direct jobs and 1,946 new secondary or multiplier jobs. Total new payroll is estimated at $62.2 million. Regional population is expected to increase in the range of 4,716 to 6,079. Seventy percent of these new people are expected to live within the City of Artesia, whose population will increase from 3,301 to 4,255.

The Artesia Public Schools (APS) will experience an increase in student enrollment, ranging from 763 to 984 new students. APS will likely need one new elementary school, one-half of a new middle school, and one-quarter of a new high school to accommodate these projected enrollment increases. The increase in school operating costs will be paid for by the state general fund via the school funding formula, which is enrollment driven. However, the local school district will be responsible for the new classrooms, equipment, and other capital facilities out of the local property tax base.

The fiscal impact on the City of Artesia's general fund is expected to be slightly negative. In the low population scenario the annual net fiscal deficit is estimated at $248,021, which is about 4.0% of the current level of general fund spending. Under the high population scenario the

annual net fiscal deficit is estimated at a higher $583,848. This assumes that the current level of per capita general fund spending is maintained, as the population of the city expands.

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