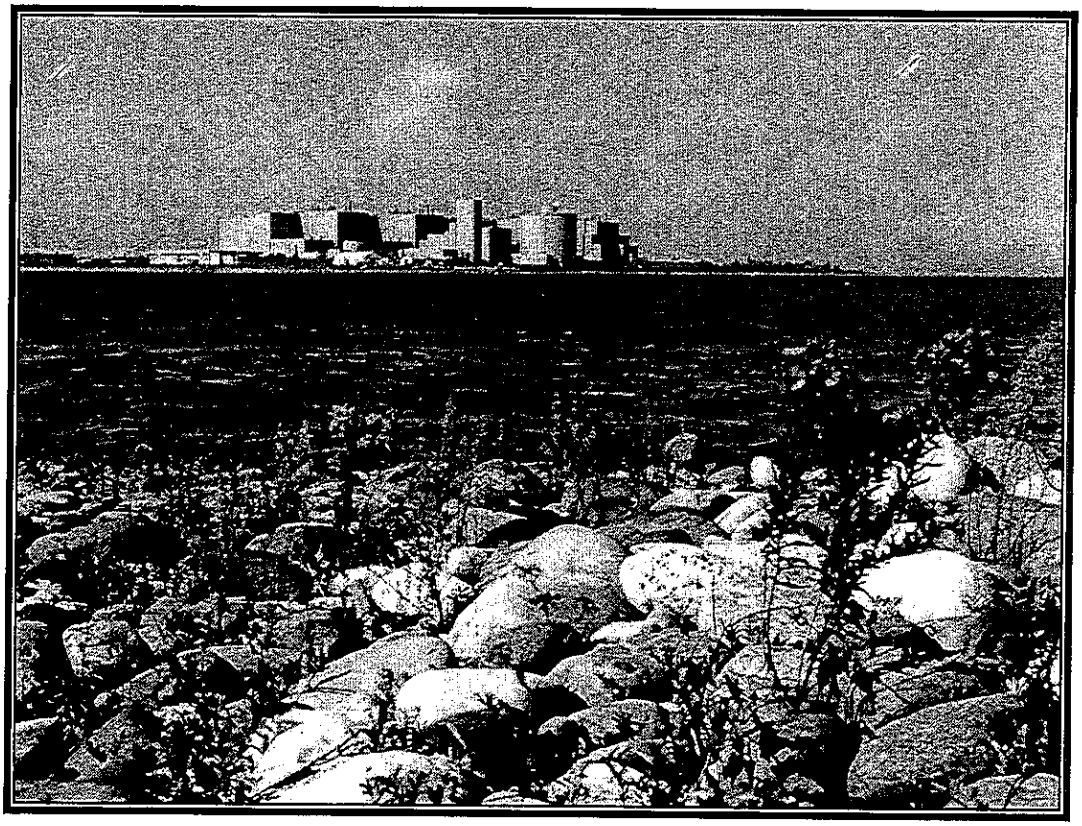
Socio-Economic Conditions

TECHNICAL SUPPORT DOCUMENT

Bruce A
Units 3 & 4 Restart
Environmental Assessment



December 2001

Bruce Power

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5. Description of Existing Socio-economic Conditions

Based on the results of the initial and further screening of project – environmental interactions, this section describes existing socio-economic conditions that are relevant and useful in predicting environmental effects likely to result from the Bruce A Restart Project. It is noteworthy that much of the public attitude research focused on people's attitudes towards their communities, the Bruce Power site as a whole and the proposal to restart Bruce A. Therefore, it may not fully differentiate between people's views regarding Bruce A and other on-site operations.

5.1 Population and Economic Base

5.1.1 Population

The current population of Bruce County is estimated to be 66,700 and it is distributed among the area municipalities as shown in Table 5-1.

Table 5-1. Bruce County and Area Municipality Population Estimate (2001)

Area Municipalities	Population	%
Arran-Elderslie	6,900	10
Brockton	10,300	16
Municipality of Kincardine	12,100	18
Northern Bruce Peninsula	3,600	5
South Bruce	6,500	10
Saugeen Shores	12,300	18
South Bruce Peninsula	8,600	13
Huron-Kinloss	6,400	10
Total Bruce County	**66,700**	**100**

Source: [1577]

In its lay-up state, Bruce A is associated with 520 persons across Bruce County and 370 persons in Kincardine. These figures respectively account for roughly 0.8 % of the County population and 3.0% of the population of Kincardine.

Permanent population growth within Bruce County has been relatively modest over the last 10 years with the annual average rate of growth being about 0.4%. In 1991 the County had a population of approximately 64,000 persons. The net growth to date has been roughly 2,700 persons.

The Ontario Ministry of Finance [1563] has developed population projections for Bruce County. These projections indicate that Bruce County will experience a continuation of the modest population growth it has experienced in the past and well into the foreseeable future. The Ministry projection anticipates a County population of approximately 70,500 persons by the year 2016. This represents a 6% increase in population over the 15-year projection period.

There is no specific population forecast for the Municipality of Kincardine. For the purposes of this study it is assumed that population growth in Kincardine will mirror trends in the County. Based on this assumption, the municipality's population will likely be approximately 12,800 persons by the year 2016. Table 5-2 illustrates the population projections for Kincardine and the remainder of Bruce County over the 2001 to 2016 projection period.

Table 5-2. Study Area Population Projections (2001 to 2016)

Year	Local Study Area	Regional Study Area
2001	12,100	66,700
2002	12,100	66,900
2003	12,200	67,400
2004	12,200	67,400
2005	12,300	67,700
2006	12,300	67,900
2007	12,300	67,900
2008	12,300	68,200
2009	12,400	68,500
2010	12,400	68,600
2011	12,500	68,900
2012	12,500	69,200
2013	12,600	69,700
2014	12,700	69,800
2015	12,700	70,400
2016	12,800	70,500
Average Annual Growth (%)	*0.4%*	*0.4%*
Total Growth (%)	5.8%	5.7%

Source: [1563, 1577]

Tables 5-3 to 5-5 provide statistics on the age, family size and household size for the Municipality of Kincardine and Bruce County. These tables show that the demographic make-up of residents living in the Local Study Area is not substantially different (i.e. typically within 5%) from that of the Bruce County.

Table 5-3. Age Profiles (1996)

Categories	Local Study Area		Regional Study Area	
	#	%	#	%
0-4 years	736	6.2	4,023	6.2
5-9 years	830	7.0	4,763	7.3
10-19 years	1,979	16.6	10,181	15.6
20-29 years	1,135	9.6	6,261	9.6
30-39 years	1,818	15.3	9,542	15.0
40-49 years	2,104	17.7	10,140	16.0
50-59 years	1,343	11.3	7,094	11.0
60-64 years	478	4.0	3,200	4.9
65 + years	1450	12.2	10,014	15.4
Total	**11,873**	**100**	**65,218**	**100**

Source: [1651]

Table 5-4. Family by Size (1996)

Category	Local Study Area		Regional Study Area		Province of Ontario	
	#	%	#	%	#	%
2 persons	1,442	43.3	8,388	46.0	1,232,515	42
3 persons	648	19.5	3,381	18.5	653,015	22.3
5 persons	840	25.2	4,093	22.4	695,380	23.7
5 + persons	400	12.0	2,417	13.2	326,910	12
Total	**3,330**	**100**	**18,279**	**100**	**2,922,885**	**100**

Source: [1651]

Table 5-5. Private Household by Size (1996)

Category	Local Study Area		Regional Study Area		Province of Ontario	
	#	%	#	%	#	%
1 person	948	21.5	5,625	22.5	893,138	22.6
2 persons	1,429	32.4	8,741	35.0	1,227,020	31.1
3 persons	701	15.9	3,505	14.0	670,973	17
4-5 persons	1,193	27.0	6,124	24.5	1,009,475	25.6
6 or more persons	138	3.1	966	3.9	143,749	3.7
Total	**4,409**	**100**	**24,961**	**100**	**3,944,355**	**100**

Source: [1651]

5.1.2 Employment

The most recent census data regarding employment is from 1996. In 1996, Bruce County had a resident employed labour force of approximately 32,100 persons. The unemployment rate in 1996 was approximately 8.7%.

Five industrial categories accounted for over 60% of the labour force. Ranked in order of labour force association these categories included: wholesale and retail; communication and utilities; agriculture; manufacturing; and health services. Table 5-6 provides detailed statistics from the 1996 census.

Labour force statistics for 2001 are not yet available from Statistics Canada. An estimate has been derived, whereby the 1996 statistics are projected forward by the population growth factor. This estimate indicates that the current employed labour force resident in the County is in the order of 32,800 persons. Existing employment opportunities within Bruce County and Kincardine are estimated to be in the order of 33,600 and 5,100 jobs respectively. Therefore, relative to the employed labour force there is a slight surplus of jobs within the County.

Table 5-6. Labour Force Distribution by Industrial Category (1996)

Industry Category	Local Study Area		Regional Study Area	
	Number of Employees	*%*	*Number of Employees*	*%*
Agriculture	557	9	3,425	11
Fishing, Forestry and Mining	20	0	215	1
Manufacturing	291	5	3,324	10
Construction	378	6	2,289	7
Transportation	77	1	953	3
Communication & Utilities	1,794	30	4,763	15
Wholesale and Retail	802	13	4,983	16
Finance, Real Estate and Business	292	5	1,613	5
Government Services	102	2	1,106	3
Educational Services	240	4	1,690	5
Health Services	629	10	3,037	10
Accommodation, Food and Beverage	429	7	2,428	8
Other	434	7	2,084	7
Totals	**6,045**	**100**	**31,910**	**100**

Source: [1651]

As shown in Table 5-7, the Bruce Power site is Bruce County's largest single employer with over 3,100 staff. Approximately 54% of Bruce Power staff reside within Bruce County, the remainder commute into the study area either daily or weekly from surrounding municipalities, primarily Goderich, Owen Sound

and Hanover. The data in Table 5-7 does not include Ontario Power Generation Inc. (OPGI) Atomic Energy of Canada Limited (AECL) or construction personnel currently working on-site. In its lay-up state, Bruce A generates approximately 690 jobs through direct, indirect and induced means. Of this figure, residents of Bruce County hold approximately 240 jobs, including 160 jobs within the Municipality of Kincardine or 3.1% of municipal employment.

Table 5-7. Place of Residence of Bruce Power Employees (2001)

Location	#	%
Municipality of Kincardine	1,072	34
Other Bruce County	628	20
Sub-total Bruce County	*1,700*	*54*
Other Ontario	1,431	46
Total	**3,131**	**100**

Source: *[1577]*
Note: *Does not include OPGI, AECL or construction personnel currently on-site.*

Projected employment growth within Bruce County and Kincardine is also expected to reflect population growth trends. By the year 2016 the County employment base is estimated to be 35,500 and corresponding employment base for Kincardine is expected to approach 5,400. Table 5-8 provides these employment projections.

Table 5-8. Study Area Employment Projections

Year	Local Study	Regional Study Area
2001	5,110	33,580
2002	5,110	33,700
2003	5,150	33,970
2004	5,150	33,970
2005	5,190	34,120
2006	5,190	34,220
2007	5,190	34,220
2008	5,190	34,330
2009	5,230	34,480
2010	5,230	34,520
2011	5,270	34,670

Table 5-8. Study Area Employment Projections

Year	Local Study	Regional Study Area
2012	5,270	34,880
2013	5,320	35,120
2014	5,360	35,160
2015	5,360	35,510
2016	5,400	35,550
Average Annual Growth (%)	***0.4%***	***0.4%***
Total Growth (%)	**5.7%**	**5.9%**

Source: [1577]

An examination of the population by age statistics from 1996 shows that a significant proportion of the population in Bruce County and within Kincardine is between 40 and 49 years of age. These are known as the "baby boomers". Similarly, there is an equally large proportion of the population aged 10 to 19 years of age, known as the "echo" cohort of the population. In comparison to the "baby boomers' and the "echo" population, there is a much smaller cohort in the 20 to 29 year category. In comparison to the Ontario wide population, Bruce County, and the Counties of Grey, Huron and Perth have a much greater "echo" population. Human Resources Development Canada (HRDC) [1561] have termed this "echo" cohort a "labour force in waiting" suggesting that in the future there will be a significant greater proportion of youth in Bruce County and surrounding areas entering into the labour force than from other areas of Ontario.

5.1.3 Business Activity and Tourism

The primary components of the local and regional economies are agriculture, the Bruce Power site, industrial and commercial businesses, commercial fishing and tourism.

5.1.3.1 Agriculture

Agriculture is an important component of Bruce County's economy. The area has over 3,425 farm operators that generate over $255 million in gross sales annually. Over 62% of the County's area is dedicated to the agricultural industry. The County is ranked first in Ontario for total cattle production, with 51% of farms dedicated to the production of beef cattle. The County is ranked third in Ontario in sheep production, with $1 million in sales annually. Bruce County is also the top producer of oats and the

second largest producer of canola in Ontario. With this agricultural activity also comes a wide variety of supporting and processing industries related to the production of food, animal breeding and horse boarding. The agricultural industry also plays an important role in the culture of Bruce County, as is evident in the large number of agricultural fairs held throughout the area [1543].

5.1.3.2 Bruce Power and the Nuclear Service Industry

The Bruce Power site is one of the largest centres of energy production in the world. The use of the Bruce Power site (formerly known as the Bruce Nuclear Power Development) began in the late 1960's and major construction continued throughout the 1970's and early 1980's. During this period, a large work force migrated to and became residents of Bruce County. In 1983, the work force on-site was approximate 7,100 persons. Payroll spending and the direct purchases of equipment and supplies resulted in site operations dominating the local employment picture and business activity. Since then, major construction activity has declined and operational employment has varied over the years creating a boom and bust situation. Although the Bruce Power site's dominance of the local economy has also declined, the operations on the Bruce Power site remain the major economic influence in the area.

In 1998, Ontario Power Generation placed Bruce A into a temporary lay-up state, which resulted in the redeployment and relocation of many employees to other nuclear facilities on and off the Bruce Power site. In 2001, Bruce Power leased the Bruce A and Bruce B nuclear generating stations from OPGI and continued their operation. At present, Bruce Power issues contracts to businesses across Canada and internationally for a wide variety of goods and services for the Bruce A and B Stations. It is expected that expenditures for the Bruce A Restart Project will have a similar geographic pattern as those in the recent past. During 1999 and 2000 combined expenditures at the Bruce Site totaled $420 million. Approximately 90 % of this money was spent within the Province of Ontario. Approximately 1.6 % ($6.7 million) was spent within Bruce County and roughly 0.5 % ($2.1 million) was spent in Kincardine [1577].

The purchase of goods and services for Bruce A and payroll spending by Bruce Power staff associated with Bruce A, along with other persons gaining direct, indirect and induced employment also contribute to business activity within Bruce County and the Municipality of Kincardine. In 2000, with Bruce A in a lay-up state, the purchase of goods and service and direct, indirect and induced payroll spending associated with Bruce A employees contributed in the order of $ 9.3 million to the Bruce County economy. The Municipality of Kincardine captured approximately $5.1 million dollars, while the remaining $4.2 million was distributed among other Bruce County municipalities, with Saugeen Shores capturing the greatest amount [1577].

As part of this EA study report, a number of telephone interviews were conducted with selected businesses and suppliers to Bruce Power in order to investigate the potential influences of operations at the Bruce Power site on local business activities. A total of 28 businesses were contacted in the

Municipality of Kincardine and the Regional Study Area. These businesses were selected from a database of suppliers to Bruce Power [1652]. These suppliers provide a wide range of goods and services, including:

a) aggregate materials;

b) paving/concrete services;

c) lumber and general construction equipment;

d) paint and painting services;

e) conventional industrial equipment (e.g., motors, cutting tools, hand tools and maintenance products);

f) electrical equipment; and

g) office supplies.

Although an important source of revenue, most of the local suppliers to Bruce Power are not dependent upon contracts issued by Bruce Power for the majority of their annual revenues. The majority of business operators reported that contracts from the site account for less than 10% of their total annual revenues. Only two of the businesses indicated that revenues from Bruce Power help to maintain their overall economic viability.

The majority of the local business operators' credit Bruce Power as contributing positively to local economic stability and growth, largely in terms of employment and the spin-offs associated with employee spending. A few indicated that adverse effects on the local economy were evident after the Bruce A station was laid-up in 1998 and some indicated that the "boom and bust" cycle associated with the facility has made it difficult to plan for the future. Eighteen of the 28 business operators interviewed indicated a noticeable decline in business activities as a result of lay-up.

From the data presented above, it is clear that Bruce County does not have a well-developed nuclear service industry. A review of the 2001 Canadian Nuclear Association's annual Nuclear Canada Yearbook and Buyer's Guide [1594] indicates that most of the nuclear service industry in Canada is located outside of Bruce County (e.g., City of Toronto, Niagara Falls). The following table provides data on the geographical distribution of businesses specializing in the provision of services to the nuclear industry. In addition, OPGI, Hydro One, and AECL have local offices in the area but operate mainly from their Toronto-area headquarters. Although these companies employ local residents, their headquarters are located elsewhere, consequently, a large proportion of revenues derived from the Bruce Power site tends leak out from the County.

Table 5-9. Nuclear Service Industry Distribution (2001)

Location	# of Businesses	% Total
Municipality of Kincardine	1	1
Other Bruce County	0	0
Other Ontario	73	60
Other Canada	15	13
Other	31	26
Total	120	100%

Source: [1594]
Note: Not all nuclear service businesses are included in the 2001 Yearbook and Buyer's Guide.

5.1.3.3 Other Industrial and Commercial Businesses

Bruce County has a thriving retail and service industry. Between 1990 and 1995, 394 new businesses were added to this sector, representing nearly 28% growth in the number of companies. Since 1995, growth has been modest. The manufacturing sector of the economy employs approximately 3,315 people in Bruce County. The majority are employed by small manufacturing business with less than ten employees. The largest manufacturing sector is the food industry employing approximately 365 employees. Overall, wages in the manufacturing sector are below those at the Bruce Power site, creating a competition for labour. Table 5-10 below provides a summary of the top manufacturing sectors in the County.

Table 5-10. Top Manufacturing Sectors in Bruce County

Sector	Number of Firms	Number of Employees
Food Processing	20	364
Electrical & Electrical Products	3	257
Furniture & Fixtures	14	190
Fabricated Metal Products	16	179
Wood Products	9	106
Printing & Publishing	26	100
Chemical & Chemical Products	6	72

Source [1543]

Nevertheless, the manufacturing sector in the southern portion of Bruce County, (i.e. know locally as the south Bruce area) including Kincardine is far less developed than other areas in Bruce County and other countries in southwest Ontario. This observation is supported by the labour force data presented previously in Table 5-6 and interviews conducted as part of this study.

One of the major industrial developments within Bruce County is the Bruce Energy Centre (BEC). This is an 800 acre serviced industrial park located immediately southeast of the Bruce Power site that was established in 1986 with the intent to develop an industrial ecopark where waste and by-products of one industry could become the feedstock for a neighbouring industry. Currently, six companies operate in the BEC. These companies produce polyproylene film, hydroponically grown tomatoes, processed foods, commercial alcohols, and nutrient-rich feed for livestock. One company is a privately funded applied research and development laboratory.

As an overall indicator of business activity and economic development, the commercial/industrial (I/C) assessment for Bruce County has also been examined. At present, commercial/industrial assessment for the County stands at roughly $4.5 billion. Relative to employment this represents about $134,000 per job. Assuming a similar ratio going forward industrial/commercial assessment within the County is projected to grow by 8% to $4.76 billion in 2016. The table that follows presents data regarding the anticipated growth in industrial and commercial business assessment.

Table 5-11. Industrial Commercial (I/C) Assessment Projection

Year	Bruce County I/C Assessment ($ Billion)	Year	Bruce County I/C Assessment ($ Billion)
2001	4.50	2009	4.62
2002	4.52	2010	4.63
2003	4.55	2011	4.65
2004	4.55	2012	4.67
2005	4.57	2013	4.71
2006	4.59	2014	4.71
2007	4.59	2015	4.76
2008	4.60	2016	4.76

Source: [1577]

5.1.3.4 Commercial Fishing

The Bruce Power site is located within Ontario Ministry of Natural Resources', Lake Huron Management Area 4-4. The Ontario Ministry of Natural Resources [1565] indicates that there is only one non-Aboriginal commercial fishing license issued within this area. The main commercial fish species harvested in 2000 included lake whitefish (402,107 kg), lake trout (20,870 kg), chub (18,103 kg), and yellow perch (811 kg). The harvest of lake whitefish exceeded the quota set for 2000 by approximately 4% and the harvest of lake trout exceeded its quota by approximately 160%. The harvests of other species were well below the 2000 quotas [1537].

An interview [1654] conducted with the only licensed non-Aboriginal commercial fishing operation near the Bruce Power site indicated that their license area extends approximately 10 nautical miles (18.5 km) north of Point Clarke south to Point Edward. This area does not reach the Bruce Power site. This operator has never fished near the site in the past. The company launches primarily from the Kincardine marina primarily, but also from South Hampton, Ontario. They are a year round operation, but conduct the majority of their fishing between August and July. Annual value (2000) of their catch is approximately $2.5 Million. Recently, they have experienced a decrease in their quota of whitefish of 20% in area north of Point Clarke and 10% south of Point Clarke. Their main products include fresh, frozen and dressed lake whitefish, fresh and dressed lake trout and yellow perch. The company employs approximately 16 to 18 persons. Information regarding the Aboriginal fishery is provided in the Cultural, Archeological and Aboriginal Environment Technical Support Document.

5.1.3.5 Tourism

The tourism industry is one of the most important business sectors of the economy in Bruce County and the Municipality of Kincardine. Bruce County is recognized for its diverse natural beauty with over 2,400 km of Great Lakes shoreline, the Saugeen River and many other inland lakes and rivers. The tourism industry generates approximately $118 million annually and directly employs 1 in 7 persons [1543]. Interviews also indicate that much of the tourism in the area is from across Ontario and from the United States.

Interviews indicated that because the areas near Bruce A have a large cottage population and a large proportion of the population associated with Bruce Power and OPGI employees, a substantial proportion of tourism is linked to friends and relatives of these employees [1562]. A recent tourism study across Bruce and Grey Counties [1578] confirmed this, and indicated that 62% of all overnight tourists to the area were for the purposes of visiting to friends and relatives. This is particularly true during the non-peak tourist season (i.e. October through December). Other popular activities conducted by overnight tourists include participation in sports and outdoor activities (particularly water-based activities); shopping; sightseeing; and visiting parks, historic sites and cultural events.

Accommodations

In communities along the shoreline of Lake Huron, there is a total of 120 properties or 1,091 rooms. Of these 2 are branded hotels, 30 are motel properties, 41 are bed and breakfast establishments and another 47 are commercial cottages/cabin establishments. These properties are fairly evenly spread throughout the study area. Motels and cottages make up over 80% of the 1,091 total rooms in the study area.

Within the Municipality or Kincardine there is one branded hotel property, 7 other hotels and inns, 14 bed and breakfast establishments and 2 cottage/cabin properties offering a total of 265 rooms or approximately one quarter of the rooms available within the regional study area. The other branded hotel property is in Port Elgin.

Table 5-12. Roofed Accommodation Inventory within Shoreline Communities

Accommodation Type	Number of Properties	Number of Rooms	% of Total Rooms
Branded Hotels	2	75	7
Motels	30	566	52
Bed and Breakfasts	41	115	10
Cottages/Cabins	47	335	31
Total	**120**	**1,091**	**100**

Source: [1543]

Due to the seasonality of the tourism sector and hence visitor demand, many of the roofed accommodation properties are seasonal. Many properties close for the winter season. May to September represents the tourist peak, with July and August experiences the most demand. There is not enough accommodation product to meet the demand during the peak seasons [1543]. Interviews with local tourism officials indicate that within the local and regional study areas, particularly in communities along the Lake Huron shoreline, the variety and quality of roofed accommodation is lacking [1562]. Many of the existing properties are ageing and in need of renovation. There is a lack of resort and upscale Bed and Breakfast product.

In addition to roofed accommodation, the study area has a total of 23 campgrounds and 4,300 campsites, of which 14 are fully serviced facilities (61%). Within Kincardine there are 5 fully serviced campgrounds offering 757 sites or approximately 18% of the total sites in the regional study area. Approximately 50% of the sites are utilized for seasonal purposes during the spring and summer, with the balance being daily transient sites [1543].

Table 5-13. Campground Inventory

Campground Type	Number of Sites	% of Total Sites
Seasonal	2,055	48
Daily	1,980	46
Pull Through	270	6
Winter	8	< 1%
Total	**4,300**	**100**

Source: [1543]

As part of this EA, telephone interviews were conducted with motel, hotel and campground operators in the Municipality of Kincardine and the regional study area to investigate the potential influences of operations at the Bruce Power site on their businesses.

The main issues in the community that respondents identified as having the most effect on their business activities were special events in the community (23%), weather (17%), Bruce Power employees (17%), water quality (11%), economy (11%), lake levels, community image, competition and beaches (5%). The majority (64%) of owners indicated that their business activity had generally increased over the past two years.

The presence and operation of Bruce A and Bruce B have had a positive influence on local motels and hotels. They rely on corporate clientele, Bruce Power and OPGI employees for a large portion of their business activity. Half of those interviewed stated that Bruce Power contracts account for up to 50% of their business activity. A summary of responses to these interview questions is provided in Appendix C.

Tourist Attractions

There are a variety of tourist attractions located within the communities along the shoreline of Lake Huron, which can be categorized as heritage attractions, natural attractions, industrial attractions and amusements.

The primary heritage attractions in the regional study area are the Bruce County Museum, Kincardine Lighthouse Museum, Point Clark Lighthouse, the Chantry Lighthouse and Saugeen Amphitheatre in Southhampton, and the Treasure Chest Museum in Paisley. The museums and lighthouses offer both self-guided and guided tours throughout the summer season [1543].

The Lake Huron Shoreline is in itself a significant natural attraction. The Lake Huron shoreline in the regional study area offers some of the best beaches in Ontario. It is the shoreline that draws tourists to the area whether it is for the beaches, fishing, boating, hiking or biking.

The Bruce Visitors' Centre can be considered as an industrial tourist attraction. It is located east of the Bruce Power site along the main access road to the Bruce A and B stations from Highway 21 between Kincardine and Port Elgin. This attraction provides visitors with numerous exhibits, displays and pre-arranged guided tours that explain the production of nuclear electricity. Visitation to this attraction has been increasing over the past several years. In 1998, the Visitors Centre hosted 6,471 persons and in 2000 the centre hosted 10,659 persons an increase of approximately 65% [1564].

The Lake Huron shoreline area also boasts several amusement facilities and a large artisan community, from theatre to visual arts. The majority of theatre, art and entertainment is centralized in Southampton. The Bluewater Summer Playhouse is also located in Kincardine and conducts professional performances for the public from June through September.

Marinas and Boat Charters

Marinas and boat charters are integral to the tourism product offered in the regional study area. There are currently five marinas located in communities along the shoreline of Lake Huron. The largest is the Port Elgin Municipal Marina, which offers 241 slips, while the smallest is the Kit Wat Marina in Sauble Beach, which is equipped with 12 slips. The Kincardine Municipal Marina has recently expanded and has doubled its number of slips to 154.

Two types of boating charters are offered within the regional study area. Sailing Charters are offered in Port Elgin, Sauble Beach and Southampton while 13 companies conduct fishing charters. Of the 13 companies, 6 of them are located in Kincardine.

To investigate the influence of operations at the Bruce Power site on local business activities, interviews were conducted with three operators of fishing charters. The main issues in the community that respondents identified as having the most affect on their business activities were water quality (29%), harbour (29%), weather (14%), community image (14%) and the quantity and availability of fish (14%). However, all of the owners indicated their business activity had generally increased over the past two years.

The presence and operation at the Bruce Power site appears to have a positive influence on the local fishing charters. They rely on corporate clientele Bruce Power and OPGI employees for a portion of their business activity. Those interviewed stated that the Bruce Power site contributes to approximately 20% of their business activity. In addition, the Bruce A and B outfalls attract different species of fish, which makes the areas near the stations an attractive and popular fishing destination. A summary of responses to these interview questions is provided in Appendix C.

5.1.4 Economic Development

Economic development in the local and regional study areas is a co-ordinated activity among many local, provincial and federal government organizations. The Bruce Community Futures Development Corporation (BCFDC), which plays a central role in co-ordinating research and implementing economic development programs, has prepared and economic diversification plan for the south Bruce area [1542]. This plan was prepared in response to the 1998 the lay-up of Bruce A. It recognizes that economic diversification of the local economy is critical to the future of the County and identifies a number of community-based actions for each of the major sectors of the local economy (i.e. industry, tourism, agriculture) and for infrastructure/transportation, training and small business development. The actions identified in the industrial and tourism sectors are the most relevant to this study and are described below.

In the industrial sector, the focus of the economic development plans is on the provision of support for the ongoing evolution of the Bruce Energy Centre towards new technologies in the areas of agri-processing and co-generation. The importance of competitive electricity rates to the success of the BEC is recognized. Interviews undertaken with BCFDC officials also indicate that a reliable and cheap source of

steam and electricity are critical to the success of the BEC [1562]. These concerns were reiterated by Bruce Energy Centre officials interviewed as part of this EA [1657]. Although not the focus of the plan, the BCFDC report notes that the "Recovery of Bruce A and continued operations of all other BNPD site facilities remain a high priority issue for the South Bruce area." [1542].

In the tourism sector, the focus of the plan is on the co-ordination of tourism marketing and development activities undertaken in the region, making the South Bruce area an 'all season destination' area, promoting the development 'adult lifestyle' retirement housing, securing and expanding hotel and resort tourist facilities, and retaining provincial signage and maps that position Bruce County as a tourist destination, and encouraging the development of abandoned rail corridors for multi-use purposes.

5.2 Community Infrastructure

5.2.1 Housing and Property Values

5.2.1.1 Housing Stock

The inventory of housing stock in Bruce County is estimated to currently stand at approximately 34,700 units. Of this total approximately 15% or 5,320 units are found in Kincardine and the remainder are distributed throughout the rest of Bruce County. In its lay-up state, Bruce A employees are associated with approximately 160 units or 3% of the total housing stock.

Projecting forward to 2016 the growth in housing stock within both Kincardine and the remainder of Bruce County is expected to parallel population growth. The following table depicts the anticipated growth trends.

Table 5-14. Study Area Housing Projections (2001 to 2016)

Year	Local Study Area	Regional Study Area
2001	5,320	34,700
2002	5,320	34,790
2003	5,370	35,040
2004	5,370	35,040
2005	5,410	35,240
2006	5,410	35,370
2007	5,410	35,370
2008	5,410	35,500
2009	5,450	35,630
2010	5,450	35,700

Table 5-14. Study Area Housing Projections (2001 to 2016)

Year	Local Study Area	Regional Study Area
2011	5,500	35,840
2012	5,500	35,970
2013	5,540	36,300
2014	5,590	36,350
2015	5,590	36,620
2016	5,630	36,660
Average Annual Growth (%)	*0.4%*	*0.4%*
Total Growth (%)	5.8%	5.6%

Source: [1577]

Table 5-15 presents data regarding housing tenure. These data indicates that much of the existing housing was either built before 1946 or during the 1970's in response to the construction of the nuclear generating stations. For Bruce County and Kincardine, roughly 76 % of the units are owner occupied and the remainder rented. As mentioned previously, a large proportion of these units are also seasonal residences. It is estimated that 583 (12%) of Kincardine households and 8,026 (25%) of all residential units across Bruce County are seasonal residences or cottages [1569].

Since 1991 the housing stock inventory in Bruce County has grown by approximately 47%. In contrast to the housing stock across the County, the stock in the Municipality of Kincardine is aging [1651].

Table 5-15. Housing Tenure (1996)

Period of Construction	Local Study Area		Regional Study Area	
	#	%	#	%
Before 1946	1,162	27	8,626	35
1946-1960	259	6	1,958	8
1961-1970	499	12	2,671	11
1971-1980	1,621	37	5,955	25
1981-1990	534	12	3,531	15
1991-1996	259	6	1,558	6
Total	4,334	100	24,299	100

Source: [1651]

5.2.1.2 Residential Property Values

Data obtained from the Grey-Bruce Owen Sound Real Estate Board [1668] regarding the number of sales of residential property within the Municipality of Kincardine and the community Port Elgin indicates that

the number of properties sold has been variable over the past several years, peaking in 1999. The number of sales was the greatest in the communities of Kincardine and Port Elgin where the majority of residential properties are located. Sales data and interviews with local realtors [1668, 1846] indicate that the turnover of properties has always been greater in Kincardine than Port Elgin. Realtors attribute this to the lower quality in the housing stock and access more services in Port Elgin.

In terms of property values or residential housing prices, the data indicates that declines in property values were experienced in Kincardine, Tiverton and Port Elgin in 1998 and 1999. Interviews with local realtors [cite] indicate that this was largely due to the lay-up of Bruce A in 1998 which resulted in the redeployment and relocation of many employees to other nuclear facilities on and off the Bruce Power site. Residential property values in the more rural areas of Kincardine on the other hand continued to increase over this period as these properties were largely associated with farm properties, but experienced a sharp decline in recent years due to poor prospects in the agricultural sector [1846]. Data also indicates that average housing prices in Tiverton and Port Elgin have recovered and exceed those prior to the lay-up decision, while average housing prices in Kincardine have remained low.

In 2001, the announcement by Bruce Power that it intended to restart two units of the Bruce A has resulted in increased confidence in the local housing market. Interviews with local realtors indicate that residential housing prices have increased between 15% to 20% over the first few months of 2001 [1846]. Data from the Grey-Bruce Owen Sound Real Estate Board confirm that as of May, 2001 average prices across the Municipality of Kincardine have fully recovered (i.e. increased to previous levels) and are at approximately $103,000 per unit [1567].

Table 5-16. Numbers of Sales and Average Residential Property Values (1996 to 2000)

Community	1996		1997		1998		1999		2000	
	#	$	#	$	#	$	#	$	#	$
Kincardine	134	101,880	89	101,684	102	94,637	189	99,257	151	90,100
Tiverton	10	75,250	4	79,000	7	72,971	10	78,375	12	87,950
Rural Kincardine	16	99,556	15	106,433	15	106,106	17	119,117	12	88,541
Port Elgin	111	94,376	85	99,682	88	106,034	180	98,216	113	118,966
Area Wide	271	97,686	193	100,701	212	99,464	396	99,109	288	100,271

Source: [1668]

5.2.2 Municipal Services

5.2.2.1 Water Supply

The communities of Kincardine, Port Elgin and Southhampton are supplied by three Water Supply Plants (WSP) which obtain their water from Lake Huron. The Kincardine WSP is located 15 km SSW of the Bruce B station. The Port Elgin WSP is located 17 km NE of Bruce A. It is a conventions treatment facility that has a rated capacity of 8700 m3/day and serves a population of approximately 7,000. The Southhampton WSP is located 22 km NE of Bruce A. The plant has a rated capacity of 9,500 m3/day and serves a population of approximately 3,100. An additional surface water intake is located 13.5 km NE of Bruce A and provides water to MacGregor Point Provincial Park. More information regarding these facilities is provided in the Surface Water Resources Technical Support Document.

5.2.2.2 Sewage

The Municipality of Kincardine operates one water pollution control plant (WPCP). The plant serves a population of approximately 8,500 and handles an average daily flow of 3,493 m3/day. Final effluent disinfection is provided by chlorine. The Port Elgin WPCP serves a population of approximately 7,000 and handles an average daily flow of 3,637 m^3/day. Final effluent disinfection is provided by chlorine. The Southhampton WPCP serves a population of approximately 3,100 and handles an average daily flow of 1,425 m^3/day. Final effluent disinfection is provided by ultraviolet radiation. In addition to these municipal water pollution control plants, the Bruce Energy Centre has its own facility that has an average design flow of 2,200 m^3/day with flow aerated lagoons. The BEC water pollution control plant discharges its treated effluent through the Bruce B discharge channel [1190].

5.2.2.3 Conventional Solid Waste Management

The Municipality of Kincardine operates a 9 hectares solid non-hazardous waste landfill site on Valentine Avenue, just outside of the urban area of the community, of which approximately 4 hectares is currently being used for active landfilling operations. It is estimated that this landfill site has between 7 and 12 years of capacity beyond 2001, allowing operations to continue to sometime between 2008 and 2013 [1553, 1555]. A second landfill site is located on Lot 17, Concession 2 in the former Township of Bruce. This site services the community of Tiverton and surrounding rural areas. In 2000, the possible life of the entire site was estimated to be 38 years, while the life of the currently excavated trenches is approximately 5 years [1554].

In 1998, all operations on the Bruce Power site generated 1,781 tonnes of solid non-radioactive waste that required disposal at the conventional waste landfill at the Bruce Power site [1576]. During 1999 and

2000, approximately 800 and 750 tonnes of solid non-radioactive waste required disposal at the landfill respectively [1669, 1670]. Between 1998 and 2000, the proportion of this volume that can be attributed to Bruce A is considered to be relatively small given that only 250 employees out of a total of 3,100 employees at the Bruce Power site were directly associated with Bruce A during the lay-up period. Available data indicates that approximately 950 tonnes of materials are recycled from across the Bruce Power site on an annual basis [1576].

5.3 Community Services

5.3.1 Community and Recreational Facilities / Resource Use

Community and recreational facilities (i.e. parks, trails, schools, places of worship, etc.) nearest Bruce A play an important role in maintaining community cohesion and the satisfaction of residents with their community by providing space for individuals and groups to participate in and contribute to community life. Many of these features also play an important role in attracting tourists to the area and generate local business activity.

5.3.1.1 Community and Recreational Facilities

Telephone interviews were conducted with a number of community and recreational facility operators (i.e. airport, arena, and community centres) located in the Municipality of Kincardine and the regional study area to obtain there perspectives regarding the influence of current operations at the Bruce Power site on their facilities. The results of these interviews are provided in Appendix C.

Most community facilities serve local residents, but some also attract others from across southern Ontario. All of the facilities are used by the community for a variety of social and recreational activities throughout the year. Outdoor activities are conducted at most community facilities that may be sensitive to changes in environmental quality. These activities include:

a) organized sporting activities, sailing and other active recreational activities such as swimming;

b) unorganized play / playground activities and picnics;

c) passive recreational activities such as walking; and

d) recreational flying.

All of the facility operators interviewed indicated that they have made plans for expansions or renovation, and report a positive influence on their operations due to the presence of the stations, largely due to the anticipated population and employment stability. Further details regarding comments offered by facility operators are provided in Appendix C.

The Davidson Community Centre in Kincardine and the Port Elgin Arena have been designated by Emergency Measures Ontario as the primary reception centre in the event of an off-site evacuation. The Underwood Community Centre, the Tiverton Community Centre and the Port Elgin Curling Club are the locations identified for Field Headquarters for monitoring purposes.

As part of this EA, interviews were also conducted with selected social and community organizations, and a naturalist group that operate in the local community. Members of these organizations are primarily from Bruce County. The representatives from these organizations indicated that operations at the Bruce Power site have had no effect on their ongoing operations, with the exception of the naturalist group which indicated that site security interfere with their nature viewing in the areas closest to the station due to access restrictions.

5.3.1.2 Fishing and Boating

Subsection 5.1.3.5 described the marinas and boat charters in the Regional and Local Study Areas. A recreational fishing survey published by the Department of Fisheries and Oceans [1579] indicates that a wide variety of fish are targeted or caught by recreational anglers. The most popular fish species caught by recreational anglers on Lake Huron are smelt, perch and smallmouth bass and pike which account for approximately 74% of all fish caught. Approximately half of the fish caught on Lake Huron are kept, while others are released.

Although, marinas and fishing charter businesses and the proximity of Kincardine to Lake Huron offer recreational opportunities for local residents and tourists alike, the data in Table 5-17 indicates that few residents in the Local Study Area go fishing and boating near the Bruce A and B stations on a regular basis. The vast majority of residents either never go fishing or boating near the Bruce Power site or undertake this activity only occasionally. A recent tourism study also indicated that fishing is not a common activity among cottagers [1543]. As such, these are not considered to be important recreational activities undertaken by local residents. Rather, these activities appear to be conducted more by outside tourists, particularly campers in the area.

Table 5-17. Frequency of Fishing and Boating by Local Residents

Frequency	Local Study Area (%)
Regularly	12
Occasionally	25
Never	63

Source: [1635]

This conclusion is supported by the spring-summer 2001 Bruce A boat count survey, which indicated that the Bruce Power site (both Bruce A and B) was not the focus of nearshore fishing activity. Refer to the Aquatic Environment Technical Support Document for more information.

5.3.1.3 Parks, Beaches and Recreational Trails

Two provincial parks are located near the Bruce Power site, Inverhuron and MacGregor Provincial Parks. Inverhuron Provincial Park is located immediately adjacent to the Bruce Power site along the shoreline of Lake Huron, and approximately 3.2 km south of Bruce A. MacGregor Point Provincial Park is located along the shoreline of Lake Huron, approximately 15 km north the Bruce A.

Inverhuron Provincial Park is 288 ha in size and has been in operation since 1959. It is classified as a Natural Environment Park. Due to the construction of a heavy water plant in 1973 the park operated as a day use facility only. At that time, the owner of the Bruce site, Ontario Hydro, signed a 999-year lease with the Ontario Ministry of Natural Resources. As a condition of the operating license for Bruce B, a 914 m radius exclusion zone exists at the northwest corner of the park. For the purposes of public safety, a fence and gate exists as a means to prevent public access into this area. In 1998, the park's management plan was amended to allow expanded public access, extended hours of operation and four season operation, and the reintroduction of overnight camping [1551]. Table 5-18 provides historic visitation data for Inverhuron Provincial Park. These data indicates that park visitation has varied from approximately 23,000 visitors per year in 1992 to approximately 44,000 visitors per year in 1994.

Table 5-18. Visitation at Inverhuron Provincial Park

Year	Day-use Visitors
1992	22,920
1993	34,494
1994	43,817
1995	39,755
1996	32,167
1997	28,818
1998	34,239
1999	32,886
2000	26,782

Source: [1671]

Most recently, Ontario Parks has proposed that Inverhuron Provincial Park be converted from a day-use only park to a facility based campground with a minimum of 250 camping sites. This plan will likely result in an increased visitation from between 27,000 and 34,00 visitors per year to 100,000 visitors [1551].

MacGregor Provincial Park is a 1,204 hectare Recreational Park, initially developed to replace the overnight campsites at the Inverhuron Park. It currently offers over 400 campsites. The park is a four-season operation offering a unique winter camping experience in Yurts [1552]. Table 5-19 provides historic visitation data for MacGregor Point Provincial Park. These data indicates that park visitation has increased from approximately 69,000 visitors per year in 1992 to approximately 118,000 visitors per year in 2000, with peak visitation at 121,691 visitors in 1998. Occupancy rates and average party size in the park have grown steadily over the past several years. Occupancy at MacGregor Provincial Park currently averages 81% and the average party size is approximately four persons.

Table 5-19. Visitation and MacGregor Point Provincial Park

Year	Visitors	Average Party Size	Occupancy (%)
1992	68,851	3.2	54
1993	87,974	3.2	63
1994	89,467	3.2	71
1995	106,443	3.6	77
1996	105,080	3.6	78
1997	105,240	3.6	79
1998	121,691	4.3	83
1999	116,672	4.3	81
2000	117,767	4.3	81

Source [1671]

There are a number of promoted and signed trail systems throughout the study area that are available to visitor and local residents, these include: canoe/kayak routes, cycling and hiking trails, snowmobiling and cross-country ski trails. For example, there are over 360 km of snowmobiling trails that connect the communities of Kincardine, Tiverton, Southampton/Port Elgin, Sauble Beach, and Paisley. The provincial parks and the Kincardine Boardwalk are used extensively for hiking [1543].

These provincial parks and recreational trails are not only important tourist features, but also important recreational features for local residents offering good access to the Lake Huron shoreline. Table 5-20 indicates that the majority of residents in the local study area either regularly or occasionally use these parks and recreational trails. As such, these parks and trails represent important features to the local communities.

Table 5-20. Frequency of Use of Provincial Parks and Recreational Trails by Local Residents

Frequency	Local Study Area (%)
Regularly	22
Occasionally	38
Never	39

Source: [1635]

5.3.1.4 Birdwatching and Nature Viewing

The natural beauty of the Lake Huron shoreline is a major attraction for both residents and tourists. The two provincial parks, local beaches, the Brucedale Conservation Area and other hiking and cross-country ski trails provide access to the shoreline and wooded areas for nature enthusiasts. Inverhuron Provincial Park located 3.2 km south of Bruce A, the wooded areas surrounding the Bruce Power site and Baie du Doré, located immediately north of Bruce A are popular locations for birdwatching and nature viewing. The Baie du Doré wetland is designated as a Provincially Significant Wetland and supports a wide diversity of plant species, and is used by deer and waterfowl. Both provincially rare plant species and provincially endangered birds and reptiles (e.g., bald eagles, spotted turtles) have been observed at this location. There are also several other environmentally significant areas in the vicinity of the Bruce Power site. Refer to the Terrestrial Environment Technical Support Document for more information regarding the natural heritage values in the study areas.

Table 5-21 indicates that the majority of residents in the local study area either regularly or occasionally use the lands and waters in the vicinity of the Bruce Power site for birdwatching or nature viewing. As such, these opportunities represent important features to the local communities.

Table 5-21. Frequency of Birdwatching or Nature Viewing by Local Residents

Frequency	Local Study Area (%)
Regularly	30
Occasionally	33
Never	34

Source: [1635]

5.3.2 Educational Facilities

The Municipality of Kincardine is served by two publicly funded educational systems. Within the Municipality of Kincardine, the Bluewater District School Board operates 50 public elementary schools and 11 secondary schools. The Bruce-Grey Catholic District School Board serves the Municipality of Kincardine with one elementary school.

Operators or administrators at seven of the educational facilities in the Municipality of Kincardine and the community of Port Elgin were interviewed as part of this EA. All of the schools are used by the community for a variety of social and recreational activities throughout the year. Most of the schools that were interviewed reported having an ongoing relationship with OPGI and now with Bruce Power. The two secondary schools interviewed participate in the co-operative education programs at the station. None of the school administrators interviewed identified any direct adverse influence on their daily operations due to the presence of stations at the Bruce Power site. A summary of responses to these interviews is provided in Appendix C.

5.3.3 Health and Safety Facilities and Services

The Bruce Power site is served by its own internal emergency, medical aid and fire prevention facilities. In addition, a comprehensive on- and off-site emergency response plan is in place. The Canadian Nuclear Safety Commission approves security at the site. Response teams are in place and are trained and equipped to respond to potential emergencies such as fire or non-routine releases of radioactivity. The municipal fire department, the Regional Medical Officer of Health and Kincardine's health and safety service providers work co-operatively with Bruce Power to ensure that additional support and response capability is in place.

5.3.3.1 Health Care Services

The South Bruce Grey Health Services Corporation provides health care services in the Municipality of Kincardine and vicinity. It operates four health care centres in Kincardine (44 beds), Chesley (19 beds),

Durham (29 beds) and Walkerton (49 beds). The Kincardine Health Centre provides a wide range of health care services, diagnostic equipment, include emergency/acute care. It serves a population of approximately 15,000 people. The communities of Port Elgin and Southhampton are served by the hospital in Southhampton (21 beds) providing a wide range of health care services, laboratory/diagnostic equipment, include emergency/acute care. This hospital is part of the Grey-Bruce Health Services Corporation.

The Kincardine Health Centre contains a dedicated area for 'decontamination' that has been constructed as negative pressure area and is stocked with washing and initial treatment equipment in the event of potential radiological exposure to Bruce Power and OPGI staff and/or the public. The decontamination room is intended to prepare patients for further treatment at the centre or elsewhere. There are no major operating costs associated with this facility. Staff at the hospital are trained in emergency procedures involving chemical or radiological exposures and take part in emergency preparedness exercises in co-operation with Bruce Power approximately every two years. There have not been any cases over the past 10 years where this decontamination facility was used. There have been no reports of any complaints or health issues directly related to operations at the Bruce Power site [1566].

The Kincardine Health Centre has planned a $15M expansion of their facility. Improvements envisaged include renovation and/or replacement of older buildings and expansion of laboratory/diagnostics area and the development of a medical clinic. The plans are being co-ordinated by a local planning committee comprised of health care professionals, administrators and local community members [1566].

5.3.3.2 Police Services

The Bruce Power site maintains its own security but is assisted in its duties by the Ontario Provincial Police (OPP) on an as required basis. The South Bruce Detachment of the OPP provides policing services in the Kincardine area, including general law enforcement (minor traffic offences to major crime investigations) under Provincial and Federal Statutes. The South Bruce Detachment polices an area north to Tara, south to Amberlea, east to Whitechurch/Mildmay. At present, the South Bruce Detachment has 48 officers in total, 13 of which are dedicated to the Local Study Area. There are 15 cruisers across two detachments.

The OPP has a liaison officer who participates in the development and maintenance of emergency preparedness plans and the OPP detachment takes part in exercises approximately once every two years. The OPP will support Bruce Power security staff when requested, however these requests have been infrequent in the past. Interviews [1664] indicate that calls related to the Bruce Power site do not take much of the time of the detachment, and mainly to deal with traffic and car/deer collisions. However, in light of the events of September 11, 2001, Bruce Power has initiated discussions with the OPP regarding a greater on-site presence to provide additional security (if required) for all operations at the Bruce Power site.

5.3.3.3 Fire Protection Services

There are three fire stations that service the Local Study Area: Tiverton (25 volunteer staff); Kincardine (22 staff) and Paisley (21 staff). These stations are well equipped to service local community needs and those at the Bruce Power site (if required). The specialized facilities that are currently available to service the Bruce site include a satellite portable dosimetry station at Tiverton, an emergency worker decontamination centre, and traffic control centre (operated by the OPP) located at the Kincardine Fire Hall. The Tiverton and Kincardine fire departments are responsible for setting up road signs in the event of an emergency. The local fire department is supported by the Saugeen Shores Fire Department as required. The Kincardine Fire Department sets up a Municipal Operations Centre at the Public Utilities Commission building and an Information Centre (for media) at the Legion Hall. There are no plans for facility expansions [1845].

Bruce Power works co-operatively with the local fire departments and conducts annual tours and drills. It is estimated that about three-quarters of the Tiverton Volunteer Fire Department are Bruce Power employees and very familiar with radiation protection procedures and on-site facilities. Radiation dosimetery badges and a security escort is provided to off-site mutual aid responders immediately upon their arrival. It is estimated that the Municipal Fire Department can be on-site and engaged in the event within 30 minutes from the time an emergency call is made. The municipal fire department has never been required to respond to a real emergency at the Bruce Power site to date [1845].

5.3.3.4 Other Services

To maintain safe driving conditions, roads to the Bruce Power site from Highway 21 are plowed and maintained by the Town of Kincardine Public Works Department and Bruce County crews. On-site snow removal service at to Bruce A is provided by site personnel and an on-site snowplow.

5.4 Residents and Communities

For the purposes of the following section, much of the data regarding people's attitudes towards and perceptions of their community including, levels of satisfaction with the community as a place to live, major community issues, and key attributes of living in the area is based on data from public attitude research.

5.4.1 Community Character

Community character refers to the unique or distinctive qualities of a community. These qualities can be physical in nature (i.e. land uses, geographic/environmental features); economic (i.e. types of business activities), and socio-cultural (i.e. population characteristics, ways of life, etc.).

Residents across the Local and Regional Study Areas were asked to identify the most distinctive things or features in their community, and to identify both positive and negative things about their community. As noted in Table 5-22, the attributes that appear to contribute the most to community character or "image" across the regional study area are Lake Huron and the rivers, harbours and peninsula (29%). County wide, the friendly atmosphere of their communities is also considered a distinctive characteristic for 18% of the respondents. Respondents in the Port Elgin area are most likely to name the beaches as a distinctive characteristic of their community.

Approximately 43% of Kincardine respondents also name Lake Huron, rivers, harbours and the peninsula. Part of the reason for these strong associations with the Lake is Kincardine's strong marine heritage, supported by the presence of the Kincardine Lighthouse museum. This marine heritage still dominates the local character with the many fishing charters offered from Kincardine's harbour. The local marina has recently doubled its number of slips to 154 in order to accommodate summer demand.

Clearly, all of the communities across the Regional Study Area, including the Municipality of Kincardine consider the natural beauty of the area; its focus on tourism; its rural and friendly small town atmosphere as the features that define the character of their communities. In Kincardine, however, a high percentage of respondents (33%) name the Scottish heritage of their community. This heritage is visible in the downtown shops and most evident on Saturday nights in the summer with the Pipe Band Parades on Main Street and the Phantom Piper who pipes down the sunset from the Kincardine Lighthouse.

Within the Municipality of Kincardine, there exist a number of smaller communities. Of these, the community of Inverhuron has the most distinctive character in comparison to the others. It is a cottage area with several hundred dwellings, which are not serviced by municipal water or sewage system. Some of these units are seasonal, while others have been converted to year-round use. There is also a mobile home park. Other local features include a parkette, boat launch and a local grocery and gas station nearby. Because of its proximity to Inverhuron Beach, this area is popular among local artisans, retirees and people from across Ontario and the United States. The closed out heavy water plant towers, a communication tower and a smokestack on the Bruce Power site are visible from Inverhuron Beach. Public attitude research indicates that attitudes of cottage owners in Kincardine towards their community are not significantly different from other respondents, although they are more likely to name the lake as the most important feature in their community, than other homeowners in Kincardine.

Overall, only 2% of respondents across Bruce County and 7% of respondents from Kincardine name the nuclear stations at the Bruce Power site as things or features that give their community its distinctive character or "image". These data indicate that the nuclear stations at the Bruce Power site, including Bruce A, are not features that define community character in the study areas.

Table 5-22. Most Distinctive Features that Contribute to Community Character or "Image"

Responses	Local Study Area	Regional Study Area
	%	%
Lake Huron/rivers/peninsula/harbour	43	29
Friendly atmosphere/people/community	16	18
Beauty of nature/landscape/change of seasons	11	17
Beaches/beach resort/shoreline	11	14
Quaint town/ small	9	12
Tourism/attractions/historic sites	17	12
Quiet/peaceful	3	8
Scottish heritage/influence/culture	33	7
Farming community/rural area	3	5
Environment – clean air/water	2	3
Location	3	3
Nuclear power plant	7	2
Safe/low crime rate	1	1
Other	1	4
Don't know	4	10

Source: [1635]

The demographic characteristics of residents, including their length of residency, are useful indicators of community character. Experience indicates that the longer people have lived in their communities the more likely they are to express satisfaction with their property, homes and community. Previous data regarding the population characteristics of Kincardine, and data regarding the length of residency presented in Table 5-23 support the characterization of this area as a well established, stable and cohesive community. The local population is aging and almost 61% of respondents have lived at their present address for 21 years or more.

Table 5-23. Length of Residency (Years at Present Address)

Category	Local Study Area (%)
Less than one year	1.7
2 to 10 years	12.6
11 to 20 years	24.9
21 or more years	60.9

Source: [1635]

5.4.2 Use and Enjoyment of Property

Residents' use and enjoyment of property is related to the presence of some form of physical disturbance (i.e. aesthetics, excessive noise, dust, debris, traffic) and the attributes or features of their communities that people either like or dislike.

The things that people like the most about living in their communities are considered to be those features or attributes that contribute positively to people's use and enjoyment of their property and their overall satisfaction with community. In terms of what people most like about living in their communities, the peace and quiet of their community tops (21%), followed by the slow pace and less hectic lifestyle (12%) are seen as the attributes most valued by residents across the regional study area. Respondents in Kincardine value the same attributes of their community, but are more likely than the average to mention the beach and lake (17%) as things they like the most about living there.

Table 5-24. Most Liked Community Features

Response	Local Study Area	Regional Study Area
	%	%
Peaceful/quiet	16	21
Slow pace/not as hectic as city	14	12
Good sense of community	11	10
The beach/lake	17	10
Wide-open space/not crowded	6	8
Friendly people	11	9
Beautiful countryside	6	7
Clean air/water/good environment	5	5
Safe/lack of crime	3	4
Everything/best of both worlds	1	2
Good distance from major centres	2	2
Good services for a rural area	2	2
Other	3	3
Don't know	3	3

Source: [1635]

The things that people most dislike about living in their communities are considered to be those features or attributes that most adversely affect people's use and enjoyment of their property and their overall satisfaction with community. In terms of what people most dislike about living in their communities, the largest responses to this question was 'nothing' (13% Bruce County and 7% Kincardine) and 'don't know' (19% Bruce County and 18% Kincardine). In Kincardine, the local weather conditions (20%), accessibility to shopping (11%) and services (8%), and accessibility to a major city (7%) are the most disliked features of Kincardine.

County wide, only 1% of respondents identified the nuclear stations as things that they like least about living in their community; and only 3% in Kincardine identified the nuclear stations as a negative attribute of their community. Clearly, the nuclear facilities at the Bruce Power site do not to play a dominant role in people's views regarding their community.

Table 5-25. Most Disliked Community Features

Response	Local Study Area	Regional Study Area
	%	%
Weather conditions/long, cold winter	20	12
Too far from city/major centres	7	10
Lack of shopping/no major stores	11	8
Government service	8	6
Lack of cultural entertainment/ theatre/ library	6	6
Isolation	3	4
Tourism/high costs	3	4
Water levels/quality	1	4
Lack of adequate health care services	4	3
Lack of jobs/poor local economy	3	3
Small town gossip	1	2
Crime	1	1
Living close to the power plant	3	1
Smell of pig farms/manure	*	1
Decline of the farming community	1	*
Other	3	4
Nothing	7	13
Don't know	18	19

Source: [1635]

5.4.3 Personal Security

To examine the key determinants of people's feelings of personal security it was hypothesized that the simple fact that Bruce A is a nuclear facility could makes it an important issue for local residents. Respondents were asked to name the most important issue facing their home or cottage community. As noted in Table 5-27, only 2% of the respondents identify the nuclear generating stations as an important issue facing their community. Most of these respondents are in Kincardine wherein 8% name the stations. Respondents were also asked to describe "what things or issues in this community affect your sense of health, safety or personal security the most." As noted in Table 5-27, across Bruce County, only 5% of respondents name the nuclear generating stations, while 17% of Kincardine respondents name the nuclear stations as things or issues that affect their sense of health, safety or personal security.

The results of the research show that, the presence of the nuclear stations is an important issue to Kincardine residents, but it is not the dominant one. Typical verbatim comments by Kincardine respondents who named the nuclear station as an issue affecting their sense of health, safety and personal security expressed concerns about their personal health, safety of the facility (e.g., the potential for nuclear accidents), concerns over long term storage of nuclear waste on-site, and the role of the station in the local economy [1635].

Nevertheless, water quality and health care are the dominant health, safety and personal security issues. As might be expected given earlier findings, Brockton (i.e. Walkerton, Ontario) respondents (42%) followed by South Bruce (33%) and South Bruce Peninsula (30%) respondents are more likely to name water issues. Respondents from the Port Elgin area (38%) are more likely to name health care issues. The importance of water quality as an issue across Bruce County is largely related to the health crisis in Walkerton, Ontario and the reliance on many communities on groundwater as their source of drinking water.

Table 5-26. Most Important Community Issues

Response	Local Study Area	Regional Study Area
	%	%
Water quality/level	13	26
Health care, doctor shortages/quality of health care	14	12
Economic issues	20	11
Amalgamation/local government	13	9
Farming/factory/nutrient management	9	7
Inadequate services – roads, activities, sewers, emergency	6	7
High taxes/less service	6	7
Environment/air pollution	4	5
Lack of schools/quality education	3	5
Cost of drinking water/hydro/other	2	4
No complaints/positive feedback	3	4
Community safety/crime – alcoholism	2	2
Safety of nuclear plant	8	2
Other	3	2
Don't know	20	19

Source: [1635]

Table 5-27. Community Issues that Affect Respondents' Sense of Health, Safety or Personal Security

Response	Local Study Area	Regional Study Area
	%	%
Water quality	12	22
Health care	22	18
Environment/air quality	8	6
Lack of emergency service – police	6	5
Bruce nuclear plant/hydro plant	17	5
Crime/vandalism/youth hanging around	5	5
Regulating farming/nutrient management	6	4
Government services/taxes/education	3	3
Poor local economy/lack of job security	1	1
Other	4	6
Nothing/no threat	7	11
Don't know	27	27

Source: [1635]

Reinforcing the conclusion that the operations on the Bruce Power site are not dominant issues within the Local Study Area from a health, safety or personal security perspective, survey results also indicate that their presence does not tend to dominate the people's thoughts on a daily basis. In terms of residents' awareness, the majority of respondents, approximately 73% either "never" think about the fact that they live near the Bruce Power site or they think about it "not very often." The question regarding residents' awareness of the Bruce Power stations was limited to the Local Study Area sample.

Table 5-28. Awareness of the Bruce Stations

Category	Local Study Area (%)
Very often	16
Often	11
Not very often	44
Never	29

Source: [1635]

Approximately 37% of Kincardine respondents indicate that a member of their household is employed by Bruce Power. As could be anticipated, these respondents think about the station more frequently than others. Respondents who are younger, and those with a higher household income think of the stations more frequently than the average.

5.4.4 Satisfaction with Community

All aspects of neighbourhood and community life will determine whether a resident is satisfied or dissatisfied with their neighbourhood or community. Previously, Tables 5-24 and 5-25 identified the attributes that people liked or disliked most in their community. These data indicate that Lake Huron, rivers and harbours, and the small town lifestyle are seen as the most positive thing about that contribute to its image or community character. Approximately 25% of survey respondents could not identify a single attribute of their communities that they disliked.

The nuclear operations at the Bruce Power site are not significant issues to the residents of Kincardine and do not appear to affect people's sense of satisfaction with their community as a place to live. As shown in Table 5-26, when survey respondents were asked to name the most important issue facing their community, only 8% identified the nuclear generating stations as an important issue facing their community. Rather, other issues dominate the local public agenda.

Bruce Power plays a role in community life through its corporate donations and sponsorship program, and the volunteer work and participation of its employees in a wide range of community activities and events. These donations and sponsorships support community cohesiveness and contribute to residents' satisfaction with their community. Recent examples [1666] of Bruce Power's sponsorships include donations towards:

a) educational programs at local schools (e.g., Kincardine Township Tiverton Public School, Ripley Huron Public School);

b) health care programs (e.g., Grey Bruce Alcohol and Drug prevention, Cops for Cancer, Bruce County Women's House);

c) community support programs (e.g., The United Way, Grey-Bruce Parenting Support Project, Big Brothers/Big Sisters of Kincardine);

d) sports programs (e.g., minor soccer clubs, golf tournaments, hockey teams); and

e) other community activities such as the Kincardine Scottish Festival.

The results of the survey of residents' level of satisfaction with their community are provided in Table 5-29. The level of satisfaction with Kincardine is high, where 98% of survey respondents indicated that they were either 'very satisfied' or 'somewhat satisfied'; the question regarding satisfaction with community was limited to the Local Study Area sample.

Table 5-29. Levels of Satisfaction with Community

Level of Satisfaction	Local Study Area (%)
Very Satisfied	78
Somewhat Satisfied	20
Not Very Satisfied	1
Not at all Satisfied	1

Source: [1635]

5.5 Selection of Important Socio-Economic Factors

Important socio-economic factors are those resources or features that are valued because of their uniqueness or importance in maintaining the economic base, levels of service, social structure and/or community stability and those that have been identified by community members as important to them. Based on the preceding description of existing socio-economic conditions and consultation with the community, the factors identified in Table 5-30 are considered to be important.

Table 5-30. Important Socio-Economic Factors

Important Socio-Economic Factors	Potential Receptors of Concern	Rationale
Population and Economic Base		
Population	• Municipality of Kincardine • Bruce County	Local municipalities require a stable or growing population to maintain and/or improve the social and economic well being of their constituents. The Bruce A Restart Project requires both a construction and operations work force that will contribute to current and future population levels.
Employment	• Employees • Employees at Local and Regional Businesses dependent on Bruce A related expenditures and household spending	The Bruce A Restart Project will generate both short-term construction jobs as well as longer-term operations jobs that will contribute to the local economy. Facility spending will also contribute to indirect and induced employment.
Business Activity and Tourism	• Local Industrial and Commercial Businesses • Local Tourist related businesses • Major suppliers of equipment items	The economic base in the study areas may be influenced by changes in Bruce A associated expenditures. Specialized businesses supplying equipment items might be susceptible to changes in the expenditures caused by the project. Tourism related businesses might also be affected if changes in community image occur from the Bruce A Restart Project.
Economic Development	• Municipality of Kincardine • Bruce County	Changes in employment and business activity influence the way a community or region is perceived. Consequently, such changes may indirectly affect the economic development of municipalities. The Bruce A Restart Project may serve to advance or hinder local economic development goals.

Table 5-30. Important Socio-Economic Factors

Important Socio-Economic Factors	Potential Receptors of Concern	Rationale
Community Infrastructure		
Housing and Property Values	• Municipality of Kincardine • Property owners	Changes in the availability and quality of housing and the value of property will directly affect existing and prospective property owners, the economic base and stability of the community. Changes in property values may not be attributable solely to the Bruce A Restart Project, but may also be influenced by the Bruce Power site operations as a whole.
Municipal Infrastructure and Services	• Service Users • Service Providers / Facility Operators	People living and working in the Municipality of Kincardine and areas in the vicinity of the Bruce Power site rely on the availability and quality of municipal services and infrastructure to maintain their health and safety.
Community Services		
Recreational and Community Features/ Resource Use	• Service Users • Service Providers / Facility Operators • Users of parks and trails in the vicinity of Bruce A	People living in, working in or visiting the study areas rely on the availability and quality of recreational and other community facilities to conduct their activities and participate in community life. Areas nearest the Bruce Power site are popular locations for passive and active recreational use which may be directly affected by the project or by changes in the use of recreational and community features in close proximity to Bruce A.
Educational Facilities	• Service / Resource Users • Service Providers / Facility Operators	People living in the study areas rely on the availability and quality of schools and other educational facilities.
Health and Safety Facilities and Services	• Service / Resource Users • Service Providers / Facility Operators	People living in, working in or visiting the study areas rely on the availability and quality of health and safety services and facilities to maintain their health, safety and well being. The work force associated with the Bruce A Restart Project may cause changes to the availability, quality and use of these facilities and services.
Residents and Communities		
Community Character	• Residents, Groups and Organizations • Municipality of Kincardine	The distinctive and unique qualities of the community (e.g., existing land uses, population levels, structure and distribution, community cohesion, economic base) give a community its character or image among residents and visitors. If the Bruce A Restart Project is perceived by local residents as major influence on the community's image, it may influence the attractiveness of the community as a place to live. It should be noted that these changes may also be influenced by the Bruce Power site as a whole and the nature of other current and future development near Bruce A.
Use and Enjoyment of Property	• Residents	Residents rely on their homes and property for a variety of indoor and outdoor social activities. Their use and enjoyment of property are major determinants of their overall satisfaction with community. The Bruce A Restart Project may create noise, dust and other emissions (e.g., radioactivity) which may be perceived by local residents as a threat to their use and enjoyment of property. It should be noted that these changes may also be influenced by the Bruce Power site as a whole and the nature of other current and future development near Bruce A.

Table 5-30. Important Socio-Economic Factors

Important Socio-Economic Factors	Potential Receptors of Concern	Rationale
Personal Security	• Residents	Residents feelings of personal security are major determinants of their overall satisfaction with community. The Bruce A Restart Project may be perceived by local residents as a threat to their sense of personal security. Conversely, the prospects of ongoing and/or future employment, business activity and income as a result of the project may serve to increase people's feelings of personal security. It should be noted that these changes may also be influenced by the Bruce Power site as a whole and the nature of other current and future development near Bruce A.
Community Satisfaction	• Residents	Observable and perceived changes in community character, use and enjoyment of property and feelings of personal security may affect an individual's satisfaction with their community as a place to live, their behaviour and activities which in turn may affect the social structure and community stability. It should be noted that these changes may also be influenced by the Bruce Power site as a whole and the nature of other current and future development near Bruce A.

6. Assessment of Likely Effects

This section describes the likely environmental effects, mitigation and residual effects on socio-economic conditions (following mitigation) that could reasonably be expected as a result of the restart of Bruce A. The analytical tools or methods that were relied upon for this assessment have been described previously, and included: secondary source data review/analysis; economic modelling; public attitude research, including personal and telephone interviews.

6.1 Evaluation Criteria

Table 6.1 lists the specific criteria that were used in the evaluation of effects on socio-economic conditions.

Table 6-1. Criteria Used in Evaluation of Effects on Socio-Economic Conditions

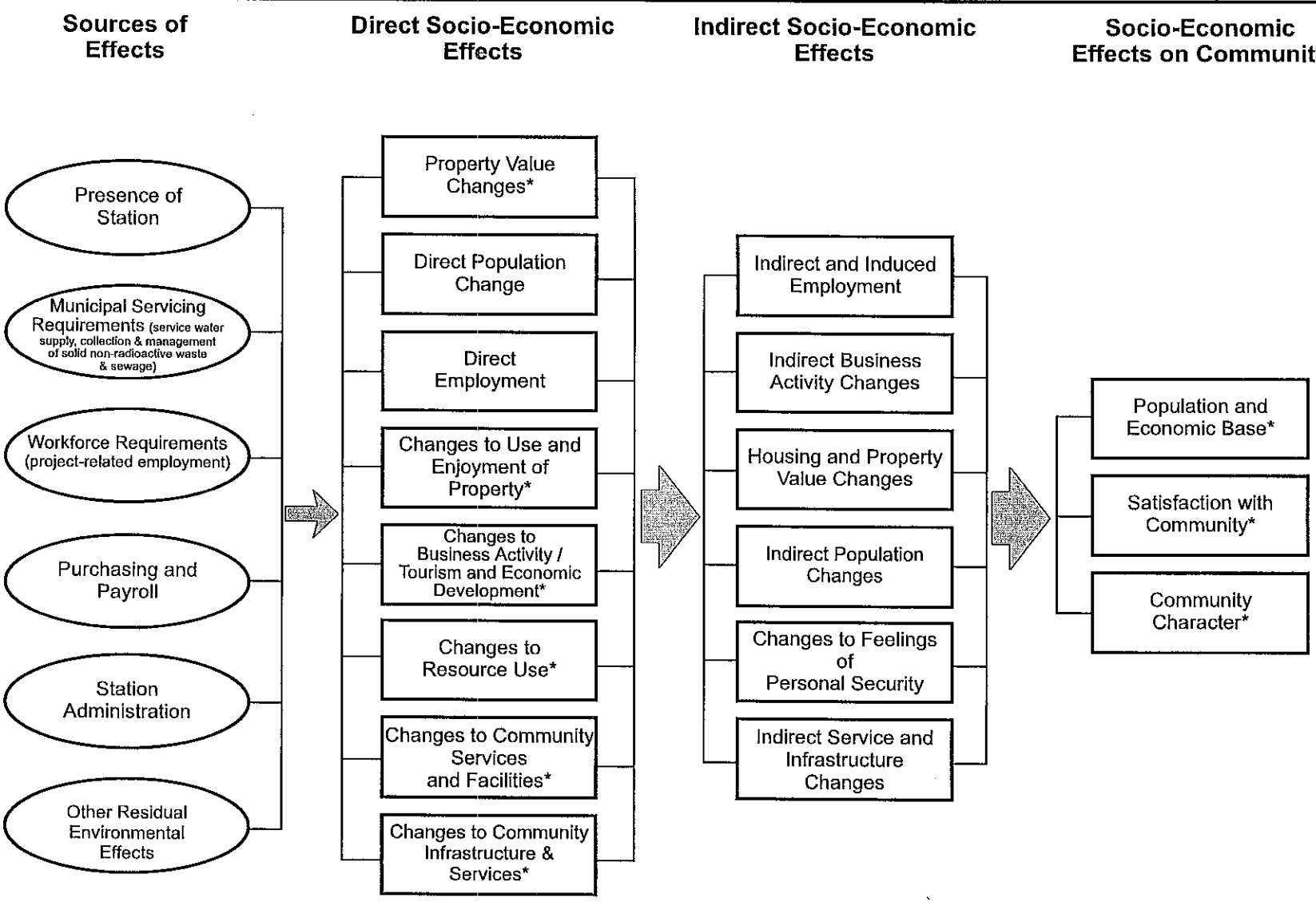
Broad Factors	Evaluation Criteria
Population and Economic Base	• Total values and likelihood of any measurable incremental increase over baseline population, employment; industrial and commercial assessment associated with Bruce-A • Percentage of municipal averages • Self assessment by municipal officials and others potentially affected • Professional Judgment
Community Infrastructure	• Total values and likelihood of any measurable incremental increase over baseline housing stock levels associated with the facility • Percentage of municipal averages • Relative performance in housing prices in selected municipalities • Self assessment by municipal officials and others potentially affected • Magnitude of changes relative to baseline • Professional Judgment
Community Services	• Magnitude of changes relative to baseline and public attitude research confidence limits. • Self assessment by municipal officials and others potentially affected • Professional Judgment
Residents and Communities	• Magnitude of changes relative to baseline and public attitude research confidence limits. • Self assessment by those potentially affected • Professional Judgment

6.1.1 Linkages of Project Interactions and the Environment

Linkages between the socio-economic conditions and other components of the environment result from a complex set of interactions between the project and local communities, environmental changes caused by the project, and how people respond to, or change their behaviour due to the project. These interactions are illustrated in Figure 6-1.

Linkages Between Project and Socio-Economic Conditions

Figure 6-1



* Potential effects resulting from environmental change.

(2001\328\Linkages)

As required by the *Canadian Environmental Assessment Act*, the socio-economic effects resulting from changes in the environment must be assessed. These changes in the environment include a number of nuisance effects and emissions to the air (e.g., hydrazine), radioactive emissions and their resultant changes in environmental quality and resources. If residents change their behaviours in response to, or anticipation of the project, there is a likelihood that some change will occur in the existing socio-economic conditions.

The effects of changes in the environment on population and economic base (environmental quality related or tourism related businesses); community services (community and recreational facilities/resource use, educational facilities, health and safety facilities and services); and, residents and communities (i.e. community character, use and enjoyment of property, personal security, community satisfaction) are therefore considered. These changes are identified by an asterisk (*) on Figure 6-1.

6.2 Likely Effects on Population and Economic Base

Project/Environment Interactions

Likely effects of the project on population and economic base are related to the following Project Systems which remained after the second screening:

a) presence of the station;
b) work force (project-related employment);
c) purchasing and payroll; and
d) malfunctions and accidents.

In addition to these likely interactions between the project and population and economic base, the socio-economic conditions in the study areas may change as a result of people's response to the environmental changes caused by the project such as emissions, environmental quality changes and nuisance effects.

The project-environment interactions associated with the above Project Systems are assessed in the following paragraphs. For the purposes of the socio-economic analysis relating to employment and business activity, both the progressive restart period (i.e. 2002 to 2003) and period over which units 3 and 4 would require a full complement of workers (i.e. 2004 to 2016). This ensures that a complete analysis is taken which accounts for the peak in employment, payroll and purchasing activities, as well as the typical conditions that are likely to occur at Bruce A into the future.

6.2.1 Population

The Bruce A Restart Project is likely to increase the number of persons residing in the Regional and Local Study Areas that are associated with or dependent on project-related employment and will serve to maintain the social structure and stability of communities across Bruce County.

In its lay-up state (i.e. 2001), Bruce A was associated with 520 persons across Bruce County and 370 persons within the Municipality of Kincardine, which was approximately 0.8% of the County's population and 3.1% of Kincardine's population. During the short term (i.e. 2002-2003) it is projected that Bruce A would be associated with a population of 1,880 persons across Bruce County and 1,335 within Kincardine. Over this period, Bruce A would, on average, be associated with 2.8% of the County's population and 11.1% of Kincardine's population, of over three times the 2001 average. The increase in Bruce A associated population over 2001 levels is largely due to the shift of employees working at the site on other duties unrelated to the operation of Bruce A to active duty at the Bruce A units 3 and 4 rather than new employees. Because some additional contract staff are required in the short-term to implement the necessary improvements at Bruce A, the peak in the population associated with Bruce A is anticipated in 2003.

Ongoing operations at Bruce A over the period 2004-2016 would, on average, be associated with a population of 1,349 or 2.0 % of the County's population, and 957 or 7.7% of Kincardine's population.

Table 6-2 summarizes the associated Bruce A population in the context of municipal population projections during the restart period and during operations, in comparison to existing conditions. It should be noted that the upgrades associated with the restart period are not considered part of the project. The effects anticipated during this phase are included here for completeness. Overall, the Municipality of Saugeen Shores is anticipated to be the other area municipality, with the strongest association to Bruce A.

Table 6-2. Bruce A Associated Population in Context of Municipal Population Projections (2001 to 2016)

Category	Local Study Area	Regional Study Area
Lay-up State (2001)		
Associated Population	370	520
Bruce A as a % of Municipal Population	3.1%	520
Restart Period (2002 – 2003)		
Bruce A Annual Average	1,335	1,880
Municipal Annual Average	12,150	67,150
Bruce A as a % of Municipal Average	11.0%	2.8%
Operations (2004 – 2016)		
Bruce A Annual Average	957	1,349
Municipal Annual Average	12,462	68,823
Bruce A as a % of Municipal Average	7.7%	2.0%

Source: [1577]

This analysis confirms that the restart project would increase the number of persons residing in the County and Kincardine who are associated with or dependent on project-related employment, and consequently the restart of Bruce A will serve to maintain the social structure and stability of communities across the study areas.

During the restart period, the short-term employment opportunities generated by the restart project are not anticipated to attract new permanent residents into the County or Kincardine. Due to the relatively short term nature of the work (i.e. two years), individuals gaining employment are more likely to commute daily or weekly to the site, rather than relocate. Construction trade workers employed on projects out of the jurisdictional areas of their respective trade unions can also be expected to return home for local work. Similarly, the long-term employment opportunities generated during operations are also not anticipated to attract new residents into the County or Kincardine; rather it is anticipated that new staff would be hired from the existing labour force from across the County. Therefore, overall population levels are not anticipated to change as a result of the project.

Experience with other major projects also indicates that population levels may be affected if residents choose to leave their community as a direct result of the undertaking, and growth is not sufficient to off-set this loss. Public attitude research indicates that individuals or groups tend to conduct a mental 'cost-benefit' analysis of what they are satisfied or dissatisfied with in their communities and that there is a tendency to tolerate certain conditions until a threshold is reached [1538]. At such a time, individuals or groups may become more motivated to leave and find a new location with more positive and satisfying features. This potential exists with the restart project because of an expectation on the part of some residents that their health, safety and personal security may be affected.

Notwithstanding the importance of the Bruce Power site as an issue in the study areas [1635] and its influence on people's feelings of personal security, a measurable change in overall population levels of communities within the study areas is not anticipated as a result of the restart project, because as discussed in Subsection 5.4.4, almost all respondents are satisfied with living in their community; and the vast majority of them are 'very satisfied.' This conclusion is also supported by a review of mobility data for the various study areas and other communities in southern Ontario that do not host a nuclear generating station.

Table 6-3 presents data from the 1991 and 1996 census [1650, 1651] and indicates that people living in the study areas have not been moving into or out of their communities at a disproportionate rate when compared with the other communities sampled. The percentage of 'non-movers' (i.e. people who have not moved within the last year or within the last five years) has been increasing across the local and regional areas and most other communities sampled. In fact, the data shows that when both Bruce A and Bruce B were operating together, Kincardine was more stable, in terms of population turnover, than the other communities examined. These data suggests that in the past, there has not been a tendency for people to move out because of the nuclear nature of the project.

Table 6-3. Mobility Statistics for Study Areas and Other Communities

	Study Areas				Other Selected Communities									
	Local Study Area		Regional Study Area		Municipality of Clarington *		Town of Saugeen Shores		Municipality of Brighton		Municipality of Central Huron		Municipality of Bluewater	
	1991	*1996*	*1991*	*1996*	*1991*	*1996*	*1991*	*1996*	*1991*	*1996*	*1991*	*1996*	*1991*	*1996*
Population	11,320	11,084	64,215	65,042	49,479	60,615	11,838	12,084	8,481	9,022	7,554	7,862	6,639	6,874
% Movers (1 year ago)	15	11	12	11	14	12	13	13	13	10	7	12	11	8
% Movers (5 years ago)	43	32	37	29	51	41	42	34	45	32	29	30	35	28
% Non-Movers (1 year ago)	89	93	84	87	83	85	84	85	76	80	91	87	83	88
% Non-Movers (5 years ago)	56	66	54	63	39	49	49	59	40	55	64	65	53	64

* *The Municipality of Clarington is the host community for the Darlington Nuclear Generating Station.*

However, some individuals who experience a change in their feelings of personal security may still choose to voluntarily leave their communities. Public attitude research was undertaken to test whether or not people in the Local Study Area are more likely to change their decision to live in the community as a result of the restart project. Approximately 93% of the respondents in the Local Study Area, indicated that they were not likely to change their decision to live or own a cottage in the community because of the project. Of those who indicated that the restart project may change their decision to live or own a cottage in their community, 1% or fewer of all respondents indicated a strong intention to move within the next two years (i.e. those that indicated that they were "very likely" to move). In fact, 3% of respondents indicated that they are more likely to decide to live or own a cottage in the area, suggesting that the project may contribute to the stability of Kincardine's population.

This analysis indicates that very few people would be motivated to move, only those who are already "not at all satisfied" with their community and are highly mobile (e.g., those in a favourable housing, financial or employment position) may decide to move. Given the high level of satisfaction present in the study areas, it is projected that at most, 1% of total population in the local study area may decide to move. However, because people do not always act on their intentions, actual out-migration of residents because of the project would likely be minimal.

These values fall well within the typical percentage of "movers" that can be expected within the study areas in a given year (i.e. 11 to 15% Kincardine, 11 to 12% Bruce County), and are also below the anticipated growth in the populations in the study areas. Therefore, it is also expected that in the event that some individuals leave, they will likely be replaced by others who may be more tolerant of local conditions or perceive fewer issues with respect to Bruce A or the Bruce Power site as a whole. Finally, in the absence of frequent malfunctions or accidents at Bruce A and its associated publicity, the likelihood of people deciding to leave their communities as a result of the project is also expected to decrease over time.

Conversely, the number of new residents attracted to the study areas because of the project is also expected to be small and any in-movers will likely be well dispersed across Bruce County. This is also expected to be well within the typical percentage of "movers" that can be expected in a given year. Therefore, no measurable change in the populations of municipalities within the Regional Study Area are anticipated as a result of the restart project.

6.2.2 Employment

The Bruce A Restart Project is anticipated to maintain existing jobs and the existing occupational base within the study areas. There will be some new employment opportunities, but these will be either short-term contract employment or related to employee turnover. To an individual, family or household this employment will provide a source of income and a sense of personal security which define their lifestyle

and quality of life. Within Bruce County, this employment has the potential to influence the occupational base, income, wage and price levels which influence how the area is perceived, that is, its attractiveness as a place to live [1538]. Public attitude research results indicate that approximately 87% of Kincardine respondents anticipate that there will be a positive effect on employment opportunities as a result of the project. Similarly, approximately 77% of Kincardine respondents anticipate that the project will play a positive role in the stability of their community [1635]. Given that few new permanent jobs will be created local expectations regarding positive employment opportunities may not be fully realized. However, the Bruce A Restart Project will serve to maintain community stability.

In its lay-up state, Bruce A generated approximately 690 jobs through direct, indirect and induced means, of which approximately 240 jobs (0.7%) were within Bruce County [1577].

In the short term (i.e. 2002-2003), the work during the restart period is anticipated to generate a total of 5,090 person-years of employment through direct, indirect and induced means. This is equivalent to approximately 2,545 jobs annually for the initial two years. This is over fire times the number of jobs associated with Bruce A in its lay-up state.

In 2003, peak on-site employment associated with Bruce A is anticipated to be approximately 890 persons. These include control technicians, nuclear operators, civil, mechanical and electrical engineering staff, supervisors, and administrative/clerical support staff. The majority of new on-site jobs would be for additional personnel with civil, electrical and mechanical engineering skills and for administration and clerical support. These positions are likely to be filled by temporary or contract staff from outside the Local and Regional Study Areas.

During operation, Bruce A is anticipated to generate a total of 19,800 person-years of employment through direct, indirect and induced means. This is equivalent to approximately 1,523 jobs annually over the operating period. Bruce Power anticipates that as a result of the introduction of new technology, re-training of employees and improved efficiencies, the jobs at Bruce A can be initially filled from within their current on-site work force. As such, existing staff will be redeployed to Bruce A from other duties at the Bruce Power site.

Nevertheless, worker retirements are anticipated to have an effect on the number of new employees required to maintain operations over the next several years. The current average age of Bruce Power workers is 48 years. Bruce Power anticipates that up to 1,500 new employees will be required across the entire Bruce Power site to replace those who will be retiring [1561]. Of this figure, an estimated 225 new employees would be associated with Bruce A operations. Skilled workers such as engineers, nuclear operators, steam operators, civil maintainers and control technicians will be in high demand as the existing supply is limited due to technical nature of the nuclear industry.

It terms of Bruce Power's ability to attract the required skilled workers, it was previously noted that Bruce County, and the Counties of Grey, Huron and Perth have a much greater population within the 10-19 year cohort called a "labour force in waiting" by Human Resources and Development Canada [1560]. Their analysis suggests that companies operating in Bruce County and vicinity will likely have a distinct advantage over other employers in Ontario in attracting youth. Because these individuals will be entering the work force when required and already have ties to the area it "...becomes a matter of educating youth as to the different types of occupations and skill sets required by local employers and reminding them of the advantages of working and living in this area." [1560]. As such, Bruce Power expects to recruit up to 50 new employees each year and train them in the required skills. Depending upon Bruce Power's resourcing plans, the proportion of these new employees that may be required for Bruce A operations may be up to half of this number.

Bruce Power is working with a number of educational institutions and stakeholders in order to set up training programs to meet their longer-term needs. Bruce Power currently offers co-operative placement opportunities with a number of Canadian university and college institutions. This program is currently under review and there is a desire to expand this program in the coming years.

Bruce Power has commenced a formal Career Fair Program where representatives of the Company visit university and colleges to market Bruce Power to graduating students. The University of Western Ontario, Guelph University, Carleton University; Conestoga, Fanshawe and Georgian Colleges were visited by Bruce Power in 2001. Bruce Power has also entered into an agreement with Georgian College to design and offer a Nuclear Operator in Training Program. In 2001, Bruce Power began recruiting trainees to participate in the first course to be offered.

The issue of staffing was also discussed during the recent CNSC hearings regarding Bruce Power's application for licenses to operate Bruce A and Bruce B. During these hearings, CNSC staff concluded that staffing will be adequate to operate the facilities safely during the terms of the license [1595].

Table 6-4. Project Related Employment (2001 to 2016)

Employment Generation	Bruce Power Employees	Other On-site Employees	Other Direct, Indirect & Induced Employment	Total Associated Employment
Lay-up State (2001)				
Total Bruce A Associated Employment	230	7	453	690
Restart Period (2002 – 2003)				
Total Bruce A Associated Employment	1,420	340	3,670	5,090

Table 6-4. Project Related Employment (2001 to 2016)

Employment Generation	Bruce Power Employees	Other On-site Employees	Other Direct, Indirect & Induced Employment	Total Associated Employment
Average Annual Employment at Bruce A	710	170	1,835	2,545
% of Total Municipal Employment	28%	7%	72%	100%
Operations (2004 – 2016)				
Total Bruce A Associated Employment	6,120	680	13,000	19,800
Average Annual Employment at Bruce A	471	52	1,000	1,523
% of Total Municipal Employment	31%	3%	66%	100%

Source: [1577]

As noted previously, 54% of Bruce A employees are expected to reside in the Regional Study Area. This analysis indicates that there is considerable leakage of employment outside the Regional Study Area. This, is largely in the indirect and induced job category and is due to Bruce A purchasing and employee household spending patterns, which are focused outside Bruce County.

Table 6-5. Bruce A Restart Employment Capture within Study Area

Employment Capture	Local Study Area	Regional Study Area
Lay-up State (2001)		
Municipal Employment Projection	5,110	33,580
Bruce A Employment (Direct, Indirect and Induced)	160	240
Bruce A as a % of Municipal Employment Projection	3.1%	0.7%
Restart Period (2002 – 2003)		
Municipal Employment Projection	10,260	67,670
Bruce A Employment (Direct, Indirect and Induced)	1,130	1,700
Average Annual Bruce A Employment	565	850
Bruce A as a % of Municipal Employment Projection	11.0%	2.5%
Operations Period (2004 – 2016)		
Municipal Employment Projection	68,350	450,750
Bruce A Employment (Direct, Indirect and Induced)	5,280	7,960
Average Annual Bruce A Employment	406	612
Bruce A as a % of Municipal Employment Projection	7.7%	1.8%

Source: [1577]

As a result of the project, Bruce Power will remain one of the single largest employers within Bruce County and the Municipality of Kincardine, and the employment associated with Bruce A would serve to maintain employment stability and the current occupational base within the County.

6.2.3 Business Activity and Tourism

The expenditures of Bruce A staff and others who gain or maintain their incomes as a result of the restart project payroll, along with purchasing of goods and services by Bruce Power, will generate business activity and help maintain the economic base in Bruce County and its area municipalities. Survey results indicate that over 71% of respondents across Bruce County, and 85% of Kincardine respondents anticipate that there would be a positive effect on business activity as a result of the project. Similarly, major suppliers to Bruce Power and local economic development officers credit Bruce Power with contributing positively to local economic stability, particularly since the announcement of the intention of Bruce Power to restart two units at Bruce A. Major suppliers and local economic development officials credit the direct employment and the spin-offs associated with employee spending, and look forward to the ongoing economic benefits associated with the restart of Bruce A [1562, 1652, Appendix C].

Table 6-6 provides a summary of the expenditures anticipated both during the restart period and operations phase in comparison with those during lay-up. During restart period (2002 to 2003) the work is anticipated to generate total expenditures of $392 million. Approximately 44% ($ 173 million) of these expenditures are attributable to payroll while the remaining 56 % ($ 219 million) are associated with the purchase of goods and services.

Table 6-6. Bruce A Payroll and Purchasing Projections (2001 to 2016)

Gross Expenditures ($ M)	Bruce A Staff Payroll	Other Staff Payroll	Bruce A Purchases	Total Expenditures
Lay-up State (2001)				
Expenditure ($M)	21	1	21	43
% of Total	50%	2%	49%	100%
Restart Period (2002 – 2003)				
Expenditure ($M)	132	41	219	392
% of Total	34%	11%	56%	100%
Operations (2004 – 2016)				
Expenditure ($M)	569	68	682	1,319
% of Total	43%	5%	52%	100%

Source: [1577]

At full operation (2004 to 2016) Bruce A is anticipated to generate $1.32 billion in expenditures or $102 million annually. Payroll expenditures and expenditures for goods and services will respectively account for 48 % and 52% of the annual total.

The table below provides the anticipated distribution of Bruce A payroll and household spending. This analysis indicates that Bruce County is expected to capture on average close to $26 million per annum over the restart period and in the order of $22 million per annum over the operations period. The corresponding statistics for Kincardine are $16 million and $14 million respectively.

Because the majority of businesses in Bruce County including suppliers to the generating station are not dependent upon these expenditures for the majority of their annual revenues, the restart and operation of Bruce A are not anticipated to generate an expansion of the local economic base or individual businesses. Rather, this spending will help maintain business activity in the service sectors and to a lesser extent in the manufacturing sector of Bruce County's economy.

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As a result of the project, Bruce A will support the projected gradual growth of industrial/commercial assessment bases in both Bruce County and Kincardine. It is concluded that the maintenance of employment opportunities in the study areas will have a stabilizing effect on the forecasts.

Table 6-7. Payroll, Purchasing and Associated Household Expenditure Capture (2001 – 2016)

Net Expenditure Capture ($ Millions)	Local Study Area	Regional Study Area
Lay-up State (2001)		
Expenditure Capture ($M)	5	9
% of Total	55%	100%
Restart Period (2002 – 2003)		
Expenditure Capture ($M)	31	51
Average Annual Spending Capture ($M)	15	26
% of Total	60%	100%

Table 6-7. Payroll, Purchasing and Associated Household Expenditure Capture (2001 – 2016)

Net Expenditure Capture ($ Millions)	Local Study Area	Regional Study Area
Operations (2004 – 2016)		
Expenditure Capture ($M)	184	292
Average Annual Spending Capture ($M)	14	22
% of Total	63%	100%

Source: [1577]

6.2.3.1 Commercial Fishing

An interview [1654] conducted with the only licensed non-Aboriginal commercial fishing company indicated that there is no potential for the project to affect business activity directly or indirectly due to a change in "product image". The operator indicated that they export 95% of their product to the USA, the remainder is sold locally in Southhampton. The operator expressed no concerns regarding current operations at the Bruce Power site and indicated that normal station operations do not influence their business activity. In the past, clients have not expressed any concerns over their fishing in waters near the nuclear stations and because their clients are located in the United States, they do not tend to link the fish products with the presence of the station. The operator does not anticipate any adverse effects of the restart project, although the warm water discharge from Bruce A may provide a safe harbour during storms in the winter.

This conclusion is supported by the results of the Aquatic Environment Technical Support Document which did not identify any likely significant residual adverse effects of the project. Refer to the Cultural, Archeological and Aboriginal Environment Technical Support Document for information regarding the Aboriginal fishery.

6.2.3.2 Agriculture

The Radiation and Radioactivity Technical Support Document concluded that although increased radioactive emissions are likely from the project, no adverse residual effects are anticipated. As part of this analysis, consideration was given to levels of radioactivity in a number agricultural products such as locally grown milk, livestock, fruits and vegetables. Public attitude research results indicated that the majority of respondents do not anticipate any effects of the project on farming operations (62%). Less that 2% of respondents linked the project with local farming. Of these, only one respondent identified an

increase in emissions from the plant as potentially affecting his/her farm operation. Other respondents anticipated both adverse and positive effects from anticipated changes in population [1635]. Because Bruce A and B have operated together in the past and because Bruce B continues to operate, it is not anticipated that the Bruce A Restart Project would result in a stigma being attached to local agriculture products. In addition, because no measurable changes in local population levels are anticipated, adverse effects on agriculture from local traffic or the loss of land due to housing are not likely.

6.2.3.3 Tourism

For the purposes of this analysis, it is hypothesized that any potential effects on tourism will be focused on resource/environmental quality related businesses and tourist accommodation businesses. Adverse effects may occur if clients and/or tourists link a product or service with the Bruce Power site and take steps to avoid such products or services because of their attitudes towards the Bruce A Restart Project or in response to the environmental changes caused by the project.

Therefore, the project has the greatest potential to affect the business activity of marinas, boat charters/fishing tackle shops and tourist-based hotel and motel operators which depend on the environmental quality and the shoreline experience marketed by tourist organizations across Bruce County.

It is expected that the increase in ambient water temperatures in the vicinity of the Bruce A outfall will make the area near the Bruce Power site more attractive to only a few new anglers and only marginally increase the harvest of fish from Lake Huron (particularly during the winter and spring seasons). The likely change in the number of anglers is not expected to be large and consequently is not anticipated to result in a measurable increase or decrease in the local business activity at local marinas, boat charters/fishing tackle shops.

Because effects on water quality or recreational fishing are not predicted and none of the fishing related business operators interviewed indicated that their clients or customers link their product or service with the Bruce Power site, no adverse effects on business activity attributable to the presence of the station or the restart of Bruce A are expected. Refer to the Surface Water Resources and the Aquatic Environment Technical Support Documents for more information.

Interviews indicate that Bruce A is not seen as a negative influence on tourism due to its isolation, lack of visibility from the major population centres of Kincardine and Port Elgin and from most beaches frequented by tourists. Both Bruce A and B occupy a relatively small proportion of the Lake Huron shoreline within the Lake Huron Tourism Investment Area (i.e. <2%) and are not likely to affect the shoreline experience of cottagers, visitors or boaters who use local beaches and tend to cruise long distances along the shoreline of Lake Huron [1562]. Because the restart project will not require any

additional construction or major changes to the site that would be visible from the lake or other tourist destinations no measurable changes in the shoreline experience of visitors, boaters or cottagers are anticipated.

Previous analyses indicated that local residents are not likely to change their decision to live or own a cottage in the Local Study Area, and that the restart project will serve to maintain population levels in Kincardine and Bruce County. Because much of the tourism in the area is linked to friends and family, the maintenance of the population in the local communities that will result from the project is anticipated to bring some stability to the tourism industry and maintain revenues year-round to tourism businesses (e.g., service businesses, hotels, motels, etc.). However, this effect is not anticipated to be large in the context of overall tourist spending in the County. Based on recent tourism statistics [1578] it is estimated that the Bruce County population associated with Bruce A operations (i.e. 2%) may account for up to 18,000 person-visits per year and $1 million in annual tourist spending across the County. The communities of Kincardine and Port Elgin can anticipate to capture the majority of this spending.

Workers during the restart period may compete with tourists for temporary accommodations during the peak tourist season. However, due to the short duration of the restart period, economic development officials do not anticipate that the restart will have any measurable adverse effect on tourism activity and would not likely result in reduced return visitation over the long term [1562]. The increased number of workers during the restart period, and increased number corporate clients using local hotels and motels, will serve to maintain the economic viability of these businesses and may generate re-investment into these facilities by their owners.

The restart project may generate interest among local residents in plant operations. Survey research indicates that although 80% of local residents do not foresee themselves changing the frequency of taking family and friends for a tour of the Bruce site, 16% indicated that they are more likely to come to the Visitors' Centre.

6.2.4 Economic Development

Many organizations within Bruce County already have developed and are currently in the process of implementing their economic policies and plans, which are largely focused on tourism development and economic diversification. The increased spending and business activity generated by the restart project are not anticipated to influence economic development by changing the local price structure or economic base in Bruce County or its area municipalities. As such, project-related employment, payroll and purchasing activities are not likely to require any changes in the economic development plans in Bruce County. Because the restart is expected to provide new business opportunities for existing business operators, the restart project is considered compatible with these economic development plans, but will not serve to advance the economic diversification goals identified by the Bruce Futures Development

Corporation and others. Because the Bruce A Restart Project will serve to maintain employment levels in the study areas, it will also serve to maintain existing disparities in wages and the resultant effect on the economic diversity in the Regional Study Area.

Local economic development officials are aware of activities and plans at Bruce Power and indicate that Bruce Power has started to develop a good communications record regarding their plans and programs. The economic development officials look forward to the improved economic development opportunities relating to the restart of Bruce A and suggested that Bruce Power adopt a broad perspective regarding their responsibilities as a major corporate player in the County. To this end, they suggested that Bruce Power expand their economic development efforts by working more closely with economic development organizations to become more active and supportive of local economic diversification. Other suggestions included the establishment of more direct links to the municipal economic development authorities to deal with issues of labour supply, training, active promotion of the area for industrial/commercial purposes and the maximization of local spending/contracting through more proactive local spending policies, communication and liaison with local businesses and suppliers [1562, Appendix C].

Overall, the Bruce A Restart Project is not anticipated to adversely affect economic development planning or specific economic development activities in Bruce County in the short term. However, the current plan for Bruce A is to operate unit 3 for 8 years and unit 4 for 13 years. As each of the Bruce A units approaches the end of its planned service life uncertainties regarding the future status of the local communities and business activity will likely emerge. The degree to which local governments and economic development agencies are successful in diversifying their economic base and their ability to retain Bruce Power employees who retire over the next several years will determine whether or not affected communities will be viewed as single industry towns vulnerable to boom and bust effects.

Identified Mitigation Measures (Population and Economic Base)

Because only positive effects on population or economic base are anticipated as a result of the restart project, no mitigation is identified or warranted.

Residual Effects (Population and Economic Base)

There are no residual adverse effects of the restart project on population or the economic base in the study areas. The likely positive residual effects are summarized below:

1. *Increased proportion of the population associated with, or directly dependent on Bruce A related employment.*

This is due to the redeployment of staff and additional personnel that will be required to implement the necessary improvements to Bruce A for the restart and ongoing operations. It is anticipated that new staff will either be hired from the existing labour force within the County of Bruce or from outside the study areas.

2. *Creation of new direct, indirect and induced employment opportunities and the maintenance of existing jobs within the study areas, resulting in improved employment stability.*

The redeployment of additional staff that will be required for the restart and ongoing operations will sustain and generate direct, indirect and induced employment opportunities in Bruce County and its area municipalities.

3. *Creation of new business activity and an increased number of industrial and commercial and businesses/operations that are associated with, or directly dependent on Bruce A related expenditures.*

The expenditures of Bruce A staff and others who gain or maintain their income as a result of the restart project, along will the expenditures by Bruce A for goods and services will sustain and generate business activity and help maintain the economic base in Bruce County and its area municipalities.

6.3 Likely Effects on Community Infrastructure

Project/Environment Interactions

The likely interactions between the project and community infrastructure include:

a) presence of the station;
b) service water supply systems;
c) collection and management of solid non-radioactive wastes;
d) collection and management of sewage;
e) work force (project-related employment);
f) land transportation activities; and
g) malfunctions and accidents.

In addition to these likely interactions between the project and community infrastructure, the demand for community infrastructure in the study areas may change as a result of people's response to environmental changes caused by the project such as emissions, environmental quality changes and nuisance effects.

The project/environment interactions associated with the above Project Systems are assessed in the following paragraphs. The likely environmental effects that will be examined include effects on housing and property values, and municipal services such as water supply, sewage treatment and disposal, municipal waste management, and electricity supply. Effects in each of these areas are analyzed below. As was the case for the analysis of employment and business activity, the effects on the housing stock are also examined for the periods when the units are being restarted (i.e. restart period) and when both units operate together (i.e. operations period).

6.3.1 Housing and Property Values

6.3.1.1 Housing Stock

The restart of Bruce A is not anticipated to substantively change the availability or affect the quality of housing available in the study area because no significant changes in population are anticipated that would place additional demands on the current housing stock. The only exception to this premise may be a somewhat heightened demand for rental accommodation during the restart phase. This potential effect was discussed earlier in Section 6.2.

The data presented in Table 6-8 indicates that project related employment will be associated with approximately 2.5% of the County housing stock during the restart period and roughly 2% during the operations period. This is in contrast to an association of less than 1% in the lay-up state. The association with Kincardine's housing stock is 11% during the restart period and 8% during the operations period. The lay-up association is about 3%.

Given the foregoing restart project will serve to strengthen the association of Bruce A to the area housing stock to a minor extent.

Table 6-8. Housing Stock Association (2001 to 2016)

Housing Effects	Local Study Area	Regional Study Area
Lay-up State (2001)		
Associated Housing stock	160	240
Bruce A as a % of Municipal Population	3.0%	0.7%
Restart Period (2002 – 2003)		
Bruce A Annual Average	590	885
Municipal Annual Average	5,345	34,915
Bruce A as a % of Municipal Average	11.0%	2.5%
Operations Period (2004-2016)		
Bruce A Annual Average	420	630
Municipal Annual Average	5,480	35,810
Bruce A as a % of Municipal Average	7.7%	1.8%

Source: [1577]

6.3.1.2 Property Values

For the purpose of this analysis, it is hypothesized that people's attitudes towards Bruce A and the environmental changes caused by the restart project might have a negative influence on the housing market and residential property values.

The literature suggests that decreased property values may result from significant increases in nuisance effects such as noise, dust, and traffic associated with a facility. Property value decreases may also occur if residents or prospective homebuyers link Bruce A with such changes within their neighbourhoods, even though they may be caused by others [1538]. Case study research conducted in the 1980s on a range of industrial facilities indicated that lower property values have occurred in communities where such facilities have performed poorly [1538, 1593].

Declines in property values may also result from a negative image of the community on the part of prospective homebuyers, particularly if these effects are directly related to their attitudes towards the presence of the station or the restart project in particular. Case studies undertaken in the 1980s where nuclear emergencies have occurred indicate that there were no significant differences between property values located in proximity to these sites and similar properties further away. In general, property values have not declined significantly, and adverse effects were generally short term in duration [1538]. More recent case studies of property values near nuclear facilities in the United States indicate that negative imagery surrounding nuclear plants or stored nuclear waste does not have a significant detrimental influence on residential home prices in the immediate vicinity of these facilities [1540].

Previous studies on property value changes associated with a wide range of developments, including nuclear facilities, also indicate that decreased property values as a result of nuisance effects are usually restricted to areas immediately surrounding the facility or access routes. Property values also tend to recover close to pre-impact levels within a few years regardless of whether or not a nuisance has been eliminated [1538]. Given that no significant air quality or noise effects from current Bruce A operations have been detected and that no significant changes are anticipated as a result of the restart project, decreased property values attributable to these sources are not anticipated. Refer to the Atmospheric Environment Technical Support Document for more information on air quality and noise.

Decreased property values may also result from a decrease in demand for land or an oversupply of available land in a community as a consequence of a major change in population. Residential property values appear to be more susceptible to property value changes than farm, commercial or industrial properties. Previous research conducted in the vicinity of the Bruce Power site in the mid 1980's indicated that residential properties, particularly low to middle income housing was most susceptible to the demand/supply changes caused by population fluctuations. Middle and upper income housing tended to increase in value even during work force decline periods [1538].

Because no measurable changes in population are anticipated as a result of the project and because population growth projected for the study areas in the future will likely increase demand for existing residential properties in Kincardine and the community of Port Elgin, adverse effects due to changes in demand for land are not anticipated. Further, local realtors indicated that prices of agricultural property have remained relatively stable over the past several years. Because the value of agricultural property is largely determined by the quality of soils and farm infrastructure, and economic prospects in the agricultural sector, changes in the number of sales and value are not likely to be related to changes in the operations at the Bruce Power site [1846].

Table 6-9 uses the year 2000 and the average price for residential properties as the basis for comparison of residential properties near Bruce A and other communities. These data indicates that despite the fact that there were uncertainties regarding the status of Bruce A, the area nearest the Bruce Power site appears to have had comparable property values to other municipalities within the regional study area. The average value of a residential property across the communities Kincardine, Tiverton, Port Elgin, including rural Kincardine (formerly Bruce Township) was approximately $100,000. This is greater than the average value in all other municipalities in Bruce County other than Huron Kinloss.

Table 6-9. Comparison of Average Residential Property Values (2000)

Community/Municipality	Average Price
Kincardine, Tiverton, Port Elgin and former Bruce Township (Average)	$100,271
Northern Bruce Peninsula	$93,583
Southern Bruce Peninsula	$86,823
Arran Alderslie	$79,980
South Bruce	$86,823
Brockton	$96,267
Huron Kinloss	$110,144

Source: [1668]

Because of the increased stability in the local and regional work force anticipated as a result of the project, these data indicates that measurable declines in property values due to changes in demand for housing are unlikely because of the restart of Bruce A. Interviews with local realtors indicated that today's market was quite active and that houses were currently selling quickly [1846]. There are no indications that this could change as a result of the restart project.

6.3.2 Municipal Services

The Bruce Power site is entirely self-sufficient in terms of service water requirements and provides all potable water for its employees. Similarly, the Bruce Power site is entirely self-sufficient in terms of domestic sewage disposal through its on-site sewage treatment plant.

The restart project will result in a change in demand for on-site potable water and sewage disposal in response to changes in work force levels on-site. With the restart project, there will be a short-term increase in demand for on-site services compared with 2000 levels due to the presence of the construction work force. This increase in demand for water and sewage will be a small fraction of the total design capacity of the available on-site systems. Because only two units are being restarted, any increase in the demand for potable water supply and sewage disposal is not anticipated to exceed peak demands in past years. Therefore, there is no need for any new services or infrastructure nor any potential for effects on off-site municipal water or sewage services now or into the foreseeable future.

Because the Municipality of Kincardine does not provide any snow removal services on-site, no effects are anticipated.

Officials contacted with the Municipality of Kincardine also do not foresee any additional service requirements related to potential population changes as a result of the project. Adequate municipal services and facilities are in place or have been planned to meet current and likely future needs.

In terms of water quality, the Surface Water Resources Technical Support Document concluded that elevated water temperatures are anticipated occasionally at the Port Elgin and Southhampton WSPs, but that changes in temperature at the Kincardine WSP will be very infrequent and not likely be noticeable. Because, the anticipated increase in water temperature due to the restart project will be less than those experienced when all four units of Bruce A were operating prior to 1998, it is not expected that the project will affect the treatability or quality of water at these intakes.

The Surface Water Resources Technical Support Document concluded that adverse effects on water quality during normal operations are not anticipated and that in the event of the hypothesized hydrazine spill, effects on surface water quality would be limited to an area 4.5 km to the north, 1.5 km to the south, and 1.5 km offshore. This area is sufficiently distant from the existing municipal WSPs such that effects on drinking water quality are not anticipated. For example the nearest WSPs are located 15 km to the south (i.e. Kincardine WSP), 17 km to the north (i.e. Port Elgin WSP) and 22 km to the north (i.e. Southhampton WSP) and the water intake at MacGregor Point Provincial Park is located 13.5 km north. In addition, practices and procedures are in place to monitor water quality and shut down water supply systems in the event of a major contaminant release from Bruce A. Because Bruce B continues to operate, no additional financial or administrative burden should be experienced by the local Public Works Departments in Kincardine or Saugeen Shores for monitoring of the water supply as a result of this project.

Bruce Power tests all waste materials for radioactivity prior to release from the site for recycling or disposal. The 'non-detectable' threshold is used at Bruce A to differentiate active from non-active waste materials. Radioactive solid waste is transported to OPG's Western Waste Operations Site on the Bruce site. All such waste is stored and monitored at their facility. Non-radioactive non-hazardous solid waste that meets the 'non-detectable' threshold is transported to the on-site conventional waste landfill for disposal or off-site for recycling, processing and/or disposal at facilities licensed to handle such materials. Therefore, Bruce A does not rely on the municipal waste management system for its conventional waste management requirements.

The restart project will likely increase the amount of conventional waste generated at Bruce A in comparison to that generated while the station is in a lay-up state. However because the overall staff compliment at the Bruce Power site has been reduced since 1998 and because employees will be redeployed to Bruce A from other on-site activities, the overall volume of conventional waste requiring

disposal is not expected to increase substantially as a result of the restart project. It is also anticipated that more recycling will occur in the future. In 1996, the on-site conventional waste landfill was expanded. In 2000, the remaining landfill site life was estimated to be 20 years, which would allow this facility to operate until at least the year 2020 [1670]. Because of the presence of the on-site conventional waste landfill, Bruce A does not rely on the municipal waste management system.

Because there is sufficient capacity in this landfill well beyond the duration of the project, no direct effects on public sector waste management services in the Municipality of Kincardine are anticipated. Because no measurable change in population is anticipated due to the restart project, indirect effects on public sector waste management services attributable to Bruce A are not anticipated.

Identified Mitigation Measures (Community Infrastructure)

Because no adverse effects on community infrastructure are anticipated as a result of the restart project, no mitigation is identified or warranted.

Residual Effects (Community Infrastructure)

There are no residual adverse effects of the restart project on community infrastructure in any of the study areas.

6.4 Likely Effects on Community Services

Project/Environment Interactions

The likely interactions between the project and community services are:

a) Presence of the station;
b) Work force (project-related employment);
c) Land transportation activities; and
d) Malfunctions and accidents.

In addition to these likely interactions between the project and community services the quality and use of community services in the study areas may change as a result of people's response to the environmental changes caused by the project such as emissions, environmental quality changes and nuisance effects.

The project/environment interactions associated with the above Project Systems are assessed in the following paragraphs.

6.4.1 Community and Recreational Facilities / Resource Use

Recreation considered in its broadest form encompasses any leisure time activity pursued for its own sake, whether it is organized, unorganized, facility-based or environmentally based. These recreational activities can be defined by the presence of related community and recreational facilities, services and resources. To an individual or family, such facilities, services and resources are major determinants of community satisfaction and provide the means for individuals to participate and contribute to community life. These facilities and services also provide the means for resident interaction through common activities that serve to influence the cohesiveness of the community [1538].

The restart of Bruce A is not anticipated to change the availability or quality of private and public recreational facilities, churches, marinas, and community centres in the study areas. Similarly, the restart of Bruce A is not anticipated to change the availability or quality of local parks or the trail system within the study areas. No existing facilities would be displaced, nor would new parks or facilities need to be developed as a direct result of the project. This is because project-related employment is not anticipated to result in a measurable change in local or regional population that would place additional demands on these resources. Changes to the quality of these facilities are unlikely as a result of the environmental changes caused by the normal operations which could increase costs, maintenance or influence the types of services provided. Operations at community facilities designated as reception centres and those that would be used for monitoring or command purposes in the event of an off-site evacuation will be disrupted in the event of an off-site evacuation. Such events would increase operating costs. Other facilities in the Local and Regional Study Areas would also see a reduction in use and revenues. However, under normal operating conditions, no cost implications are anticipated as a result of the project.

It was hypothesized that the use of parks, beaches and trails in the vicinity of Bruce A may change as a result of increased nuisance effects such as noise, dust, and other emissions associated with a facility, or if residents associate the restart project with such nuisance effects and their health, safety or well-being. In addition, if residents anticipate a change in the quality of these recreational areas or a change in a valued feature, they are more likely to avoid these areas (e.g., won't go to the beach or will find a recreational area further away); change their frequency of visits or experience a loss of enjoyment as a result of their attitudes or perceptions.

The nearest park/community facility to Bruce A is the Inverhuron Provincial Park located 3.2 km from Bruce A. The nearest beach is Inverhuron Beach located 4.8 km from Bruce A. All other facilities are located over 9 km from the fence line of the Bruce Power site. Because the quietness and cleanliness of the natural surroundings of these recreational areas are highly valued by users, any change in noise, dust, air quality or traffic has the potential to affect their use and enjoyment. To test whether or not there is likely to be a change in the use and enjoyment of the recreational areas near Bruce A as a result of the restart project, the extent to which people anticipate nuisance effects from the project was investigated.

Survey respondents were also asked whether or not they anticipate a change in their use and enjoyment of the parks, beaches or trails as a result of the project. Survey research indicates that 23% of Kincardine residents anticipate adverse effects from noise, dust and air quality and 34% anticipate adverse effects from traffic on local roads.

Despite these expectations on the part of local residents, the Atmospheric Environment Technical Support Document indicates that no significant changes in noise or dust levels are anticipated as a result of the project at any recreational facilities or areas. Similarly, the assessment of traffic effects indicates that no significant effects on levels of service along local roads are anticipated as a result of the project.

Public attitude research results also indicate that 90% of the respondents in Kincardine, do not anticipate any change in their use or enjoyment of these parks, beaches or trails as a result of the project and 93% do not intend to change in their birdwatching or nature viewing activities. Of those who anticipated a change as a result of the restart project, regular park, beach or trail users and those who regularly conduct birdwatching or nature viewing near the Bruce Power site, at Inverhuron Beach or near Baie du Doré are most likely to consider these areas less attractive. However, because 1% or fewer of Kincardine respondents indicated that their use and enjoyment of the parks, beaches and trails and birdwatching or nature viewing near the Bruce Power site would decrease a "great deal" under normal operating conditions, very few people are likely to change their use or enjoyment of parks, beaches or trails in the vicinity of Bruce A and any such effects are expected to decrease over time.

6.4.1.1 Resource Use - Recreational Fishing

As noted previously, an increase in nearshore Lake Huron water temperatures associated with the discharge of warm cooling water from Bruce A would increase the size of the thermal plume in Lake Huron. The Aquatic Environment Technical Support Document concluded that there would be an increased congregation of warmwater fish species such as smallmouth bass as a result of this thermal discharge, and that there would be not effect on the production of coldwater fish species such as whitefish during warm water conditions (i.e. summer and early fall).

The restart project will not affect the access to the lake, marinas or boat launches in the area. Accessibility is one of the most attractive features of the area to local anglers. Therefore, the resumption of operations at Bruce A, and the resultant increased thermal plume and changes in fish production is not likely to affect the majority of current anglers' decisions on where to fish.

It is likely that a few new anglers would be attracted to the area near Bruce A, and a few anglers are expected to fish farther away from the site, so that the overall fishing effort near the Bruce Power site would not likely change dramatically. This conclusion is supported by public attitude research results. Approximately 85% of Kincardine respondents indicated that their fishing or boating activities on Lake

Huron near the Bruce Power site are not likely to change, while 2% indicated that they intended to decrease their activities and 2% indicated that the project would result in an increase in their fishing and boating activities.

Those who do fish near Bruce A may experience an increased catch rate or harvest of warm water fish such as smallmouth bass, along with other targeted species such as northern pike during the fall, winter and early spring seasons. Decreased catch rate or harvest of coldwater fish that are currently experienced during the late spring and summer seasons would continue to occur, but over a larger area near the Bruce Power site.

6.4.2 Educational Facilities

The restart of Bruce A is not anticipated to change the availability or quality of educational facilities (i.e. primary and secondary schools, nurseries and day care facilities) in the study areas because project-related employment is not anticipated to result in measurable change in local or regional population.

There is also little potential for the disruption of activities conducted at these schools (e.g., use of these facilities by staff, students, community groups and organizations) as a result of the emissions, environmental quality changes or nuisance effects related to the project. The nearest facility to the site is the Bruce Township Central Public School, which is located over 11 km from the fence line. No noticeable nuisance effects (e.g., noise, and dust) are expected at this facility. Similarly, no measures increase in traffic will be associated with the project that could affect schools or school bus routes.

Interviews with school administrators indicated that existing operations at the Bruce Power site do not directly influence operations or the use of the school property by staff and students [Appendix C]. Bruce Power maintains contact with some schools through its community support activities. For example, Bruce Power has a permanent teacher on staff who is seconded from the Board of Education for secondary school co-op placements on site. Educational programs in the Bruce Power Visitors' Centre include environmental awareness (elementary and secondary), basic electricity (elementary), and nuclear energy (elementary, secondary, and post-secondary). The environmental awareness program is operated in a partnership involving the Saugeen Valley Conservation Authority. These are pre-arranged programs that are often booked months in advance. This is not anticipated to change as a result of the project.

Nevertheless, it is anticipated that on occasion, parents of school children, particularly those of new students, may have questions regarding emergency plans (e.g., evacuations). Although such questions are not exclusively related to the operation of Bruce A, but relate to the Bruce Power site in general, increased awareness of the restart project in the community will likely increase the levels of interest in such issues by facility staff, students and parents alike.

6.4.3 Health and Safety Facilities and Services

The restart of Bruce A is not anticipated to change the availability or quality of health and safety facilities and services (i.e. hospitals, police and fire fighting facilities and services) in the study areas. This is because project-related employment is not anticipated to result in a measurable change in local or regional population that would place additional demands on these services. In addition, because the Bruce Power site is largely self sufficient in terms of fire protection, policing/security and first aid/medical services on-site, no additional requirements for changing off-site municipal services or procedures are anticipated.

There was no concern expressed by the Ontario Provincial Police with respect to ongoing operation at the Bruce Power site, with or without the restart of Bruce A. It was felt that the force has adequate capacity to handle requirements created by Bruce Power operations. Because no major growth in work force and associated population is projected, it was felt that there is no need for increased service expansion. Ad hoc or short-term service requirements that may be associated with the restart phase (e.g., traffic offences, car/deer collisions) have been successfully managed in the past, and no future problems are anticipated. The small increase in use of the area near the outfalls at Bruce A by anglers that might occur as a result of the increased thermal plume may result in more boating accidents that would require a response from either Bruce Power staff or others.

There was no concern expressed by the local Fire Department chiefs with respect to ongoing operation of Bruce A. It was felt that the proposed project will not impose a need for increased service provision by the fire department and that staff and equipment levels were considered appropriate to meet the needs of the facility now and into the foreseeable future [1845]. Some concern was expressed regarding the current uncertainty regarding Bruce Power's expectations regarding the provision of external emergency services and training programs [1845].

There was no concern expressed by the Chief Executive Officer of the Kincardine Health Centre with respect to ongoing operations of Bruce A. It was felt that the hospital would be adequately equipped to accommodate any demands that the facility and associated population might generate [1566]. Direct environmental effects of the project are also not likely to disrupt activities conducted at health and safety facilities (e.g., use of these facilities by patients, clients or staff). The nearest facility to Bruce A is located over 19 km from the fence line.

These conclusions are reinforced by the fire protection and emergency response systems that exist at Bruce A and the improvements that are aimed at improving on-site safety. At present, Bruce Power's emergency measures department is comprised of 77 emergency response maintainers along with other management staff for approximately 109 full-time equivalents (FTEs) involved in fire protection and emergency response. The Bruce A emergency response team is capable of being deployed and engaged in any event within 10 minutes, with support from other on-site emergency response teams available within 15 to twenty minutes. Planned upgrades to the fire protection systems will also serve to minimize the need for municipal fire fighting an policing services. These improvements include:

a) reorganization and enhancement of the emergency response team;

b) modifying and upgrading fire detection and suppression systems in the turbine/generator area, main control/equipment rooms, and areas where electrical cables are exposed; and

c) enhancing fire prevention training programs.

Identified Mitigation Measures (Community Services)

Mitigation measures are not warranted to address the very small changes in the use and enjoyment of parks, beaches and trails by regular users.

Residual Effects (Community Services)

No residual effects on community services are anticipated as a result of the restart.

6.5 Likely Effects on Residents and Communities

Project/Environment Interactions

The likely interactions between the project and residents/communities include:

a) presence of the station;
b) station administration; and
c) malfunctions and accidents.

In addition, the likely interactions between the project and residents/communities also relate to the response of people to environmental changes caused by the project such as emissions, environmental quality changes and nuisance effects.

The project/environment interactions associated with the above Project Systems are assessed in the following paragraphs. The likely environmental effects that will be examined include effects on community character, residents' use and enjoyment of property, personal security and satisfaction with community. Likely effects in each of these areas are analyzed below.

6.5.1 Community Character

The analysis undertaken as part of this environmental assessment, including public attitude research [1635], interviews and consultation activities, indicates that the restart project has little potential to alter the character of the community by changing its fundamental socio-economic or physical dimensions that would make it an unattractive place to live, raise a family, or conduct business.

Other sections of this environmental assessment have concluded that the restart project would not cause widespread or large-scale changes in the key aspects of the community's character including its population structure and distribution, economic base, employment or its economic development plans. The Municipality of Kincardine and the County of Bruce anticipate modest growth in population, employment and business activity and have developed plans to accommodate this growth in terms of infrastructure and community service delivery. In physical terms, all buildings and structures required for the safe operation of Bruce A already exist and its past and ongoing influence on existing land uses and development patterns is reflected in both the land use plans and policies of the local municipality and the County of Bruce. As such, the restart project would not involve changes to the landscape and existing or planned land uses (i.e. the off-site built environment).

It is hypothesized that increased awareness of the Bruce Power site due to the restart project on the part of some people within and outside of Kincardine may affect the image of the community.

Public attitude research results indicate that 53% of residents in the Local Study Area anticipate that the project will result in a positive effect on the image of their community, while only 8% anticipate an adverse effect on the character of their community. Across Bruce County, only 8% anticipate any adverse effect on community character. The majority of residents anticipate either no change or a positive effect on the character of their local communities as a result of the project.

Whether or not any adverse effects occur will depend largely upon the nature of the events surrounding the restart project and their associated media attention, including this environmental assessment and any subsequent approval processes; the success of ongoing communication activities by Bruce Power and the success of efforts to involve residents in the project and other on-site operations. However, in the absence of frequent malfunctions and accidents at Bruce A or Bruce B, the attribution of an adverse 'stigma' to the community is not expected. Stigma refers to the negative perceptions or images associated with the community and its residents [1538]. A positive reputation is anticipated as Bruce Power demonstrates a positive environmental and safety record that is well communicated to the public, both within and outside Bruce County.

In addition, the renewed enthusiasm surrounding the project on the part of local residents which is evident from public consultation activities and public attitude research suggests that over the short term, the project may serve to reinforce the view of Kincardine and Port Elgin as an economically stable, and

desirable place to live, work or conduct business. Therefore, no adverse changes in the character of the community is anticipated over the restart phase and during most of the operations period. There is little potential for the attribution of an adverse 'stigma' as a result of the presence of the station or the nuclear aspects of the project. This conclusion is also supported by public attitude research results which indicate that the nuclear stations are not features that define the character of communities in the area.

However, the current plan for Bruce A is to operate unit 3 for 8 years and unit 4 for 13 years. As each of the Bruce A units approach the end of their respective planned service life, uncertainties regarding the future status of the local communities will likely emerge and the positive image of the area among local residents and others will likely change. The degree to which local governments and economic development agencies are successful in diversifying their economic base over the next several years will determine whether or not the communities nearest the Bruce Power site will be viewed as "single industry towns" vulnerable to boom and bust effects.

6.5.2 Use and Enjoyment of Property

In general, people need answers to the questions they may have about operations at the Bruce Power site so that they may feel more secure and enjoy their life at home. Public attitude research indicates that changes in the use and enjoyment of property is closely linked (i.e. statistically correlated) with people's daily awareness of the station or project and the success of Bruce Power's communication efforts. The more positive the assessment of Bruce Power's communications efforts, the more likely a person will say that their use and enjoyment of property will not change. Similarly, the less frequently a person thinks about the fact that they live near a nuclear facility the more likely the person will say that their use and enjoyment of property will not change. As noted previously, most respondents (73% Kincardine and 79% Bruce County) do not think frequently about the fact that they live near the Bruce Power site.

At the time of the public attitude research (July, 2001), most survey respondents had heard 'a great deal' or 'something' about the restart project and also rated Bruce Power as performing a "good" or "very good" job at addressing questions they may have about their operations and plans for the future. The following tables present results from the research. Since the time of the survey, Bruce Power has conducted a number of consultation events regarding the project and has continued with its ongoing communications programs regarding the Bruce Power site as a whole.

Table 6-10. Percentage of Survey Respondents That Had Heard About the Restart Project (July 2001)

Level of Awareness of Restart Project	Local Study Area (%)
Great Deal	53
Something	30
Very Little	13
Nothing	5

Source: [1635]

Table 6-11. Evaluation of Bruce Power's Efforts in Addressing Residents' Questions (July 2001)

Evaluation	Local Study Area (%)
Very Good	35
Good	37
Fair	10
Poor	4
Very Poor	7
Have No Questions	8

Source: [1635]

People's use and enjoyment of property can also be adversely affected if the restart project increases noise, dust, and traffic in residential neighbourhoods or if the project affects aspects of the community which are valued by residents (i.e. quietness, peacefulness, sense of community, nice/friendly people, the beaches and lake). Previous sections concluded that no noise or air quality effects are expected as a result of the project at any residential or cottage properties in the study areas. Traffic would be largely restricted to road segments leading up to the main site gate where there are few residential homes. The Land Resources Technical Support Document concluded that there will be no likely effect on the disturbance to off-site residences, including those near the intersection of Bruce Concession 6 and MacFarland Road.

Because the project is not likely to have a direct effect on residential properties or those aspects of community that are valued by local residents, and given the very high levels of awareness of the project and the positive ratings given to Bruce Power's communication efforts, few people, if any, should experience a loss of their use and enjoyment of property as a result of the project.

Other public attitude research results confirm this conclusion, and indicate that 90% of Kincardine respondents do not intend to change in their use of their property or anticipate any change in their enjoyment of property as a result of the restart project. Only 3% of respondents indicated that they are likely to experience an adverse effect on their use and enjoyment of property. Conversely, 4% of survey respondents indicated that their use and enjoyment of property would improve. Cottagers who consider the restart project as incompatible with their lifestyle and the character of their community, those who can see the Bruce Power facilities from their homes, cottages or beaches are the most likely to feel that their enjoyment of property has decreased.

6.5.3 Personal Security

The Radiation and Radioactivity Technical Support Document concluded that although increased radioactive emissions are likely from the project, no adverse residual effects are anticipated. Similarly, the Atmospheric Environment Technical Support Document concluded that adverse effects on air quality are not likely to be significant.

Public attitude research indicates that people's feelings of personal security are closely related to the possibility of a malfunction or a serious nuclear accident at the Bruce Power site. Approximately 17% of Kincardine respondents and 5% across Bruce County indicated that operations at the Bruce Power site affect their sense of health, safety and personal security. Since the events of September 11, 2001 it is anticipated that a greater proportion of people will consider the Bruce Power site as affecting their sense of health, safety and personal security.

The Radiation and Radioactivity Technical Support Document has concluded that the nuclear accidents postulated for Bruce A would not necessarily warrant an evacuation of areas beyond the site boundary. On the basis of the radiological analysis, chronic and acute risks associated with operation of Bruce A are estimated to be well within acceptable regulatory limits. This does not mean that there are absolutely no risks and that every resident considers this to be acceptable. As such, it is expected that a few individuals may experience a loss in their feelings of personal security due to the project. This is supported by case studies regarding the social effects of natural and technological hazards. The research suggests that in a situation characterized by the simple presence or existence of a risk, such as an operating nuclear facility, only a few residents experience anxiety or tension [1659].

Nevertheless, the events of September 11, 2001 and the focus of media and public policy debates on nuclear safety are likely to represent a 'threat signal' to some residents that similar events may occur at the Bruce Power site. As such, some people may have already experienced some loss of personal security and may consider the Bruce A Restart Project as another contributor to these feelings. Case study research suggests that in a situation characterized by a 'threat signal' some people may experience anxiety. However, because of the presence of other nuclear facilities at the Bruce Power site, this situation is likely to exist whether or not Bruce A is restarted or not. Case study research also suggests that such effects are most likely to be experienced by area residents who are predisposed to define the situation as risky, that is, individuals who had a traumatic experience related to the events of September 11, 2001 or who place the restart of Bruce A high on their agenda of important topics view higher risks from the restart [1659].

Public attitude research indicates that although many people in the Local Study Area link the operations at the Bruce Power site with their sense of health, safety and personal security, only 5% indicated that their feelings of personal security would decrease as a result of the project. Of these, only 2% believe that their feelings of personal security would decrease "a great deal." Conversely, 7% of all Kincardine

respondents indicated that the project would result in improved sense of personal security. During public consultation events, personal an telephone interviews conducted for this project, only a few individuals expressed a sense of anxiety over Bruce Power operations in general, as well as other community issues (e.g., health care and doctor shortages). Moreover, people attending consultation events conducted later in this project did not raise issues regarding safety or security at the Bruce Power site.

Notwithstanding these results, some people have and will continue to experience some anxiety or loss of feelings of personal security simply because of the presence of the station. Cottagers and families with children are most like to continue to experience reduced feelings of personal security. Overall, extreme or widespread changes in people's feelings of personal security are not apparent from this research or the consultation undertaken as part of this environmental assessment. This is not surprising since Bruce B and related facilities have continued to operate and that the Bruce Power site is a well-established and familiar feature within the local communities. Overall, widespread declines in people's feelings of personal security across the Local or Regional Study Area attributable to the Bruce A Restart Project are not anticipated.

6.5.4 Satisfaction with Community

Community satisfaction may be adversely affected if there is evidence that the commitment of residents to, or their identification with the community is influenced by people's attitude towards the project or the station as a whole. Survey research and the mobility and length of residency data presented in previous sections suggested that people in Kincardine are strongly committed or attached to their community and few homeowners or cottagers would decide and take steps to move because of the restart project. In addition, frequent upset conditions or malfunctions are not expected which could lead to people deciding to leave their communities. Notwithstanding these conclusions and the fact that some residents have and may continue to experience some anxiety or loss of feelings of personal security, almost all respondents (98% Kincardine, 95% Bruce County) are either "very satisfied" or "somewhat satisfied" with their community. The vast majority of these respondents are "very satisfied". The volunteered characteristics that most strongly determine satisfaction include the quietness and peacefulness of the community, the overall sense of community, nice/friendly people, and the beaches and lake, rather than the presence of Bruce A and other nuclear facilities.

Table 6-12. Existing Levels of Satisfaction (July 2001)

Level of Satisfaction	Local Study Area (%)	Regional Study Area (%)
Very Satisfied	78	71
Somewhat Satisfied	20	24
Not Very Satisfied	1	3
Not at all Satisfied	1	1

Source: [1635]

Overall, survey results indicate that 76% of Kincardine respondents do not anticipate any change in their level of satisfaction with living or owning a cottage in the community as a result of the project. Approximately 4% of the respondents indicated that their level of satisfaction would decrease, while 15% indicated that the restart project would likely increase their level of satisfaction with living in or owning a cottage in the community. Of those who indicated that they may experience a loss of satisfaction, the percentage of respondents who indicated that their satisfaction would "go down a great deal" was only 1%. Cottagers living in areas nearest the Bruce Power site, new residents, women and parents with school-aged children are considered the most vulnerable to these feelings [1635].

The importance people attach to getting information about Bruce Power's operations and plans for the future does not appear to play a large role in maintaining people's satisfaction with community. Rather it is hypothesized that such efforts play a larger role in maintaining trust in Bruce Power.

Nevertheless, when residents were asked to volunteer ways in which Bruce Power could most improve its relationship with their community, the focus of their responses was on being kept informed. A clear emphasis in these responses was on the provision of trustworthy information and Bruce Power's openness to the community. Table 6-13 presents the full range of suggestions made by Kincardine respondents.

Table 6-13. Way in Which Bruce Power can Ensure a Positive Relationship with the Community

Suggestions	Local Study Area (%)
Be open & honest/keep public informed	44
Satisfied/keep doing what you are doing	11
Stay involved with the community	10
Continue to provide jobs/hire locally	8
Observe/maintain safety standards	3
Mail more flyers/continue mailing	2
Be environmentally conscious/responsible	2
Keep the price of power low	2
Other	2
Don't know	16

Source: [1635]

This research indicates that a positive community relationship and residents' feelings of satisfaction can be maintained and perhaps enhanced by promoting social interaction among individuals, groups and organizations. The analysis presented earlier concluded that no loss or disruption of local facilities which contribute to the satisfaction with community (e.g., community centres, schools etc.) are anticipated under normal operating conditions. Very few people are likely to change their use of parks, beaches or trails in the vicinity of Bruce A for social and recreational purposes. In addition, because frequent accidents or malfunctions are not expected which could lead to a reduction in the use of these recreational areas by residents for social pursuits, a resultant change in community satisfaction is not likely.

Clearly, residents want Bruce Power to continue to stay involved in their community both in terms of support of community activities as well as through economic means. Typical responses were:

- *fostering community relations, corporate sponsorships of community events*
- *they have supported so many things like charitable organizations...financially and also with volunteers and equipment*
- *sponsor community oriented activities*
- *taking part in festivals, helping out hospitals and schools*
- *hiring locally*
- *Bruce Power can hire some young people from the community*

Overall, very few individuals are likely to experience reduced levels of community satisfaction and given the nature of the project and Bruce Power's ongoing public affairs initiatives, there is a reasonable potential that the currently high levels of satisfaction will be maintained and enhanced during the restart phase and during most of the operations phase. However, as noted previously if uncertainty regarding the security at nuclear facilities or the future of operations at Bruce A and the status of local communities emerge during the operations phase, community satisfaction among local residents and others may decrease. The degree to which Bruce Power, local governments and economic development agencies are successful in demonstrating a positive safety and security record and maintaining economic stability in the area, diversifying their economic base over the next several years will determine whether adverse effects occur towards the end of the license period or not. Nevertheless, widespread or extreme changes (either positive or adverse) in community satisfaction are unlikely solely as a result of the Bruce A Restart Project.

Identified Mitigation Measures (Residents and Communities)

Mitigation measures are desirable to further minimize the potential loss of feelings of personal security by some individuals. Bruce Power is committed to the ongoing implementation of its public education, communication and consultation strategy and its corporate sponsorship program. Special attention however, will need to be placed on the provision of information and increased dialogue with:

a) new residents and cottagers; and
b) regular users of the parks, beaches and trails in the vicinity of Bruce A.

During the restart period, the focus will be on the improvements being undertaken at Bruce A; the economic benefits of the project; results of this environmental assessment, the proposed mitigation and follow-up activities. During operations, the communications will include information and opportunities for interaction/discussion regarding the actual environmental performance and safety record of Bruce A, local hiring and ongoing training activities, and the role of Bruce Power in local economic development and diversification initiatives. This latter program will continue for the life of the project, evaluated and adjusted on an annual basis.

Residual Effects (Residents and Communities)

No residual effects on residents or communities are anticipated as a results of the restart.

6.6 Summary of Assessment of Likely Effects

This assessment has established that no adverse residual effects on socio-economic conditions are likely as a result of the project. Three positive effects were identified. These were:

1. *Increased proportion of the population associated with, or directly dependent on Bruce A related employment.*
2. *Creation of new direct, indirect and induced employment opportunities and the maintenance of existing jobs within the study areas, resulting in improved employment stability.*
3. *Creation of new business activity and an increased number of industrial and commercial and businesses/operations that are associated with, or directly dependent on Bruce A related expenditures.*

Table 6-14 identifies those residual effects that were advanced for assessment of significance in Section 7. Because only adverse residual effects are advanced for assessment of significance, Table 6-14 is identical to Table 4-3.

Table 6-14:
Summary of Likely Effects

Interactions Associated with Project	Socio-Economic Conditions				
	Population & Economic Base	*Community Infrastructure*	*Community Services*	*Municipal Finance & Administration*	*Residents & Communities*
Bruce A Systems & Works					
Presence of the Station	●	●	●		●
Nuclear Steam Supply System (NSSS)					
Steam and Feedwater System (boiler blowdown/steam discharge)					
Condenser Cooling Water System					
Active Ventilation & Off-Gas Management System					
Active Liquid Waste Management System (ALWMS)					
Ventilation System for Ancillary Services Building					
Ventilation Systems for Other Buildings					
Water Treatment Plants					
Inactive Drainage System					
Service Water Supply Systems		●			
Standby Generators					
Transformers and Switching Areas					
Storage Areas / Warehouse					
Systems Shared With Other Licensed Facilities					
Collection and Management of Solid Radioactive Wastes					
Collection and Management of Solid Non-Radioactive Wastes		●			
Collection and Management of Sewage		●			
Bruce A Activities					
Workforce (project-related employment)	●	●	●		
Purchasing and Payroll	●				
Station Administration				●	●
Activities Shared With Other Licensed Facilities					
Land Transportation Activities		●	●		
Events					
Malfunctions and Accidents	●	●	●		●

● *Potential Interactions (Based on Initial Screening)*
● *Likely Measurable Effects (Based on Second Screening)*
◆ *Likely Residual Effects Advanced for Assessment of Significance*

(2001\328\Table6-14.cdr)