STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Daniel F. Caruso
Chairman

November 6, 2007

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **PETITION NO. 815** – Iroquois Gas Transmission System, L.P. petition for a declaratory ruling that the Connecticut Siting Council has an advisory role to the Federal Energy Regulatory Commission regarding Iroquois's 08/09 expansion project in Brookfield, Newtown, and Milford, Connecticut.

As stated at the hearing in New Britain on September 12, 2007, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by November 21, 2007.

SDP/CML/laf

Enclosure

Date: August 30, 2007

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Iroquois Gas Transmission System L.P.	Philip M. Small, Esq. Michael E. Kozlik, Esq. Brown Rudnick Berlack Israels LLP CityPlace I, 185 Asylum Street Hartford, CT 06103-3402 (860) 509-6500 (860) 509-6501 fax psmall@brbilaw.com Jeffrey A. Bruner Paul W Diehl Iroquois Pipeline Operating Company One Corporate Drive, Suite 600 Shelton, CT 06484-6211 (203) 925-7200 (203) 925-9501 fax
Party (granted August 29, 2007)	Town of Brookfield	Francis J. Collins, Esq. Thomas W. Beecher, Esq. Collins, Hannafin, Garamella, Jaber & Tuozzolo, P.C. 148 Deer Hill Avenue Danbury, CT 06810 (203) 744-2150 (203) 791-1126 fax fcollins@chgjtlaw.com tbeecher@chgjtlaw.com

PETITION NO. 815 – Iroquois Gas Transmission System, L.P. petition for a declaratory ruling that the Connecticut Siting Council has an advisory role to the Federal Energy Regulatory Commission regarding Iroquois's 08/09 expansion project in Brookfield, Newtown, and Milford, Connecticut.	}	Connecticut Siting Council November 1, 2007

DRAFT FINDINGS OF FACT

INTRODUCTION

1. On May 30, 2007, Iroquois Gas Transmission System, L.P. (Iroquois), submitted to the Connecticut Siting Council (Council) a Petition for a declaratory ruling (Petition) that:

    a. Under the Natural Gas Act, 15 U.S.C § 717 *et seq.*, and the Connecticut Public Utility Standards Act, Connecticut General Statutes (CGS) § 16-50g *et seq.*, the Council has an advisory role to the Federal Energy Regulatory Commission (FERC) regarding the Connecticut portions of Iroquois' 08/09 Expansion Project.

    b. In that advisory role, the Council may provide comments to the FERC as to whether the proposed project, with potential conditions as recommended by the Council, would or would not have a significant adverse environmental effect.

    (Iroquois 1, dated May 30, 2007)

2. On July 3, 2007, the Council voted to schedule a public hearing on the Petition. (Meeting Minutes of July 3, 2007)

3. July 20, 2007, Iroquois, provided to the Council a copy of the Draft 08/09 Expansion Project, Environmental Resource Reports as submitted to the FERC. The proposed project would include construction in Oneida and Schoharie Counties in New York and Fairfield and New Haven County in Connecticut. (Iroquois 4b, p. 1-1)

4. On August 21, 2007 at 9:00 a.m. Council members Gerald J. Heffernan and Brian Emerick met with Iroquois representatives for a field inspection at the existing Iroquois Milford Metering Station at 840 Oronoque Road in Milford to review the proposed location of two compressor buildings. Notice of the field inspection was sent on August 14, 2007 to Mr. Heffernan, Mr. Emerick, the Secretary of the State, Mayor James L. Richetelli, Jr. and City Planner David Sulkis. (record)

5. Pursuant to Sections 16-50j-21 and 16-50j-40 of the Regulations of Connecticut State Agencies, the Council, after giving due notice thereof, held a public hearing on September 5, 2007 beginning at 7:00 p.m. in the cafeteria of the Whisconier Middle School, 17 West Whisconier Road, Brookfield, Connecticut. The evidentiary portion of the hearing was conducted on September 12, 2007 at the Office of the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut. The Council and its staff made an inspection of the proposed Brookfield Compressor Station and the Newtown Loop Route on September 5, 2007. (record, Transcript 1 [Tr. 1], September 5, 2007, p. 3; Transcript 2 [Tr. 2], September 12, 2007, p. 3)

6. Parties to this proceeding include the applicant and the Town of Brookfield. (Tr. 1, p. 6; Tr. 2, p. 6)

MUNICIPAL INVOLVEMENT

7. Iroquois held open houses in the project area in April and May 2007 to provide information to the community and receive comments from residents. As part of the open house, Iroquois provides information regarding the FERC process and the NEPA Pre-Filing Process. (Iroquois 4b, p. 1-29)

8. On March 1, 2007, Iroquois met with Mayor James Richetelli of Milford regarding the proposed project. An open house was held, with municipal officials invited, on May 3, 2007. (Iroquois 6, R. 1)

9. On February 27, 2007, Iroquois met with First Selectman of Newtown Herb Rosenthal regarding the proposed project. An open house was held in the Town of Newtown with municipal officials invited on April 23, 2007. (Iroquois 6, R. 1)

10. On February 27, 2007, Iroquois met with First Selectman of Brookfield, Jerry Murphy. An open house was held in the Town of Brookfield on May 1, 2007, with municipal officials invited. (Iroquois 6, R. 1)

PROJECT NEED

11. Algonquin Gas Transmission, LLC (Algonquin) has previously entered into an agreement with KeySpan Gas East Corporation d/b/a KeySpan Energy Delivery Long Island (KeySpan) for delivery of a maximum daily volume of 175,000 dekatherms per day (Dth/d) of firm natural gas effective November 1, 2008 and an additional 25,000 Dth/d beginning November 1, 2009. (Iroquois 4b, p. 1-3)

12. Iroquois held an open season in October of 2006, to determine interest in use of the pipeline. As a result of the open season, Iroquois negotiated an agreement to deliver up to 200,000 Dth/d of natural gas to KeySpan. (Iroquois 4b, p. 1-1; Tr. 2, p. 34)

13. The proposed project has been divided into three phases to accommodate in-service dates requested by KeySpan. Phase I, which would yield 95,000 Dth/d, is proposed to be in-service by November 1, 2008. Phase I includes 5.8 miles of 36-inch pipeline looping in Boonville, NY; 1.0 mile of 36-inch pipeline looping in Wright, NY; and 1.6 miles of 36-inch pipeline looping in Newtown, CT. Phase II, which would provide 80,000 Dth/d, is expected to be in-service by January 1, 2009. Phase II includes the construction of a new compressor station in Milford, CT. Phase III, which would deliver 25,000 Dth/d, includes the construction of an additional compressor station and gas cooling at the previously approved Brookfield Compressor Station in Brookfield, CT. Phase III is expected to be in service by November 1, 2009. (Iroquois 4b, pp. 1-1, 1-3)

14. The natural gas would be delivered by Algonquin to Iroquois at Brookfield, Connecticut. (Iroquois 4b, p. 1-3)

PROPOSED PROJECT

Newtown Pipeline Loop

15. The Newtown pipeline loop would consist of 1.6 miles of new 36-inch outside diameter (OD) pipeline extending approximately 1.6 miles within the existing 50-foot Iroquois Mainline right-of-way. The pipe would be designed for a maximum allowable operating pressure (MAOP) of 1,480 pounds per square inch gauge (psig). (Iroquois 4b, p. 1-5; Iroquois 6, R. 3)

16. The Newtown loop would consist of a total typical construction right-of-way (ROW) width of 115 feet. The portion of the existing permanent ROW used in Newtown is 35 feet. An additional 30 foot wide area would be required for the proposed permanent ROW. The proposed temporary workspace required for the project would be an additional 50 feet wide. (Iroquois 4b, p. 1-7)

17. The proposed Newtown loop would be located within the existing permanent ROW for the Iroquois Mainline. Iroquois proposed to acquire additional new permanent ROW along portions of the proposed loop segment due to insufficient space within the existing ROW to accommodate two pipeline facilities. Approximately 18.6 acres would be maintained by Iroquois following construction of the proposed loop, including 15.1 acres of existing permanent easement/fee property and an additional 3.5 acres of new permanent easement. (Iroquois 4b, p. 1-10)

18. Iroquois owns two parcels of land (28.33 acres and 41.42 acres) adjacent to the proposed looping facilities in Newtown. The property that Iroquois owns is adjacent to approximately one mile of the 1.6 mile proposed loop. The Iroquois property would be used for temporary workspace and permanent easement, if necessary. (Iroquois 4b, p. 1-10)

19. Approximately 3.5 acres of land for temporary workspace and additional temporary workspace is required for the proposed Newtown Loop. Following construction and restoration of the proposed project, this land would be returned to landowners for their use or allowed to revegetate naturally. (Iroquois 4b, p. 1-10)

20. Approximately seven acres of land would be required temporarily for pipe yards and storage/staging yards. (Iroquois 4b, p. 1-10)

21. No permanent launcher and receiver facilities would be installed; however, the proposed pipeline would be designed to allow for future connection of launching and receiving facilities to accommodate the passage of internal inspection tools. (Iroquois 4b, p. 1-5)

22. The pipeline would have crossover valves at the beginning and ending sections that would be used for manual isolation of the pipeline. Emergency isolation of the pipeline loop would not impact the existing mainline valves immediately upstream and downstream of the looping facility. (Iroquois 4b, p. 1-5)

23. Iroquois would periodically visually inspect the pipeline loop for possible leaks, excavation activity within or near the permanent ROW, erosion and wash-out areas, areas of sparse vegetation, damage to permanent erosion control measures, exposed pipe and potential concerns that would adversely impact the safety and operation of the proposed pipeline. (Iroquois 4b, p. 1-27)

24. The cathodic protection system would also be inspected periodically to ensure continuity and indicate where possible corrective action may be necessary. (Iroquois 4b, p. 1-27)

25. Approximately once every three to five years, Iroquois maintains its permanent/operational easement. Within forested areas, the permanent easement would be maintained in an herbaceous state to prevent the growth of trees. A pipeline integrity corridor of ten feet in width, centered over the pipeline would be maintained in an herbaceous state within wetland areas to facilitate pipeline inspection and maintenance. (Iroquois 4b, p. 1-27)

26. A Supervisory Control and Data Acquisition (SCADA) system would be used to remotely monitor the proposed pipeline loop. The SCADA system would be manned on a 24 hour a day basis. (Iroquois 4b, p. 1-27)

Loop Construction

27. Construction of the proposed Newtown Loop would begin with marking of the boundaries of the construction corridor and temporary workspace to define approved work limits. Areas of avoidance, such as wetland boundaries, cultural resource sites and rare species habitat would also be marked. (Iroquois 4b, p. 1-15)

28. The construction corridor would require clearing and grading. Non-woody vegetation may be mowed to ground level. Clearing of timber would only occur within the designated construction corridor or workspace. (Iroquois 4b, p. 1-16)

29. The trench would be excavated using backhoes or other mechanical equipment. The depth of the trench would vary depending on soil type but typically 24 inches of cover in bedrock areas to 36 inches or cover in most other areas to meet or exceed United States Department of Transportation (US DOT) requirements. Trenching activities would be done in accordance with the FERC Upland Erosion Control Plan to minimize erosion during construction. (Iroquois 4b, p. 1-16; 1-18)

30. The pipe to be used for the proposed Newtown Loop would be delivered by truck and place in pipe storage yards. Prior to construction, sections of pipe are brought to the corridor. Trucks or other vehicles lay or string the pipe sections parallel to the trench centerline. (Iroquois 4b, p. 1-16)

31. Pipe sections are bent to conform to pipeline alignment and ground contours using machines or induction and then welded together. An external coating is applied to the pipe to protect it from corrosion. Aside from a small area at each end of the pipe section, the coating is applied at the pipe mill prior to shipment. Welded areas of the pipe are coated in the field with similar or compatible materials. Following inspection, the pipe would be lowered into the trench. (Iroquois 4b, p. 1-17)

32. After placement of the pipe, the trench would be backfilled with material originally excavated from the trench, unless additional backfill from other sources is required. Excess excavated materials or materials unsuitable for backfill would be spread evenly over the construction corridor or disposed of in accordance with applicable regulations. (Iroquois 4b, p. 1-17)

33. The installed pipeline would be tested using hydrostatic pressure testing. When testing has been successfully completed the pipeline would be tied-in to the Mainline. (Iroquois 4b, p. 1-17)

34. Typically some temporary natural gas venting would be associated with the purge and load phase of the project. This phase involves removing air from the system by displacing it with natural gas. (Iroquois 4b, p. 1-18)

35. Following completion of backfilling, disturbed areas will be graded and any remaining trash and debris would be disposed of in compliance with federal, state and local regulations. Erosion control measures including site specific contouring, permanent slope breakers, mulching, and reseeding or sodding would be used to protect the construction corridor. (Iroquois 4b, p. 1-17)

36. Valve assemblies would be installed at the beginning and end of the Newtown Loop to allow isolation and pressure reduction of the loop piping without affecting the Mainline. (Iroquois 4b, p. 1-18)

37. The construction period of the proposed Loop is expected to be Summer 2008 to Fall 2008, with commercial operation of the pipeline loop beginning in November 2008. Approximately 50 to 75 personnel would be assigned to work on the proposed Newtown Loop. (Iroquois 4b, p. 1-24)

Milford Compressor Station

38. The proposed compressor station in Milford would be installed to increase the throughput of natural gas to the existing downstream pipeline by increasing the pressure to the current MAOP of 1,440 psig. (Iroquois 4b, p. 1-6)

39. Iroquois proposes to install two compressor buildings, each housing a 10,310 [nominal] horsepower (hp) turbine drive centrifugal compressors at the site of the existing Iroquois Milford Sales Meter Station at 840 Oronoque Road in Milford. (record; Iroquois 4b, pp. 1-6, 1-10)

40. The turbo-compressors would be fueled by natural gas, with "lean pre-mix" dry low nitrogen oxide (NO_x) combustors to minimize emissions levels from NO_x, carbon monoxide (CO) and particulate matter (PM). Emissions levels of these pollutants would remain below Best Available Control Technology (BACT) criteria. (Iroquois 4b, p. 1-6)

41. Iroquois would construct two unit control buildings, station maintenance/control building, emergency electrical power generator, a domestic gas building and parking and access areas. (Iroquois 4b, p. 1-6)

42. Construction of the proposed Station would require the use of approximately 4.8 acres located on two parcels, including a 4.6 acres parcel owned by Iroquois that contains the existing meter station, and a 0.9 acre parcel that would be leased by Iroquois during construction only. (Iroquois 4b, pp. 1-10, 1-11)

43. Permanent fencing would be installed around the proposed compressor station and the existing sales meter station, which would occupy approximately 3.86 acres of the total 4.8 acres that would be impacted during construction. (Iroquois 4b, p. 1-11)

44. The construction of the compressor station would require 1.65 acres of temporary workspace in addition to the area to be occupied by the proposed equipment. Temporary workspace may be used for office trailers, parking, material stock piling, pipe fabrication, temporary fuel storage tanks (with secondary containment), supply storage, and other temporary construction activity. Temporary work areas would be re-graded and landscaped following construction of the proposed project. (Iroquois 4b, p. 1-11)

45. Access to the Milford Compressor Station site would be via Oronoque Road. (Iroquois 4b, p. 1-6)

46. The Iroquois property would be used for the contractor yard and storage of materials during construction of the proposed facility. (Iroquois 4b, p. 1-6)

47. The proposed construction period for the Milford Compressor Station is June 2008 to December 2008, with commercial operation of the facility scheduled to begin in January 2009. (Iroquois 4b, p. 1-25)

Brookfield Compressor Station

48. The proposed Brookfield Compressor Station would transfer incremental gas volumes from the existing Algonquin Gas Transmission, LLC (Algonquin) pipeline to the Iroquois facilities. (Iroquois 4b, p. 1-6)

49. Iroquois would install a 10,310 [nominal] hp turbine driven centrifugal compressor. The turbo-compressors would be fueled by natural gas with "lean pre-mix" dry low NO_x combustors to minimize NO_x, CO and PM levels to below BACT levels. (Iroquois 4b, p. 1-6)

50. Iroquois would construct a unit control building, aerial natural gas coolers, and gas filtration equipment. (Iroquois 4b, p. 1-6)

51. Construction of the proposed project would increase the size of the previously approved compressor station yard from 1.37 acres to 1.81 acres. Approximately 0.76 acres would be required for construction workspace, 0.44 acres of which would be required for operation within the permanent fence line. Approximately 0.32 acres would be required for temporary workspace. (Iroquois 4b, p. 1-11)

52. The existing Brookfield Compressor Station property would be used for equipment storage and the contractor yard during construction of the proposed facility. (Iroquois 4b, p. 1-6)

53. Access to the proposed Brookfield Compressor Station site would be via High Meadow Road. (Iroquois 4b, p. 1-6)

54. The proposed construction period for the Brookfield Compressor Station is Spring 2009 to Fall 2009, with commercial operation of the facility scheduled to begin in November 2009. Construction of the approved MarketAccess Project on the Brookfield site is expected to be completed prior to the commencement of construction of the proposed 08/09 Expansion Project that is part of this application. (Iroquois 4b, p. 25; Iroquois 6, R. 2)

Construction of the Milford and Brookfield Compressor Stations

55. Construction would begin with clearing of vegetation and grading of the area at the proposed compressor station sites and temporary workspaces. Sediment and erosion controls would comply with FERC requirements and Iroquois' stormwater pollution prevention plans. (Iroquois 4b, p. 1-22)

56. Building foundations would be constructed of poured reinforced concrete. Any topsoil present in the area of building foundations would be removed and, used elsewhere on-site. Additional materials may be brought in to achieve the desired site/foundation grade. (Iroquois 4b, p. 1-23)

57. The proposed compressor buildings would be approximately 40 feet wide by 65 feet long with the peak of the roof at a height of approximately 45 feet. The proposed turbine exhaust stacks were designed to a height of 50 feet. (Iroquois 4b, p. 1-23)

58. High pressure piping at the proposed compressor stations would be designed to meet the requirements of the US DOT. Iroquois would design the high pressure gas piping for a MAOP of 1,480 psig. The pipe would be coated to protect against corrosion. In addition, Iroquois expects the installation of a cathodic protection system. (Iroquois 2?, p. 1-23)

59. Iroquois would develop and implement station commissioning plans prior to putting the new units into service. These plans would include the checking and testing of controls and safety features. (Iroquois 4b, p. 1-24)

60. Prior to construction, Iroquois would develop final grading and landscaping plans for areas that would be disturbed during construction. The final grading and landscaping plans would be implemented following completion of construction activities and testing of the units. (Iroquois 4b, p. 1-24)

Operation and Maintenance of the Milford and Brookfield Compressor Stations

61. Iroquois would inspect the proposed compressor stations as part of routine maintenance and operations procedures to ensure that the stations operate safely. (Iroquois 4b, p. 1-28)

62. Iroquois currently does not have plans for future expansion of any of the proposed facilities. The proposed project is in direct response to a KeySpan request for Iroquois to supply natural gas to its existing infrastructure. If future expansion is necessary to satisfy additional demand for natural gas services, Iroquois would design those facilities to be compatible with Iroquois' existing facilities and the project would undergo regulatory review. (Iroquois 4b, p. 1-28)

ALTERNATIVES

63. The primary goal in selecting the proposed pipeline loop route and compressor station locations was to provide natural gas to KeySpan while avoiding and/or minimizing potential adverse environmental effects to the greatest extend practicable. (Iroquois 4b, p. 10-1)

64. Energy conservation may be an alternative to construction of the proposed project. Conservation consists of reducing the demand for limited and over-utilized fossil fuel reserves and is strongly advocated by federal and state authorities. KeySpan currently has programs in place that encourage conservation measures; however, there still remains a need for the additional natural gas that would be provided with the construction of the proposed project. The process of implementing additional energy conservation measures would take years to complete and would only partially satisfy the demand for increased natural gas supply. (Iroquois 4b, pp. 10-1, 10-2)

Energy Alternatives

65. Wind power is not a viable alternative for providing power to this region. Wind generation cannot be scheduled based on demand. Wind energy would not satisfy the demand in this region as reliably and in the quantity that would be provided by natural gas. (Iroquois 4b, p. 10-2)

66. Solar power is not a viable solution to provide power to this region due to climactic conditions. Solar power is not being developed at a pace fast enough to provide for the projected energy needs in the region. (Iroquois 4b, p. 10-2)

67. Geothermal energy is not an alternative to the proposed project because it is only available at tectonic plate boundaries or volcanic hotspots, which are not present in this area. (Iroquois 4b, p. 10-2)

68. Coal is a viable alternative energy source but necessitates increased environmental impacts in comparison to natural gas. Impacts from coal include mine pollution control problems and reclamation issues, storage problems, acid rain, and expensive pollution controls at the burner. (Iroquois 4b, p. 10-3)

69. Oil may be a viable alternative energy source; however, it would necessitate increased environmental impacts. (Iroquois 4b, p. 10-3)

70. Nuclear power would not provide energy in time to meet KeySpan's energy need. (Iroquois 4b, p. 10-3)

71. Hydroelectric power generation would not be available in the region as an alternative to the proposed project. (Iroquois 4b, p. 10-3)

72. Fuel cells are currently a developing alternative for generation of electricity. Fuel cell research and development are small scale. A fuel cell system on an equivalent scale to the proposed project would not be available or cost effective in the near future. (Iroquois 4b, p. 10-3)

System Alternatives

73. The only feasible alternative to the proposed Newtown Pipeline Loop would be the installation of additional compression beyond that which is proposed in Milford as Phase II of the project. The additional compression would require approximately 20,000 HP and would result in exceeding the threshold for regulation as a minor emissions source by the Connecticut Department of Environmental Protection. Additional compression would consume approximately 3,200 Dth/day, which would cost Iroquois' shippers an additional $9 million per year in fuel. (Iroquois 4b, p. 10-5)

74. The only potential alternative to the proposed Milford Compressor Station would be the installation of additional looping between the proposed Brookfield Compressor Station and the Connecticut Shoreline at Long Island Sound. The additional loop would add approximately 24 miles to the proposed 1.64 miles of the Newtown Loop. Construction of this additional pipeline would cost approximately $150 million, would be through high population density areas, as well as impact the Long Island Sound. (Iroquois 4b, p. 10-6)

75. The proposed Brookfield Compressor Station has no viable alternatives because the Algonquin Gas Transmission system operates at a lower pressure than the Iroquois gas line. Looping or compression at other locations is not a viable alternative in this area because it does not account for the physical transfer of gas from the Algonquin system to the Iroquois system. (Iroquois 4b, p. 10-6)

76. The Islander East Pipeline Project, which was proposed by Islander East Pipeline, LLC (an equally owned, limited liability company formed between subsidiaries of Spectra Energy and KeySpan Energy), consists of the construction of approximately 50 miles of new 24-inch diameter pipeline and other facilities to deliver natural gas from Spectra's facilities in Connecticut to the KeySpan distribution system on Long Island, NY. FERC approved the Islander East Pipeline Project on September 18, 2002. The Islander East project is currently in litigation with the State of Connecticut over denial of state approvals. Since the outcome and timing of the litigation is uncertain, it is unlikely that these facilities would be available in time to meet the demands of KeySpan. (Iroquois 4b, pp. 10-6, 10-7)

Location Alternatives

77. The Iroquois pipeline parallels two existing Algonquin pipelines for approximately two miles, into the Town of Newtown, downstream of the proposed Brookfield Compressor Station. Construction of a fourth pipeline downstream of the Brookfield Compressor Station would require the acquisition of right-of-way on residential property. (Iroquois 4b, p. 10-9)

78. Relocating the proposed Newtown Pipeline Loop farther downstream toward Monroe, Shelton, or Milford, Connecticut would impact the Long Island Sound watershed area, require special permitting and construction techniques, increase the scheduled time for approvals and increase costs. (Iroquois 4b, p. 10-9)

79. Relocating the proposed Newtown Loop upstream of the proposed Brookfield Compressor station would almost double the length of looping necessary to 3.1 miles. Also, looping upstream would increase the pressure at the proposed Brookfield Compressor Station thereby increasing the horsepower requirements in Brookfield resulting in increased environmental impact and construction costs. (Iroquois 4b, p. 10-9)

80. Iroquois considered relocation of the proposed Newtown Pipeline Loop downstream approximately 800 feet. This relocation would not be feasible because it would require access to the valve site along the existing ROW down a slope. Any minor deviation to the proposed pipeline route would add additional length to the proposed pipeline resulting in increased costs and environmental impacts. (Iroquois 4b, p. 10-9)

81. Iroquois investigated the feasibility of relocating the Newtown Pipeline Loop to the opposite site of the existing mainline to gain more distance from the residents at the end of Canterbury Lane in Newtown, Connecticut. Topography of the land on the opposite side of the existing pipeline is steep and undulating and, therefore, pipeline construction would be difficult. Also, the relocated loop would be installed on land that Iroquois does not own or control and would necessitate a crossing of the mainline to regain access to Iroquois land. Additionally, ledge conditions would make it difficult to bore beneath Iroquois' existing pipeline. (Iroquois 4b, p. 10-10)

82. Iroquois investigated the use of five alternative sites for the location of the proposed compressor station. Four of the alternative sites were downstream and one was upstream of the proposed site. (Iroquois 4b, pp. 10-13, 10-14)

    a. Alternative Site 1 is located on an approximately 80-acre parcel in Newtown that is about 0.5 miles downstream of the proposed site. This alternative was rejected by Iroquois because there would be insufficient buildable land due to an expansive wetland system and the presence of residential properties adjacent to the pipeline right-of-way. (Iroquois 4b, p 10-13)

    b. Alternative Site 2 is an approximately 120-acre parcel in Newtown about one mile downstream of the proposed site. This alternative was rejected by Iroquois because the eastern portion of the parcel has been converted into residential development and the remaining portion of the parcel is insufficient for the construction of the proposed compressor station. (Iroquois 4b, p. 10-13)

    c. Alternative Site 3 is located between Butterfield Road and Georges Hill Road in Newtown, approximately two miles downstream of the proposed site. This alternative was rejected by Iroquois because there is insufficient developable land for the proposed compressor station and because there would be potential impacts to environmental resources. (Iroquois 4b, p. 10-13)

    d. Alternative Site 4 is an approximately 55-acre parcel in Newtown that is located about three miles downstream of the proposed site. This alternative was rejected by Iroquois because it has insufficient developable land to construct the proposed compressor station and because construction would impact environmental resources. Also, extensive blasting might be needed at this alternative, which could impact nearby residences. (Iroquois 4b, p. 10-14)

e. The Vale Road Alternative site (Alternative Site 5) is an approximately 45-acre parcel in Brookfield that is about one mile upstream of the proposed site. Construction of an additional compressor station on this parcel would impact forest resources, result in permanent wetland alteration, potentially impact two known cultural resource sites and affect new landowners. (Iroquois 4b, p. 10-14)

ENVIRONMENTAL ISSUES

Land Use

83. Along the proposed pipeline loop the typical construction workspace would range in width from 100 feet to 120 feet. A permanent 50-foot wide easement, in addition to the existing easement, would be maintained for the new facility. The existing ROW in Newtown is approximately 50 feet in width. (Iroquois 4b, p. 8-2)

84. The proposed Newtown Loop is partially located within the Paugussett State Forest. (Iroquois 4b, p. 8-18)

85. The proposed Milford Compressor Station would be located on an Iroquois-owned parcel within an industrial area. Surrounding land uses include a railroad and landfill to the east, D&G Industries Milford Asphalt Plant No. 13 to the south and Oronoque Road and the Connecticut Resource Recovery Authority to the west and north. (Iroquois 4b, p. 8-3)

86. The proposed Brookfield Compressor station would be located on portions of two Iroquois-owned parcels. Historically the Brookfield site was used for gravel processing/asphalt productions. (Iroquois 4b, p. 8-4)

87. Residential areas surround the proposed Brookfield Compressor Station site in all directions. A railroad corridor borders the property to the southwest with residences beyond the corridor. Route 25 is located approximately 2,500 feet to the northeast and Interstate 84 (I-84) is located approximately 3,000 feet to the south. (Council Administrative Notice 1, FOF #36)

88. In particular, the proposed Brookfield project would be located in relatively close proximity to two residences. One is located at 67 High Meadow Road. This residence is across High Meadow Road from the existing meter station and is approximately 90 feet from the property line of the Iroquois property. A second residence is currently under construction to the east, adjacent to the existing home. This residence is located approximately 100 feet from the property line of Iroquois property. (Council Administrative Notice 1, FOF #37)

89. Whisconier Middle School, town open space, and a church are within one-half mile of the proposed Brookfield Compressor Station yard. At its closest point the proposed station yard fence line would be approximately 1,800 feet from the school property line. (Council Administrative Notice 1, FOF # 41)

Visibility

90. The proposed pipeline loop may result in temporary visual impacts, which include vegetation clearing, exposed soil and the presence of construction equipment along the construction ROW. Revegetation of the ROW would occur within a timely manner to minimize temporary visual effects. Permanent visual impacts of the pipeline loop may occur within forested areas due to tree clearing for construction and maintenance of the ROW. Iroquois proposed the installation of the pipeline loop segment to minimize the amount of forest and other habitats that would be impacted by the construction and operation of the proposed facility. (Iroquois 4b, pp. 8-25, 8-26)

91. The construction and operation of the proposed Milford Compressor Station is not expected to have a significant visual impact due to the isolated and disturbed nature of the site. Trees existing along the perimeter of the property would help screen views of the proposed station. Iroquois would design the exterior lighting for the compressor station to be as non-intrusive as practicable, and to minimize illumination of the night sky. (Iroquois 4b, p. 8-26)

92. The construction and operation of the proposed Brookfield Compressor Station modifications are not expected to have a significant visual impact due to the isolated and disturbed nature of the site. Iroquois proposed to leave approximately 57 acres of the parcel undeveloped and would maintain existing trees along High Meadow Road. The proposed station is approximately 30 feet below the elevation of High Meadow Road; therefore, maintaining the wooded buffer along the road should aid in screening views of the site from receptors along High Meadow Road. (Iroquois 4b, p. 8-26)

93. The Brookfield Compressor Station would be visible from the residence at 67 High Meadow Road, the adjacent residence currently under construction, and residences south of the railroad in the Dairy Farm and Carriage Homes subdivisions. (Iroquois 4b, p. 8-26)

Air Quality

94. Air pollutant emissions are not expected from the proposed Newtown Pipeline Loop since there would be no permanent stationary fuel-burning or pollutant-emitting equipment associated with the normal operation of the facility. (Iroquois 4b, p. 9-9)

95. Short duration venting and/or purging of natural gas to the atmosphere is associated with pipeline operation and required for maintenance, safety and other purposes. Emissions from venting cannot be predicted or quantified at this time but would be limited in quantity. (Iroquois 4b, p. 9-9)

96. The proposed Newtown Pipeline Loop would be located in the Town of Newtown, Fairfield County, Connecticut, which is part of the New York, New Jersey and Long Island Air Quality Control Region (AQCR). Fairfield County is designated as "attainment" for all criteria pollutants except ozone and fine particulate matter. This area is classified as a "severe" ozone non-attainment area. (Iroquois 4b, pp. 9-17, 9-18)

97. The proposed Milford Compressor Station would be located in New Haven County, Connecticut, which is part of the New Haven, Meriden and Waterbury AQCRs. New Haven County is designated at "attainment" for all criteria pollutants except ozone and fine particulate matter. This area is classified as a "serious" ozone non-attainment area. (Iroquois 4b, pp. 9-21, 9-22)

98. The proposed Brookfield Compressor Station would be located in Fairfield County, Connecticut, which is part of the New York, New Jersey and Long Island AQCR. Fairfield County is designated as "attainment" for all criteria pollutants except ozone and fine particulate matter. (Iroquois 4b, p. 9-23)

99. The proposed Brookfield and Milford Compressor Stations would be considered a minor modification and a minor source of air pollutant emissions, respectively. Connecticut regulations require that the minor modification and minor source facilities use Best Available Control Technology (BACT) for the proposed turbines because the potential emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and particulate matter (PM) exceed 15 tons per year. (Iroquois 4b, p. 9-10)

100. NO_x and volatile organic compounds (VOC) are ozone precursors, which means that ozone is formed in the atmosphere under certain conditions in the presence of these pollutants. Potential NO_x and VOC emissions expected from the construction of the proposed pipeline loop are insignificant and short-lived; therefore they are not expected to significantly contribute to or cause a violation of the local ozone standards. (Iroquois 4b, p. 9-18)

101. In August of 2007, the DEP finalized an interim policy for compliance with a more stringent fine particulate matter standard. Iroquois is currently discussing strategies for documentation of compliance with the new DEP standard for both the proposed Milford and Brookfield Compressor Stations. (Tr. 2, p. 76)

Construction

102. Construction of the proposed Newtown Pipeline Loop, the Milford Compressor Station and the Brookfield Compressor Station would generate emissions from construction equipment and vehicles as well as worker passenger vehicles. (Iroquois 4b, pp. 9-52, 9-65, 9-78)

103. During construction of the proposed pipeline loop, inhalable (PM10) and fine (PM2.5) particulate matter appear to be the most significant percentage of major source thresholds (approximately 8% for PM10) and ambient air quality standards (approximately 89% for PM2.5). (Iroquois 4b, p. 9-51)

104. Ambient background concentrations that exceed the National Ambient Air Quality Standards (NAAQS) in the area of proposed Milford Compressor Station are PM2.5 with a 24-hour and annual background air quality concentration of approximately 72 % and 96 % of the NAAQS, respectively. Potential construction emissions of PM2.5, and all other pollutants with NAAQS, would be below ten tons each over the construction period; therefore, all background concentrations appear to be small enough to allow for potential construction impacts without exceeding air quality standards. (Iroquois 4b, p. 9-65)

105. Ambient background concentrations that exceed the NAAQS in the area of the proposed Brookfield Compressor Station are PM2.5 with a 24-hour and annual background air quality concentration of approximately 68% and 95% of the NAAQS, respectively. Potential construction emissions of PM2.5, and all other pollutants with NAAQS, would be below ten tons each over the construction period; therefore, all background concentrations appear to be small enough to allow for potential construction impacts without exceeding air quality standards. (Iroquois 4b, pp. 9-77, 9-78)

106. Exhaust emissions from diesel and gasoline-fueled construction equipment and vehicle engines during construction of the proposed project would be minimized by federal design standards imposed at the time of manufacture of the vehicles and would comply with Environmental Protection Agency mobile emission regulations. Commercial gasoline and diesel fuel products would be purchased with specifications that are controlled by state and federal air pollution control regulations applicable to fuel suppliers and distributors. (Iroquois 4b, p. 9-99)

107. Excavation and vehicle traffic on unpaved or disturbed access and construction surfaces may generate fugitive dust emissions. Construction would be monitored and inspectors would determine when dust suppression techniques may be needed. Dust suppression typically involves the application of water and/or lime, with consideration of any wetlands or waterbodies impacted. (Iroquois 4b, p. 9-99)

108. Any surface coating and abrasive blasting emissions would be minimized through the purchase and installation of piping and structural components that have been prepared and coated prior to shipment to the construction site. Onsite surface preparation and coating would generally be limited to surfaces where pre-coated components are joined together. (Iroquois 4b, p. 9-99)

109. Blasting may be necessary to remove substantial rock encountered during trenching. If blasting is necessary, blasting charges would be kept to the minimum required to break up the rock. Heavy steel mesh, or other material mats, would be used to minimize the scattering of rock and particulate matter. (Iroquois 4b, p. 9-99)

Operation of Compressor Stations

110. The proposed compressor stations are expected to be consistent with typical ranges of similar facilities on the Iroquois system. Within a year at a similar compressor station at Dover, NY, there were eight scheduled and unscheduled blowdowns resulting in 0.35 tons of VOCs in total. Scheduled maintenance activities for valve maintenance at compressor stations occur one a year and have a minimal effect on overall VOC releases equaling approximately 0.00004 tons per year. (Iroquois 6, R. 9; Tr. 1, p. 129)

111. In the vicinity of the Milford Compressor Station, the existing annual average NO_2 concentration is approximately 0.022 parts per million (ppm), which is approximately 43 percent of the NAAQS. (Iroquois 4b, p. 9-92)

112. Potential emissions of the proposed compressor stations would incorporate "dry low NO_x" combustors with continuous service at maximum load conditions. (Iroquois 4b, p. 9-93, 9-96)

113. During operation of the proposed Milford Compressor Station, NO_x emissions would be 48.9 ppm. The major source threshold for NO_x is 50 ppm, which means that the proposed Milford Compressor Station would generate NO_x emissions at 98% of the threshold. (Iroquois 4b, p. 9-94)

114. During operation of the proposed Brookfield Compressor Station, NO_x emissions would be 23 ppm. Major source and major modification thresholds are 25 ppm for NO_x emissions, which means that the proposed Brookfield Compressor Station would generate NO_x emissions at 92% of the threshold. (Iroquois 4b, p. 9-97)

115. The Connecticut Department of Environmental Protection (DEP) requires cumulative impact analyses for pollutants with potential impacts that exceed "significant impact levels" (SILs). Cumulative impacts analyses combine potential facility impacts with impacts from off-site sources and existing background pollutant concentrations. (Iroquois 6, R. 12)

116. Conservative screen modeling was used to estimate maximum project impacts for comparison with SILs. If the maximum screen modeling impact is less than the corresponding SIL, then no additional analysis is required to demonstrate compliance with the corresponding air quality standard. (Iroquois 6, R. 12)

117. A more refined air pollutant dispersion model, in addition to the conservative screen modeling, was required for the proposed Brookfield Compressor Station because some estimated pollutant emissions exceeded SILs. (Iroquois 6, R. 12)

118. The worst air emissions impact from the proposed Brookfield Compressor Station would be within approximately 200 meters. (Tr. 2, p. 122)

119. Increasing the proposed 50-foot stack at the Brookfield Compressor Station would not have a significant benefit for human health or the environment in the area of the Whisconier Middle School. Air quality impacts from a 50-foot stack would be less than SILs at the Whisconier Middle School. (Iroquois Late filed exhibit 2 & 3)

Water Quality

Newtown Loop

120. The groundwater aquifer along the proposed Newtown Loop is a low yield aquifer averaging 12 gallons per minute (gpm). The aquifer is not designated by the United States Environmental Protection Agency (USEPA) as a Sole Source Aquifer. The mapped boundary of the Sole Source Aquifer is more than three miles from the proposed Newtown Pipeline Loop. (Iroquois 4b, pp. 2-2, 2-4)

121. The proposed Newtown Loop is not located within the Connecticut Department of Environmental Protection (DEP) preliminary Aquifer Protection Area (APA). The closest APA boundary is located more than three miles to the west of the proposed project. (Iroquois 4b, p. 2-4)

122. There are no known community water supply wells within two miles of the Newtown Loop. No public water supply wells or springs are known to occur along or within 0.25 miles of the proposed Loop. No private supply wells are known to occur within 250 feet of the proposed Loop. (Iroquois 4b, p. 2-6)

123. No National Priority List (NPL) hazardous waste sites are located within the Town of Newtown. The USEPA maintains a list of Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) sites, which contains information on hazardous waste sites, potentially hazardous waste sites and remedial activities within the United States. No CERCLIS sites are located within one mile of the proposed Loop. (Iroquois 4b, p. 2-8)

124. Construction and operation activities associated with the proposed pipeline loop are not expected to impact groundwater quantity or quality. If groundwater is encountered, dewatering activities would be performed in accordance with FERC guidelines. (Iroquois 4b, p. 2-10)

125. Refueling of vehicles and storage of fuel, oil and other fluids would be necessary during the construction phase of the pipeline installation. Spills or leaks of these fluids could potentially result in contamination of local aquifer systems. To minimize or avoid this potential impact, Iroquois would implement a Spill Prevention and Containment Countermeasure (SPCC) Plan. Iroquois would be mandated to create a site-specific SPCC Plan for the proposed project per FERC Procedures. The SPCC Plan would provide preventative measures that shall be followed to avoid a hazardous waste spill as well as mitigation measures that would be followed to contain and clean up a spill, should one occur. (Iroquois 4b, p. 2-10)

126. Iroquois proposes to conduct hydrostatic testing on newly constructed pipeline facilities prior to connection to the mainline system. Approximately 430,000 gallons of water from the Newtown municipal water supply would be used for hydrostatic testing. Upon completion of the test, wastewater would be discharged to approved upland areas as specified in state permits. (Iroquois 4b, p. 2-24)

127. The proposed pipeline loop is located within the Housatonic River Main Stem drainage basin in southwestern Connecticut. The proposed project area is approximately 0.8 miles west of the Housatonic River. (Iroquois 4b, p. 2-12)

128. Two perennial waterbodies, Prydden Brook, and an unnamed tributary to Ivy Brook, were identified. One intermittent stream drainage was also identified within the project area. (Iroquois 4b, p. 2-12)

129. All unconfined in-stream construction should be scheduled between June 1 and September 30; and in-stream and riparian habitat should be restored to pre-construction conditions after construction is complete. (Iroquois 4b, p. 2-13)

130. Nine wetlands were identified and delineated within the survey corridor. (Iroquois 4b, p. 2-19)

131. Construction of the proposed project would result in approximately 12.3 acres of impacts to wetlands, including 4.99 acres of impact in emergent vegetation wetlands and scrub shrub wetlands and 7.12 acres or impact to forested wetlands. Approximately 2.7 acres of forested wetland would be permanently converted to emergent wetland or scrub shrub wetland. The emergent and scrub shrub wetlands would be allowed to revert to pre-construction conditions upon completion of pipeline installation. (Iroquois 4b, p. 2-20)

132. Mitigation for potential wetland impacts would be provided by Iroquois in accordance with the FERC Plan and Procedures and requirements of the National Pollution Discharge Elimination System General Permit. (Iroquois 4b, p. 2-19)

133. Adverse impacts on wetlands would be minimized using construction procedures which include limiting the amount of equipment and construction within wetlands; restoring wetlands to pre-construction configuration and contours; stabilizing upland areas near wetlands; and inspecting the ROW periodically during and after construction and repairing any erosion control or restoration features as needed until permanent revegetation is established. (Iroquois 4b, p. 2-20)

Milford Compressor Station

134. The proposed Compressor Station is not located over a Primary, Principal or Sole Source Aquifer as designated by the USEPA. The mapped boundary of the Sole Source Aquifer is more than ten miles from the proposed Compressor Station. (Iroquois 4b, pp. 2-2, 2-4)

135. Drinking water within the project area is generated from nine surface water reservoirs and two groundwater aquifers. Surface water reservoirs are located greater than nine miles north and east of the proposed Milford Compressor Station. The nearest public supply wells are located more than eight miles to the north/northeast. No public or private supply wells are known to occur within 300 feet of the proposed site. (Iroquois 4b, p. 2-6)

136. No NPL sites are located within the City of Milford. One CERCLIS site, owned by Northeast Electronics Corporation, is located within one mile of the proposed site. Contamination at the site, which is located approximately 4,000 feet south of the proposed site, was cleaned up and received a Resource Conservation and Recovery Act Clean Closure Certification. (Iroquois 4b, p. 2-9)

137. The proposed Compressor Station is located within one half mile of two solid waste facilities; the Milford Transfer Station and the D'Addario Landfill. The Milford Transfer Station is located west and down gradient of the proposed Compressor Station; therefore any potential groundwater contamination from the transfer station is not expected to impact the Iroquois site. The D'Addario landfill is located east and up gradient of the proposed site. The construction of the proposed facility would be approximately eight feet below surface grade, so it is unlikely that construction and operation of the proposed facility would reach groundwater. (Iroquois 4b, p. 2-9)

138. Construction and operation of the proposed Compressor Station is not expected to impact groundwater quantity or quality. If groundwater is encountered during construction, Iroquois would adhere to the FERC Plan and Procedures for dewatering activities. (Iroquois 4b, p. 2-10)

139. Refueling of vehicles and storage of fuel, oil and other fluids would be necessary during the construction phase of the pipeline installation. Spills or leaks of these fluids could potentially result in contamination of local aquifer systems. To minimize or avoid this potential impact, Iroquois would implement a Spill Prevention and Containment Countermeasure (SPCC) Plan. Iroquois would be mandated to create a site-specific SPCC Plan for the proposed project per FERC Procedures. The SPCC Plan would provide preventative measures that shall be followed to avoid a hazardous waste spill as well as mitigation measures that would be followed to contain and clean up a spill, should one occur. (Iroquois 4b, p. 2-10)

140. The proposed Compressor Station is within the Housatonic River Drainage Basin. The proposed project area is approximately 500 feet east of the Housatonic River, separated by industrial properties, forested land and Oronoque Road. (Iroquois 4b, p. 2-12)

141. No wetlands or waterbodies were found in or adjacent to the project area. (Iroquois 4b, p. 2-13)

142. Prior to commencement of operation, the Milford Compressor Station piping would be hydrostatically tested. Approximately 30,000 gallons of water from the Milford municipal water supply would be required for the hydrostatic testing. Following testing, water would be discharged in accordance with the FERC Plan and Procedures and the DEP General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater. (Iroquois 4b, p. 2-25)

Brookfield Compressor Station

143. An existing well on the property of the proposed site has static groundwater at 30 feet. The 250 foot deep well produces approximately seven gallons per minute. (Iroquois 4b, p. 2-2)

144. The proposed Brookfield Compressor Station is not located within a USEPA designated sole source aquifer. The mapped boundary of the Sole Source Aquifer is approximately 1.5 to 2 miles from the proposed Compressor Station. (Iroquois 4b, p. 2-4)

145. Public Drinking water supply wells are located approximately 400 feet from the proposed site. The project area is not located within wellhead protection areas. (Iroquois 4b, p. 2-7)

146. The nearest private supply well is located on the Brookfield Compressor Station site. The nearest off-site private supply well is located at 67 High Meadow Road approximately 100 feet from the boundary of the host property. A residence is currently under construction to the east of 67 High Meadow Road, which may result in an additional well located within 200 feet of the proposed site. (Iroquois 4b, p. 2-7)

147. The Brookfield Compressor Station property is classified as GA, which identifies existing private and potential public or private supplies of water suitable for drinking without treatment. (Iroquois 4b, p. 2-9)

148. The Iroquois property has undergone remediation. Groundwater monitoring is being completed in accordance with the Connecticut Remediation Standard Regulation in an area of the property where three underground storage tanks (USTs) and 15 cubic yards of impacted soil had been removed in 2000. The proposed compressor station would be constructed in the area of the property that contained the USTs. (Iroquois 4b, p. 2-20)

149. In May 2007, the DEP issued a letter indicating that the proposed construction activities would not interfere with site remediation or groundwater monitoring. (Iroquois 4b, p. 2-10)

150. Potential impact of the aquifer recharge area would be avoided or minimized through the implementation of the FERC Plan and Procedures and the project's SPCC Plan, which would be a site-specific plan providing detailed preventative measures to be followed to avoid hazardous waste spill as well as mitigation measures that would be followed to contain and clean up a spill, should one occur. (Iroquois 4b, p. 2-11)

151. Approximately 59,000 gallons of water from, the Brookfield municipal water supply or water trucked to the site, would be required for hydrostatic pressure testing of the compressor station modifications. Following testing, water would be discharged in accordance with the FERC Plan and Procedures and the DEP General Permit for the Discharge of Hydrostatic Pressure Testing Wastewater. (Iroquois 4b, p. 2-25)

152. The proposed compressor station is within the Housatonic River drainage basin. (Iroquois 4b, p. 2-12)

153. There are 10 wetlands on the Iroquois property in Brookfield. The proposed project is located within 100 feet of two wetlands. Wetland 1 is a large wetland complex consisting of emergent, scrub shrub and open water components. Wetland 2 is an isolated emergent wetland located west of the existing access drive near High Meadow Road. (Iroquois 4b, p. 2-19)

154. Iroquois would construct the proposed compressor station in accordance with the FERC Plan and Procedures and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control to protect wetlands from exposed soils during construction, and stabilize and restore work areas. (Iroquois 4b, p. 2-21)

Soil

155. Areas of the proposed Newtown Loop contain bedrock within 10 to 20 inches of the soil surface with areas of exposed bedrock. Valleys along the Loop may have a bedrock depth of 60 inches below the soil surface. The technique used for bedrock removal would depend on the strength and hardness of the rock. Iroquois would attempt to use mechanical methods such as ripping or conventional excavation where possible. If blasting is required, it would be done in accordance with state and local regulations. (Iroquois 4b, p. 6-4)

156. It is unlikely that bedrock would be encountered at the Milford or Brookfield Compressor Stations. If bedrock were encountered, Iroquois would attempt to use mechanical methods such as ripping or conventional excavation where possible. If blasting is required, it would be done in accordance with state and local regulations. (Iroquois 4b, p. 6-4)

157. Construction along the proposed pipeline loop would result in temporary impacts to soils including encountering a high water table during trenching, soil compaction and rutting from construction equipment, erosion of excavated soil from water and wind, and mixing of topsoil and subsoil. (Iroquois 4b, p. 7-12)

158. Minimal impacts to soil resources are expected due to the construction of the proposed Milford and Brookfield Compressor Stations. The proposed site is flat, devoid of wetlands, and does not have soil types labeled as prime farmland soils. (Iroquois 4b, p. 7-18)

159. All personnel that would be working at any of the sites associated with the proposed project would receive environmental training, including spill prevention, containment and control protocols. A major spill kit would be on site at all times. (Iroquois 6, R. 7)

160. The proposed compressor station buildings would be designed with secondary containment through the building floor and floor drain system. The floor drains in the containment area would be directed to waste storage tanks for appropriate disposal. Any liquid released to the floor would be isolated from soils and groundwater. (Iroquois 6, R. 7)

Wildlife

161. There are no known federally threatened or endangered species present along the proposed Newtown Loop; however, the proposed loop alignment may be used by the federal and state-listed Endangered bald eagle and the state-listed Special Concern Species, the Eastern box turtle. (Iroquois 4b, p. 3-18)

162. To protect the Eastern box turtle along the proposed Newtown Loop:

- An environmental inspector would be retained to identify and relocate any turtles within the project workspace; and serve as a point of contact for contractor staff questions and concerns associated with the Eastern box turtle.
- The environmental inspector would be responsible for training contractors on the identification of Eastern box turtles.
- At periodic intervals along the proposed Newtown Loop, signage would be placed along the limits of the workspace indicating that work occurring within designated rare species habitat.
- The environmental inspector would conduct daily surveys during active construction periods through identified and potential habitats. Turtles that are identified would be marked and removed from the construction area.
- The workspace would be revegetated as soon as possible upon completion of construction. (Iroquois 4b, pp. 3-40, 3-41)

163. Iroquois would be willing to avoid major construction activities involving earth disturbance from November to April to avoid potential impacts to populations of hibernating Eastern box turtles. Iroquois may conduct activities such as final restoration and monitoring but would not involve heavy equipment and should not impact hibernating turtles. (Iroquois 6, R. 24)

164. There are no known federally-listed or proposed, threatened or endangered species or critical habitat present at the proposed Milford or Brookfield Compressor Stations. There are no known extant populations of State Endangered, Threatened or Special Concern Species that occur at the proposed Milford or Brookfield Compressor Stations. (Iroquois 4b, Appendix B)

Vegetation

165. Vegetation at the proposed Newtown Loop includes, but is not limited to, successional old field/shrubland and oak-hickory forest. (Iroquois 4b, p. 3-31)

166. The proposed Newtown Loop would permanently disturb 0.35 acres of upland shrubland/open land. The Loop would also temporarily disturb 2.65 acres and permanently disturb 14.67 acres of upland forest. (Iroquois 4b, pp. 3-34, 3-35)

167. There are no known federally threatened or endangered plant species or communities of special concern that exist along the proposed Loop. There are no state-listed plant species or communities of special concern in the project area. (Iroquois 4b, p. 3-32)

168. Vegetation at the proposed Milford Compressor Station consists of successional old field and successional shrubland habitats. (Iroquois 4b, pp. 3-32, 3-33)

169. The total land requirement for the proposed Milford Compressor Station is approximately four acres. Approximately 0.21 acres would be used as a temporary staging area and would be restored following construction. Approximately 0.55 acres of old field habitat would be converted to impervious cover and an additional 2.56 acres would be permanently converted to maintained lawn. (Iroquois 4b, p. 3-36)

170. There are no known federally-listed rare species or significant natural communities in the project area. There are no state-listed plant species communities of special concern in the project area. (Iroquois 4b, p. 3-33)

171. Most of the proposed project area has been previously cleared for cement mixing operations, asphalt manufacturing and sand and gravel operations. The vegetation on the property is in various successional stages. Much of the previously disturbed land is occupied by invasive species. The steep hillsides outside of the proposed project development area are colonized by mature hardwood forests. (Iroquois 4b, pp. 3-33, 3-34)

172. The total land requirement for the proposed Brookfield Compressor Station modifications is approximately two acres. Due to the proximity of the proposed modifications to the approved Brookfield Compressor Station, impacts to vegetation are negligible. The previously approved compressor station will result in the establishment of gravel and paved areas as well as maintained lawn. The proposed compressor station would be constructed within the area previously cleared for the approved MarketAccess Project compressor station. (Iroquois 4b, p. 3-37)

173. There are no significant or unique habitats known to exist on or near the proposed compressor station site. There are no federally listed rare species or significant natural communities in the project area. There are no state-listed communities of special concern in the project area. (Iroquois 4b, p. 3-34)

174. To minimize impacts to vegetative communities at the proposed compressor stations, Iroquois proposes to minimize area of construction; use a previously disturbed site within an industrial setting; and revegetate the temporary workspace areas with native plant species. (Iroquois 4b, p. 3-37)

Cultural Resources

175. The proposed project would have no effect upon Connecticut's archaeological heritage. (Iroquois 4b, Tab 4, letter from the Connecticut Commission on Culture & Tourism dated August 15, 2007)

Noise

176. Construction of the proposed Newtown Pipeline Loop would occur six days a week for up to ten hours per day. Generally the hours of construction would be between 7:00 a.m. and 5:00 p.m. Since construction of the proposed loop would occur during daytime hours, construction would not influence the nighttime sound levels. (Iroquois 4b, pp. 9-106, 9-107)

177. The proposed Milford Compressor station is located more than 1,000 feet from residential areas to the north, east and south of the site. (Iroquois 4b, p. 9-109)

178. Noise sensitive receptors within a one-half mile radius of the proposed Milford Compressor Station consist of residences and industrial use properties. The properties adjacent to the compressor station are all industrial use. (Iroquois 4b, p. 9-109)

179. A sound level survey was conducted in November of 2006 to document existing sound levels near the existing Milford metering station and the surrounding community. Three measurement locations were selected along the perimeter of the existing metering station for 24 hour sound level monitoring. Short term measurements were performed in residential areas for 15 minutes each during daytime and nighttime hours. Six short term measurement locations were chosen. (Iroquois 4b, pp. 9-109, 9-110)

180. The three nearest noise sensitive residential communities are approximately 1,500 feet north, 1,300 feet east and 2,250 feet southeast of the proposed Milford Compressor Station turbine stack. (Iroquois 4b, p. 9-111)

181. The Milford Compressor Station design phase is currently in progress. A thorough acoustical evaluation cannot be completed without complete equipment descriptions and acoustical data. The acoustical design goal is based on the FERC requirement of 55 dB(A) daytime and nighttime sound levels at the nearest noise sensitive area. (Iroquois 4b, p. 9-113)

182. A sound level survey was conducted in February of 2006 to document existing sound levels near the Brookfield metering station. Three measurement locations were selected on High Meadow Road, along the perimeter of the existing metering station for 24 hour sound level monitoring. Short term measurements were taken at four additional locations in the nearby community, which were performed at 15 minute ambient sound level measurements during daytime and nighttime hours. (Iroquois 4b, p. 9-118)

183. The nearest noise receptor is located at 67 High Meadow Road approximately 250 feet to the north of the proposed Brookfield Compressor Station and approximately 420 feet northeast of the proposed turbine/compressor stack. Additional residences are located to the north on High Meadow Road and to the south, east and west on nearby side streets. Whisconier Middle School is located approximately 2,125 feet north of the site. (Iroquois 4b, p. 9-118)

184. The Brookfield Compressor Station design phase is currently in progress. A thorough acoustical evaluation cannot be completed without complete equipment descriptions and acoustical data. (Iroquois 4b, p. 9-123)

185. The acoustical design goal for the total sound level emissions from all proposed and approved compressor station equipment on the Brookfield property is 52 dB(A) daytime and nighttime sound levels or lower at the nearest noise receptor. (Iroquois 4b, p. 9-123)

186. The calculated cumulative sound level at the Whisconier Middle School in Brookfield is approximately 31 dBa including the MarketAccess compressor station and the proposed 08/09 Expansion Project compressor station at Brookfield. (Tr. 2, p. 146)

SAFETY CONSIDERATIONS

187. Iroquois' transmission system includes pipeline design and equipment features, along with routine inspection and maintenance programs, which increase the safety of the system and protect the public from system failures due to operations, incidents or natural catastrophes. (Iroquois 4b, p. 11-3)

188. The proposed pipeline would be externally coated with a fusion bond epoxy coating to protect the pipeline from external, internal and atmospheric corrosion. A cathodic protection system is used to augment the coating used. Cathodic protection prevents corrosion by providing DC electrical current flow to the pipeline. (Iroquois 4b, p. 11-6)

189. Launchers and receivers are incorporated into Iroquois pipelines, including the proposed Newtown Loop, to allow for periodic inspections of the pipeline using inspection tools. Inspection tools are part of maintenance activities that detect damage and/or corrosion in the pipeline. (Iroquois 4b, p. 11-6)

190. A pig, or internal inspection tool, is used approximately ever seven years to determine deformation and metal loss. In 2008, Iroquois plans to inspect the pipeline in the vicinity of Newtown, Milford and Brookfield to search for deformation, which is an inspection for dents. In or about 2004, the Iroquois pipeline in the area of the proposed project was inspected for metal loss. (Tr. 2, p. 183)

191. The proposed compressor stations would be designed for unattended operation and self-monitoring. A Supervisory Control and Data Acquisition (SCADA) system is used for data collection, monitoring and control of the compressor, meter stations and mainline block valves. If operating conditions at the proposed compressor station were to fall outside of predetermined ranges, alarms would be activated at the Gas Control Center enabling diagnosis remotely from the Gas Control Center. (Iroquois 4b. pp. 11-6, 11-10)

192. Iroquois pipeline facilities are routinely patrolled to monitor and control encroachment by third parties. Any unusual situation or condition is reported and investigated immediately. Additionally, Iroquois performs periodic leak detection surveys. (Iroquois 4b, p. 11-7)

193. The proposed Brookfield and Milford compressor stations would be designed to meet or exceed the USDOT safety standards. Iroquois proposes to use a centrifugal compressor driven by a natural gas fueled turbine, which would reduce vibration and pulsation effects on the equipment. Automatic emergency detection and shutdown systems would be installed at the proposed compressor station. Safety and emergency systems would be monitored 24 hours a day by Iroquois' SCADA system. (Iroquois 4b, p. 11-9)

194. The primary communications system of the proposed compressor stations would be a wide area network (WAN). If an outage of the WAN occurs, the communications system would revert to the satellite secondary backup system or a dial modem tertiary back up system. In the event of an AC power loss, a natural gas fired backup generator would automatically come on line to provide power until commercial service is restored. A battery backup system would provide DC power for essential equipment during a power failure. (Iroquois 4b, p. 11-10)

195. The proposed compressor stations would have an emergency shut-down system that can be manually operated from at least two points, in accordance with the USDOT. Additionally, the turbo compressor enclosure would contain fire, heat and gas detection systems. (Iroquois 4b, p. 11-10)

196. Unscheduled gas venting is necessary for the safety of the facility. It can be initiated automatically in the control system of the equipment, or manually on site. Unscheduled gas venting or emergency shut-downs are unplanned and may occur at any time due to abnormal operating conditions. Typically unscheduled shutdowns occur because of loose wiring on sensors; equipment malfunction sensor; or valves out of sequence. More unlikely conditions that would lead to unscheduled shutdown include Flame, gas or abnormal heat detection in the compressor building or compressor package enclosure; manual activation of an emergency shut-down; compressor computer control failure; or compressor discharge pressure that is above preset levels. (Iroquois 6, R. 10)

197. Gas, fire and heat detection would be incorporated as part of the design of the proposed compressor stations. In the unlikely event of a detection of gas in the proposed compressor buildings or turbine enclosures, the emergency shut-down system would activate. The emergency shut-down system includes shutting down the turbine and relieving the pressure in the natural gas piping. In the event of fire detection in the turbine enclosure, the previous actions would be taken and also a CO_2 system would discharge in the turbine enclosure to extinguish the fire. (Iroquois 6, R. 8)

198. On November 16, 2006, Iroquois held its annual Emergency Responders meeting for all communities and agencies along the pipeline in Connecticut. Invitees included town fire companies, local police departments, fire marshals, town emergency managers, mutual aid agencies and emergency medical responders. During the meeting, a presentation was given regarding pipeline safety procedures. (Iroquois 6, R. 6)

199. Iroquois has been consulting the emergency responders in Brookfield and Milford due to proposed compressor stations in those towns. (Iroquois 6, R. 6)

200. Iroquois had met with the assistant fire chief in the City of Milford and decided that a separate meeting would be held in the City of Milford during normal working hours of emergency responder staff. The meeting in Milford would be held on or about November 12, 2007 and would include Milford, Shelton and Stratford. Following this general meeting, more focused meetings would be held for the different shifts at the Milford Fire Company. (Iroquois 6, R. 6)

201. Iroquois has met with emergency responders in Brookfield and has been working with them to revise their Emergency Action Plans. Iroquois will also meet with Brookfield emergency responders regarding the proposed compressor station, similar to the meetings with the City of Milford. (Iroquois 6, R. 6)

202. Iroquois has invited the Connecticut Department of Emergency Management and Homeland Security (DEMHS) to its emergency responder meetings. DEMHS representatives have meet with Iroquois to discuss issues related to Iroquois' proposed facilities. (Iroquois Late filed exhibit 4)

Potential Impact Radius

203. The estimated potential impact radius (PIR) of the proposed Newtown Pipeline Loop would be 936 feet using a threshold heat flux of 5,000 Btu, which is related to the burning point of wood or 1,560 feet using a threshold heat flux of 1,800 Btu, which is related to the occurrence of burn injury. (Council Admin. Notice 2, FOF #113; Council Exhibit 1, interrogatory responses from van Zelm, Heywood & Shadford, Inc, R. 6)

204. The PIR of the proposed Milford Compressor Station, which has a 36-inch pipeline, would be 943 feet using a threshold heat flux of 5,000 Btu or 1,560 feet using a threshold heat flux of 1,800 Btu. (Tr. 2, p. 179)

205. The PIR of the approved MarketAccess Compressor Station and the proposed 08/09 Expansion Project Compressor station at the same site in Brookfield would be approximately 624 feet using a threshold heat flux of 5,000 Btu. Using a threshold of 1,800 Btu, the PIR of both compressor stations at the Brookfield site would equal 1,040 feet. (Council Exhibit 1, interrogatory responses from van Zelm, Heywood & Shadford, Inc., R. 1, 2)

206. Calculated at either threshold heat flux, the PIR would not impinge on Whisconier Middle School property line, which is located approximately 2,000 feet to the north of the proposed compressor building stack centerline. (Council Admin. Notice 2, FOF #113; Council Exhibit 1, interrogatory responses from van Zelm, Heywood & Shadford, Inc., R. 3)

207. The worst case scenario of a failure of one of the Brookfield compressor stations would be a catastrophic compressor failure. Safety systems designed into each compressor station would result in an equipment shutdown of the affected machine prior to the potential spread of damage. In the unlikely event that a failure was not contained, both compressor stations would be shut down and isolated from the mainline by the emergency shut-down system. (Council Admin. Notice 2, FOF #113; Council Exhibit 1, interrogatory responses from van Zelm, Heywood & Shadford, Inc, R. 4)