Table 8-5. Summary of Environmental Impacts of Natural Gas-Fired Generation at the Millstone Site with Once-Through Cooling

Impact Category	Change in Impacts from Once-Through Cooling System
Land Use	Impacts would be less (e.g., through elimination of cooling towers).
Ecology	Impact would be greater on aquatic ecology at the site. Potential impacts associated with entrainment of fish and shellfish in early life stages, impingement of fish and shellfish, and heat shock.
Water Use and Quality—Surface Water	Increased water withdrawal; thermal load higher than with closed-cycle cooling.
Water Use and Quality—Groundwater	No change
Air Quality	No change
Waste	No change
Human Health	No change
Socioeconomics	No change
Transportation	No change
Aesthetics	Elimination of cooling towers
Historic and Archaeological Resources	No change
Environmental Justice	No change

The environmental impacts associated with transporting fuel and waste to and from a light-water cooled nuclear power reactor are summarized in Table S-4 of 10 CFR 51.52. The summary of NRC's findings on National Environmental Policy Act issues for license renewal of nuclear power plants in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B, is also relevant, although not directly applicable, for consideration of environmental impacts associated with the operation of a replacement nuclear power plant. Additional environmental impact information for a replacement nuclear power plant using closed-cycle cooling is presented in Section 8.2.3.1, and using open-cycle cooling in Section 8.2.3.2.

8.2.3.1 Closed-Cycle Cooling System

The overall impacts of the nuclear generating system are discussed in the following sections. The impacts are summarized in Table 8-6. The magnitude of impacts at an alternate site would depend on the location of the particular site selected.

Table 8-6. Summary of Environmental Impacts of New Nuclear Power Generation at the Millstone Site and an Alternate Site Using Closed-Cycle Cooling

	Millstone Site		Alternate Site	
Impact Category	Impact	Comments	Impact	Comments
Land Use	MODERATE	Would require approximately 200 to 400 ha (500 to 1000 ac) for the plant. Additional area would need to be purchased.	MODERATE to LARGE	Same as Millstone site, except may need to construct rail spur for construction.
Ecology	SMALL to MODERATE	Would use undeveloped and previously disturbed areas at current Millstone site and adjacent property. Use of closed-cycle system would have negligible impact on aquatic resources.	SMALL to MODERATE	Impact would depend on location and ecology of the site, surface-water body used for intake and discharge, and potential rail spur route; potential habitat loss and fragmentation; reduced productivity and biological diversity.
Water Use and Quality—Surface Water	SMALL	Would use existing intake and discharge structures with new closed-cycle system. Less water use compared to existing system.	SMALL to MODERATE	Impact would depend on the volume of water withdrawn and discharged and the characteristics of the surface-water body.
Water Use and Quality—Groundwater	SMALL	Millstone uses little groundwater.	SMALL to MODERATE	Impact would depend on the volume of water withdrawn and discharged and the characteristics of the surface-water body.
Air Quality	SMALL	Fugitive emissions and emissions from vehicles and equipment during construction; small amount of emissions from diesel generators and possibly other sources during operation.	SMALL	Same impacts as Millstone site

Table 8-6. (contd)

Impact Category	Millstone Site		Alternate Site	
	Impact	Comments	Impact	Comments
Waste	SMALL	Waste impacts for an operating nuclear power plant are set out in 10 CFR Part 51, Appendix B, Table B-1. Debris would be generated and removed during construction.	SMALL	Same impacts as Millstone site
Human Health	SMALL	Human health impacts for an operating nuclear power plant are set out in 10 CFR Part 51, Appendix B, Table B-1.	SMALL	Same impacts as Millstone site
Socioeconomics	SMALL to MODERATE	During construction, impacts would be noticeable. Up to 2500 workers during peak period of the six-year construction period. Operating workforce assumed to be similar to Millstone; tax base preserved. Impacts during operation would be negligible.	SMALL to LARGE	Construction impacts depend on location. City of Waterford would experience loss of tax base and employment, possibly offset by economic growth.
Socioeconomics (Transportation)	SMALL to LARGE	Transportation impacts associated with construction workers could be noticeable to significant. Transportation impacts of commuting plant personnel would be slight.	SMALL to LARGE	Transportation impacts of construction workers could be noticeable to significant. Transportation impacts of commuting plant personnel could be slight to noticeable.
Aesthetics	MODERATE	Visual aesthetic impact due to impact of plant units and stacks on local area. Daytime visual impact could be mitigated by landscaping and appropriate color selection for buildings. Visual impact at night could be mitigated by reduced use of lighting and appropriate shielding. Noise impacts would be relatively small and could be mitigated.	SMALL to MODERATE	Dependent on location of site; however, likely similar to Millstone site.
Historic and Archaeological Resources	SMALL to MODERATE	Any potential impacts can likely be effectively managed.	SMALL to MODERATE	Any potential impacts can likely be effectively managed.

Table 8-6. (contd)

	Millstone Site		Alternate Site	
Impact Category	Impact	Comments	Impact	Comments
Environmental Justice	SMALL	Impacts on minority and low-income communities should be similar to those experienced by the population as a whole. Some impacts on housing may occur during construction.	SMALL to MODERATE	Impacts will vary, depending on population distribution and make-up at the site. Impacts to minority and low-income residents of New London County associated with closure of Millstone could be significant, but could also be mitigated by projected economic growth for the area.

- **Land Use**

The existing facilities and infrastructure at the Millstone site would be used to the extent practicable, limiting the amount of new construction that would be required. Specifically, the staff assumed that a replacement nuclear power plant would need to construct a new closed-cycle system including cooling towers; however, the existing intake and discharge structures would be used. In addition, the staff assumed other existing structures would be used, including the switchyard, offices, and transmission line ROWs. Much of the land that would be used has been previously disturbed.

A replacement nuclear power plant at the Millstone site would alter approximately 200 to 400 ha (500 to 1000 ac) of land to industrial use. Additional land may need to be purchased because the Millstone site is only 212 ha (525 ac). There would be no net change in land needed for uranium mining because land needed for the new nuclear plant would offset land needed to supply uranium for fuel for Millstone.

The impact of a replacement nuclear generating plant on land use at the existing Millstone site is best characterized as MODERATE. The impact would be greater than the OL renewal alternative.

Land-use impacts at an alternate site (site of a retired oil-fired generation plant) would be similar to siting at Millstone. A closed-cycle cooling system including cooling towers may be needed. In addition, it may be necessary to construct a rail spur to an alternate site to bring in equipment during construction. The staff assumed that existing transmission line, switchyard, and other existing facilities would be used. Siting a new nuclear plant at an alternate site would result in MODERATE to LARGE land-use impacts.

- **Ecology**

Locating a replacement nuclear power plant at the Millstone site would alter ecological resources because of the need to convert roughly 200 to 400 ha (500 to 1000 ac) of land to industrial use. Additional land would be needed because the Millstone site is only 212 ha (525 acres) in size. Some of this land, however, would have been previously disturbed. Use of a closed-cycle cooling system would result in minor impact on aquatic resources. Siting at Millstone would have a SMALL to MODERATE ecological impact and would be greater than renewal of the Millstones OLs.

At an alternate site, there would be construction impacts and new incremental operational impacts. Even assuming siting at a previously disturbed area, the impacts would alter the ecology. Impacts could include wildlife habitat loss, reduced productivity, habitat fragmentation, and a local reduction in biological diversity. Use of cooling make-up water from a nearby surface water body could have adverse aquatic resource impacts. Construction of a rail spur, if needed, would have ecological impacts. Overall, the ecological impacts at an alternate site would be SMALL to MODERATE.

- **Water Use and Quality—Surface Water**

The replacement nuclear plant alternative at the Millstone site is assumed to use a new closed-cycle cooling system (including cooling towers) and the existing intake and discharge structures. This would minimize incremental water use and quality impacts. Surface-water impacts would be SMALL; the impacts would be sufficiently minor that they would not noticeably alter any important attribute of the resource.

Cooling towers would also likely be used at an alternate site. For an alternate site, the impact on the surface water would depend on the volume of water needed for make-up water, the discharge volume, and the characteristics of the receiving body of water. Intake from and discharge to any surface body of water would be regulated by the state of Connecticut. The impacts would be SMALL to MODERATE.

Water quality impact from sedimentation during construction was characterized in the GEIS as SMALL. The staff also noted in the GEIS that operational water-quality impacts would be similar to or less than those from other generating technologies. Sedimentation impacts from construction of a new nuclear power plant at the Millstone site or at an alternate site would be short-term and easily mitigated.

- **Water Use and Quality—Groundwater**

  No groundwater is currently used for the operation of Millstone (only for irrigation of ball fields by the town of Waterford). It is unlikely that groundwater would be used for an alternative nuclear power plant sited at Millstone. Use of groundwater for a nuclear power plant sited at an alternate site is a possibility. Any ground-water withdrawal would require a permit from the local permitting authority. Therefore, impact to groundwater would be SMALL at the Millstone site and SMALL to MODERATE at an alternate site.

- **Air Quality**

  Construction of a new nuclear plant sited at Millstone or an alternate site would result in fugitive emissions during the construction process. Exhaust emissions would also come from vehicles and motorized equipment used during the construction process. An operating nuclear plant would have minor air emissions associated with diesel generators and other minor intermittent sources. These emissions are regulated. Emissions for a plant sited at Millstone or elsewhere in Connecticut would be regulated by the CTDEP. Overall, emissions and associated impacts would be SMALL.

- **Waste**

  The waste impacts associated with operation of a nuclear power plant are set out in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B. Construction-related debris would be generated during construction activities and removed to an appropriate disposal site. Overall, waste impacts for a replacement nuclear unit at Millstone would be SMALL.

  Siting the replacement nuclear power plant at a site other than the Millstone site would not alter waste generation. Therefore, the impacts would be SMALL.

- **Human Health**

  Human health impacts for an operating nuclear power plant are set out in 10 CFR Part 51 Subpart A, Appendix B, Table B-1. Overall, human health impacts from siting the replacement nuclear power plant at Millstone or another site would result in negligible human health impacts. Therefore, the impacts would be SMALL.

- **Socioeconomics**

  The construction period and the peak workforce associated with construction of a new nuclear power plant are currently unquantified (NRC 1996). In the absence of quantitative

data, staff assumed a construction period of six years and a peak workforce of 2500. The staff assumed that construction would take place while the existing nuclear units continue operation and would be completed by the time Millstone permanently ceases operations. During construction, the communities surrounding the Millstone site would experience demands on housing and public services that could have noticeable impacts. These impacts would be tempered by construction workers commuting to the site from other parts of southeastern Connecticut. After construction, the communities would be impacted by the loss of the construction jobs, although this loss would be possibly offset by other growth in the area.

The replacement nuclear units are assumed to have an operating workforce comparable to the 1650 workers currently working at Millstone. The replacement nuclear units would provide a new tax base to offset the loss of tax base associated with decommissioning of Millstone. For all of these reasons, the appropriate characterization of nontransportation socioeconomic impacts for replacement nuclear units constructed at Millstone would be SMALL to MODERATE; the socioeconomic impacts would be noticeable, but would be unlikely to destabilize the area's economy.

Construction of a replacement nuclear power plant at an alternate site would relocate some socioeconomic impacts, but would not eliminate them. The communities around the Millstone site would still experience the impact of Millstone operational job loss (although potentially tempered by projected economic growth). The communities around the new site would have to absorb the impacts of a large, temporary workforce (up to 2500 workers at the peak of construction) and a permanent workforce of approximately 1650 workers. In the GEIS (NRC 1996), the staff indicated that socioeconomic impacts at a rural site would be larger than at an urban site because more of the peak construction workforce would need to move to the area to work. The Millstone site is within commuting distance of at least three metropolitan areas and is therefore not considered a rural site. Alternate sites would need to be analyzed on a case-by-case basis. Socioeconomic impacts at a rural site would be SMALL to LARGE.

- **Socioeconomics (Transportation)**

During the six-year construction period, up to 2500 construction workers would be working at the Millstone site in addition to the 1650 workers at Millstone. The addition of the construction workers could place significant traffic loads on existing highways, particularly those leading to the Millstone site. Such impacts would be noticeable to significant. Transportation impacts related to commuting of plant operating personnel would be similar to current impacts associated with operation of Millstone and would be negligible. Transportation-related impacts associated with commuting construction workers at an alternate site are site-dependent, but could be noticeable to significant. Transportation

impacts related to commuting of plant operating personnel would also be site-dependent, but can be characterized as slight to noticeable. Overall transportation impacts would range from SMALL to LARGE at the Millstone site or at an alternate site.

- **Aesthetics**

The containment buildings for a replacement nuclear power plant sited at Millstone and other associated buildings would likely be visible in daylight hours over many miles. The replacement nuclear units would also likely be visible at night because of outside lighting. Visual impacts could be mitigated by landscaping and selecting a color for buildings that is consistent with the environment. Visual impact at night could be mitigated by reduced use of lighting and appropriate use of shielding. No exhaust stacks would be needed. Cooling towers constructed for the closed-cycle system would be visible. Noise impacts from a new nuclear plant at the Millstone site would be similar to those from the existing Millstone Units 2 and 3. Mitigation measures, such as reduced or no use of outside loudspeakers, can be employed to reduce noise levels. Overall, the aesthetic impact associated with siting a replacement nuclear unit at Millstone would be MODERATE.

At an alternate site, there would be aesthetic impacts from the buildings, cooling towers, and the plume associated with the cooling towers. Noise and light from the plant would be detectable offsite. The impact of noise and light could be mitigated if the plant is located in an industrial area adjacent to other power plants. Overall the aesthetic impacts associated with locating at an alternative site would depend on the location of the site and would be SMALL to MODERATE.

- **Historic and Archaeological Resources**

At both Millstone and an alternate site, a cultural resource inventory would likely be needed for any onsite property that has not been previously surveyed. Other land, if any, acquired to support the plant would also likely need an inventory of field cultural resources, identification and recording of existing historic and archaeological resources, and possible mitigation of adverse impacts from subsequent ground-disturbing actions related to physical expansion of the plant site.

Before construction at Millstone or another site, studies would likely be needed to identify, evaluate, and address mitigation of the potential impacts of new plant construction on historic and archaeological resources. The studies would likely be needed for all areas of potential disturbance at the proposed plant site and along associated corridors where new construction would occur (e.g., roads, transmission corridors, rail lines, or other ROWs).

Historic and archaeological resource impacts can generally be effectively mitigated and, therefore, would be expected to be SMALL to MODERATE whether at Millstone or at an alternate site.

- **Environmental Justice**

  No environmental pathways or locations have been identified that would result in disproportionately high and adverse environmental impacts on minority and low-income populations if a replacement nuclear plant were built at the Millstone site. Some impacts on housing availability and prices during construction might occur, and this could disproportionately affect the minority and low-income populations. After completion of construction, it is possible that the ability of the local government to maintain social services could be reduced at the same time as diminished economic conditions reduce employment prospects for the minority and low-income populations. Overall, impacts would be SMALL. Economic growth in southeastern Connecticut and the ability of minority and low-income populations to commute to other jobs area could mitigate any adverse impacts.

  Impacts at other sites would depend upon the site chosen and the nearby population distribution, but would be SMALL to MODERATE. Impacts associated with closure of Millstone that could affect minority and low-income residents of southeastern Connecticut could be mitigated by projected economic growth for the area.

8.2.3.2 Once-Through Cooling System

This section discusses the environmental impacts of constructing a nuclear power plant at the Millstone site using once-through cooling. The impacts (SMALL, MODERATE, or LARGE) of this option are the same as the impacts for a nuclear power plant using a closed-cycle system. However, there are minor environmental differences between the closed-cycle and once-through cooling systems. Table 8-7 summarizes the incremental differences.

8.2.4 Purchased Electrical Power

If available, purchased power from other sources could obviate the need to renew the Millstone OLs. It is unlikely, however, that sufficient base-load, firm power supply would be available to replace the Millstone capacity.

Purchased power accounted for approximately 19.2 terawatt-hours of electricity in 1999, in Connecticut (Dominion 2004). In addition, there is demand for increased power in the region, including Long Island Sound. Therefore, purchased power is reasonable; however, replacing the 2024 MW(e) of power generated by Millstone solely with purchased power and no new generation capacity may not be reasonable in the long term.

Table 8-7. Summary of Environmental Impacts of a New Nuclear Power Plant Sited at the Millstone Site with Once-Through Cooling

Impact Category	Change in Impacts from Once-Through Cooling System
Land Use	Impacts may be less (e.g., through elimination of cooling towers).
Ecology	Impacts would be greater on aquatic ecology at site; potential impacts associated with entrainment of fish and shellfish in early life stages, impingement of fish and shellfish, and heat shock.
Water Use and Quality-Surface Water	Increased water withdrawal leading to possible water use conflicts; thermal load higher than with closed-cycle cooling.
Water Use and Quality-Groundwater	No change
Air Quality	No change
Waste	No change
Human Health	No change
Socioeconomics	No change
Transportation	No change
Aesthetics	Elimination of cooling towers
Historic and Archaeological Resources	No change
Environmental Justice	No change

Imported power from Canada or Mexico is unlikely to be available for replacement of Millstone capacity. In Canada, 60 percent of the country's electrical generation capacity is derived from renewable energy sources, principally hydropower (DOE/EIA 2004b). Canada has plans to continue developing hydroelectric power with more than 6000 megawatts (MW) of hydroelectric capacity either under construction or planned (DOE/EIA 2004b). Canada's nuclear generation is projected to increase by 23 percent by 2025, by bringing four units of Ontario Province's Pickering reactors back into operation over the next several years to assist in replacing coal-fired generation (DOE/EIA 2004b). EIA projects that total gross U.S. imports of electricity from Canada and Mexico will gradually increase from 38.4 billion kWh in year 2001, to

48.9 billion kWh in year 2005, and then gradually decrease to 15.2 billion kWh, in year 2025 (DOE/EIA 2004a). Consequently, it is unlikely that electricity imported from Canada or Mexico would be able to replace Millstone capacity.

If power to replace Millstone capacity were to be purchased from sources within the United States or a foreign country, the generating technology would likely be one of those described in this SEIS and in the GEIS (e.g., coal, natural gas, or nuclear). The description of the environmental impacts of other technologies in Chapter 8 of the GEIS is representative of the purchased electrical power alternative to renewal of the Millstone OLs. Thus, the environmental impacts of imported power would still occur but would be located elsewhere within the region, nation, or another country.

8.2.5 Other Alternatives

Other generation technologies considered by NRC are discussed in the following paragraphs.

8.2.5.1 Wind Power

Wind power, by itself, is not suitable for large base-load electrical generation. As discussed in Section 8.3.1 of the GEIS, wind has a high degree of intermittency, and average annual capacity factors for wind plants are relatively low (less than 30 percent). Wind power, in conjunction with energy storage mechanisms, might serve as a means of providing base-load power. However, current energy storage technologies are too expensive for wind power to serve as a large base-load generator.

The state of Connecticut is in a wind power Class 2 region (average wind speeds at 10-m [30-ft] elevation of 5.6 to 6.4 meters per second (m/s) [18 to 21 feet per second [ft/s]). On the coast, Connecticut is in a wind power Class 3 region (average wind speeds at 10-m [30-ft] elevation of 6.4 to 7.0 m/s [21 to 23 ft/s]) (DOE 2004a). In wind power Class 2 areas wind turbines are economically marginal for development, but in Class 3 areas may be suitable with future technology (DOE 2004a).

There are active wind power facilities in the region, and others are proposed. As of January 2003, there were approximately 48 MW of grid-connected wind power facilities in New York State, with an additional 410 MW of additional capacity in various stages of planning (American Wind Energy Association 2003). In addition, the U.S. Army Corps of Engineers (USACE) is preparing an environmental impact statement for a proposed wind farm to generate 420 MW(e) using 170 turbines off the coast of Massachusetts (USACE 2004).

Access to many of the best land-based wind power sites near the coast likely would require extensive road building, as well as clearing (for towers and blades) and leveling (for the tower

bases and associated facilities) in steep terrain. Also, many of the best quality wind sites are on ridges and hilltops that could have greater archaeological sensitivity than surrounding areas. For these reasons, development of large-scale, land-based wind-power facilities are not only likely to be costly, but could also have MODERATE to LARGE impacts on aesthetics, historic and archaeological resources, land use, and terrestrial ecology.

The offshore wind speeds are higher than those onshore and could thus support greater energy production than onshore facilities. Ten offshore wind power projects are currently operating in Europe, but none have been developed in the United States. The European plants together provide approximately 250 MW(e), which is significantly less than the electrical output of Millstone (British Wind Energy Association 2003). For the preceding reasons, the staff concludes that locating a wind-energy facility on or near the Millstone site, or offshore as a replacement for Millstone generating capacity, is not only likely to be costly, but would also have MODERATE to LARGE impacts on aesthetics, aquatic ecology, and shipping lanes.

8.2.5.2 Solar Power

Solar technologies use the sun's energy and light to provide heat and cooling, light, hot water, and electricity for homes, businesses, and industry. In the GEIS, the staff noted that by its nature, solar power is intermittent. Therefore, solar power by itself is not suitable for base-load capacity and is not a feasible alternative to license renewal of Millstone. The average capacity factor of photovoltaic cells is about 25 percent, and the capacity factor for solar thermal systems is about 25 percent to 40 percent (NRC 1996). Solar power, in conjunction with energy storage mechanisms, might serve as a means of providing base-load power. However, current energy storage technologies are too expensive to permit solar power to serve as a large base-load generator. Therefore, solar power technologies (photovoltaic and thermal) cannot currently compete with conventional fossil-fueled technologies in grid-connected applications, due to high costs per kilowatt of capacity. (NRC 1996).

There are substantial impacts to natural resources (wildlife habitat, land-use, and aesthetic impacts) from construction of solar-generating facilities. As stated in the GEIS, land requirements are high—14,000 ha (35,000 ac) per 1000 MW(e) for photovoltaic and approximately 5700 ha (14,000 ac) per 1000 MW(e) for solar thermal systems. Neither type of solar electric system would fit at the Millstone site, and both would have large environmental impacts at an alternate site.

The Millstone site receives approximately 3 to 3.5 kWh of solar radiation per square meter per day (Dominion 2004), compared to 6 to 8 kWh of solar radiation per square meter per day in areas of the western United States, such as California, which are most promising for solar technologies (DOE/EIA 2000). Because of the natural resource impacts (land and ecological),

the area's relatively low rate of solar radiation, and high cost, solar power is not deemed a feasible base-load alternative to renewal of the Millstone OLs. Some solar power may substitute for electric power in rooftop and building applications. Implementation of nonrooftop solar generation on a scale large enough to replace Millstone would likely result in LARGE environmental impacts.

8.2.5.3 Hydropower

Connecticut has an estimated 43.5 MW(e) of undeveloped hydroelectric resources (Idaho National Environmental and Engineering Laboratory 1995). This amount is far less than would be needed to replace the 2024 MW(e) capacity of Millstone. In Section 8.3.4 of the GEIS, the staff points out that hydropower's percentage of U.S. generating capacity is expected to decline because hydroelectric facilities have become difficult to site as a result of public concern about flooding, destruction of natural habitat, and alteration of natural river courses.

In the GEIS, the staff estimated that land requirements for hydroelectric power are approximately 4.0×10^5 ha (1.0×10^6 ac) per 1000 MW(e). Replacement of Millstone generating capacity would require flooding more than this amount of land. Due to the relatively low amount of undeveloped hydropower resource in Connecticut, and the large land-use and related environmental and ecological resource impacts associated with siting hydroelectric facilities large enough to replace Millstone, the staff concludes that, on its own, local hydropower is not a feasible alternative to renewal of the Millstone OLs. Siting hydroelectric facilities large enough to replace Millstone would result in LARGE environmental impacts.

8.2.5.4 Geothermal Energy

Geothermal energy has an average capacity factor of 90 percent and can be used for base-load power where available. However, geothermal technology is not widely used as base-load electrical generation due to the limited geographical availability of the resource and immature status of the technology (NRC 1996). As illustrated by Figure 8.4 in the GEIS, geothermal plants are most likely to be sited in the western continental United States, Alaska, and Hawaii where hydrothermal reservoirs are prevalent. There is no feasible eastern location for geothermal capacity to serve as an alternative to Millstone. The staff concludes that geothermal energy is not a feasible alternative to renewal of the Millstone OLs.

8.2.5.5 Wood Waste

The use of wood waste to generate electricity is largely limited to those states with significant wood resources, such as California, Maine, Georgia, Minnesota, Oregon, Washington, and Michigan. Electric power is generated in these states by the pulp, paper, and paperboard

industries, which burn wood and wood waste for electrical power generation, benefitting from the use of waste materials that could otherwise represent a disposal problem.

A wood-burning facility can provide base-load power and operate with an average annual capacity factor of around 70 to 80 percent and with 20 to 25 percent efficiency (NRC 1996). The fuels required are variable and site-specific. A significant barrier to the use of wood waste to generate electricity is the high delivered-fuel cost and high construction cost per MW of generating capacity. The larger wood-waste power plants are only 40 to 50 MW(e) in size. Estimates in the GEIS suggest that the overall level of construction impact per MW of installed capacity should be approximately the same as that for a coal-fired plant, although facilities using wood waste for fuel would be built at smaller scales. Like coal-fired plants, wood-waste plants require large areas for fuel storage and waste disposal and involve the same type of combustion equipment.

Due to uncertainties associated with obtaining sufficient wood and wood waste to fuel a base-load generating facility, ecological impacts of large-scale timber cutting (e.g., soil erosion and loss of wildlife habitat), and low efficiency, the staff has determined that wood waste is not a feasible alternative to renewing the Millstone OLs.

8.2.5.6 Municipal Solid Waste

Municipal waste combustors incinerate the waste and use the resultant heat to generate steam, hot water, or electricity. The combustion process can reduce the volume of waste by up to 90 percent and the weight of the waste by up to 75 percent (EPA 2001). Municipal waste combustors use three basic types of technologies: mass burn, modular, and refuse-derived fuel (DOE/EIA 2001). Mass burning technologies are most commonly used in the United States. This group of technologies processes raw municipal solid waste "as is," with little or no sizing, shredding, or separation before combustion.

Growth in the municipal waste combustion industry slowed dramatically during the 1990s after rapid growth during the 1980s. The slower growth was due to three primary factors: (1) the Tax Reform Act of 1986, which made capital-intensive projects such as municipal waste combustion facilities more expensive relative to less capital-intensive waste disposal alternatives such as landfills; (2) the 1994 Supreme Court decision *(C&A Carbone, Inc. v. Town of Clarkstown)*, which struck down local flow control ordinances that required waste to be delivered to specific municipal waste combustion facilities rather than the potentially lower-cost (lower fee) landfills; and (3) increasingly stringent environmental regulations that increased the capital cost necessary to construct and maintain municipal waste combustion facilities (DOE/EIA 2001).

The decision to burn municipal waste to generate energy is usually driven by the need for an alternative to landfills rather than by energy considerations. The use of landfills as a waste disposal option is likely to increase in the near term; however, it is unlikely that many landfills will begin converting waste to energy because of unfavorable economics, particularly with electricity prices declining in real terms. EIA projects that between 1999 and 2020, the average price of electricity in real 1999 dollars will decline by an average of 0.5 percent per year as a result of competition among electricity suppliers (DOE/EIA 2001).

Municipal solid waste combustors generate an ash residue that is buried in landfills. The ash residue is composed of bottom ash and fly ash. Bottom ash refers to that portion of the unburned waste that falls to the bottom of the grate or furnace. Fly ash represents the small particles that rise from the furnace during the combustion process. Fly ash is generally removed from flue-gases using fabric filters and/or scrubbers (DOE/EIA 2001).

Currently there are approximately 102 waste-to-energy plants operating in the United States. These plants generate approximately 2800 MW(e), or an average of approximately 28 MW(e) per plant (Integrated Waste Services Association 2001), much less than needed to replace the 2024 MW(e) of Millstone.

The initial capital costs for municipal solid-waste plants are greater than for comparable steam-turbine technology at wood-waste facilities. This is due to the need for specialized waste-separation and -handling equipment for municipal solid waste (NRC 1996). Furthermore, estimates in the GEIS suggest that the overall level of construction impact from a waste-fired plant should be approximately the same as that for a coal-fired plant. Additionally, waste-fired plants have the same or greater operational impacts (including impacts on the aquatic environment, air, and waste disposal). Some of these impacts would be moderate, but still larger than the environmental impacts of license renewal of Millstone. Therefore, municipal solid waste would not be a feasible alternative to renewal of the Millstone OLs, particularly at the scale required.

8.2.5.7 Other Biomass-Derived Fuels

In addition to wood and municipal solid-waste fuels, there are several other concepts for fueling electric generators, including burning crops, converting crops to a liquid fuel such as ethanol, and gasifying crops (including wood waste). In the GEIS, the staff points out that none of these technologies has progressed to the point of being competitive on a large scale or of being reliable enough to replace a base-load plant such as Millstone. For these reasons, such fuels do not offer a feasible alternative to renewal of the Millstone OLs.

8.2.5.8 Fuel Cells

Fuel cells work without combustion and its environmental side effects. Power is produced electrochemically by passing a hydrogen-rich fuel over an anode and air over a cathode and separating the two by an electrolyte. The only by-products are heat, water, and carbon dioxide. Hydrogen fuel can come from a variety of hydrocarbon resources by subjecting them to steam under pressure. Natural gas is typically used as the source of hydrogen.

Phosphoric acid fuel cells are generally considered first-generation technologies. These fuel cells are commercially available at a cost of approximately $4500 per kilowatt (kW) of installed capacity (DOE 2004b). Higher-temperature, second-generation fuel cells achieve higher fuel-to-electricity and thermal efficiencies. The higher temperatures contribute to improved efficiencies and give the second-generation fuel cells the capability to generate steam for cogeneration and combined-cycle operations.

DOE has a new initiative to reduce costs to as low as $400 per kW by the end of the decade (DOE 2004b). For comparison, the installed capacity cost for a natural gas-fired, combined-cycle plant is about $456 per kW (DOE/EIA 2004a). As market acceptance and manufacturing capacity increase, natural gas-fueled fuel cell plants in the 50- to 100-MW range are projected to become available. At the present time, however, fuel cells are not economically or technologically competitive with other alternatives for base-load electricity generation. Fuel cells are, consequently, not a feasible alternative to renewal of the Millstone OLs.

8.2.5.9 Delayed Retirement

Dominion has no current plans to retire any existing generating units. For this reason, delayed retirement of other Dominion generating units would not be a feasible alternative to renewal of the Millstone OLs.

8.2.5.10 Utility-Sponsored Conservation

Connecticut has state-wide residential, commercial, and industrial programs to reduce both peak demands and daily energy consumption. These programs are commonly referred to as demand-side management. State-wide, these demand-side management programs through 2001 have resulted in peak demand reduction of approximately 63 MW in 2000 (Connecticut State Legislature 2001). These demand-side management-induced load reductions are acknowledged in load forecasts; therefore they cannot be used as credits to offset the power generated by Millstone. An additional 1961 MW(e) of savings would be

required to offset the power generated by Millstone. Therefore, the conservation option by itself is not considered a reasonable replacement for the Millstone OLs renewal alternative.

8.2.6 Combination of Alternatives

Even though individual alternatives to Millstone might not be sufficient on their own to replace Millstone generating capacity due to the small size of the resource or lack of cost-effective technologies, it is conceivable that a combination of alternatives might be cost effective.

As discussed in Section 8.2, Millstone Units 2 and 3 have a combined net summer rating of 2024 MW(e). For the coal and natural gas alternatives, the Dominion ER assumes four and five standard 400-MW(e) units, respectively, as potential replacements for Units 2 and 3. This approach is evaluated in Sections 8.2.1 and 8.2.2 of this SEIS; although it results in some environmental impacts that are somewhat lower than the impacts for full replacement capacity.

There are many possible combinations of alternatives. Some alternatives could include renewable energy sources, such as wind power. Table 8-8 contains a summary of the environmental impacts of one assumed combination of alternatives consisting of 1000 MW(e) of combined-cycle natural gas-fired generation using once-through cooling, an additional 524 MW(e) from purchased power, and 500 MW(e) gained from additional demand-side management measures. The impacts are based on the gas-fired generation impact assumptions discussed in Section 8.2.2, adjusted for the reduced generating capacity. While the demand-side management measures would have few environmental impacts, operation of the new gas-fired plant would result in increased emissions and environmental impacts. The staff concludes that it is very unlikely that the environmental impacts of any reasonable combination of generating and conservation options could be reduced to the level of impacts associated with renewal of the Millstone OLs.

Table 8-8. Summary of Environmental Impacts of 1000 MW(e) of Natural Gas-Fired Generation, 524 MW(e) from Purchased Power and 500 MW(e) from Demand-Side Management Measures

	Millstone Site		Alternate Site	
Impact Category	**Impact**	**Comments**	**Impact**	**Comments**
Land Use	SMALL to MODERATE	22 ha (55 ac) for power-block, offices, roads, and parking areas. Additional impact for construction of an underground gas pipeline.	SMALL to MODERATE	22 ha (55 ac) for power-block, offices, roads, and parking areas. Additional impact for construction and/or upgrade of an underground gas pipeline.

Table 8-8. (contd)

Impact Category	Millstone Site		Alternate Site	
	Impact	Comments	Impact	Comments
Ecology	SMALL to MODERATE	Uses undeveloped areas at current Millstone site, plus gas pipeline. Small impacts to aquatic resources since less cooling water required.	SMALL to MODERATE	Impact depends on location and ecology of the site, surface water body used for intake and discharge, and pipeline routes; potential habitat loss and fragmentation; reduced productivity and biological diversity. Likely plant sites already have power-generation facilities.
Water Use and Quality—Surface Water	SMALL	Uses existing intake and discharge structures. Less water use, since closed-cycle cooling system replaces once-through system.	SMALL to MODERATE	Impact depends on volume of water withdrawal and discharge and characteristics of surface-water body.
Water Use and Quality—Groundwater	SMALL	Millstone uses little groundwater.	SMALL to MODERATE	Impact depends on volume of water withdrawal and discharge.
Air Quality	MODERATE	Natural Gas-Fired Units Sulfur oxides • 68 MT/yr (75 tons/yr) Nitrogen oxides • 256 MT/yr (282 tons/yr) Carbon monoxide • 336 MT/yr (370 tons/yr) PM_{10} particulates • 100 MT/yr (110 tons/yr) Some hazardous air pollutants Some hazardous air pollutants. Additional emissions from producers of purchased power.	MODERATE	Same as siting at Millstone
Waste	SMALL	Small amount of ash produced from gas-fired plan.	SMALL	Same as siting at Millstone.
Human Health	SMALL	Impacts would be minor.	SMALL	Impacts would be minor.

Table 8-8. (contd)

Impact Category	Millstone Site		Alternate Site	
	Impact	Comments	Impact	Comments
Socioeconomics	SMALL to MODERATE	During construction, impacts would be MODERATE. Up to 1000 additional workers during the peak of the three-year construction period, followed by reduction from current Millstone workforce of 1650 to 55; tax base preserved. Impacts during operation would be SMALL.	SMALL to MODERATE	Construction impacts depend on location, but could be significant if location is in a more rural area than Millstone. City of Waterford would experience loss of tax base and employment, potentially offset by possible economic growth.
Transportation	MODERATE	Transportation impacts associated with construction workers would be MODERATE.	MODERATE	Transportation impacts associated with construction workers would be MODERATE.
Aesthetics	MODERATE	MODERATE aesthetic impacts due to plant units and stacks.	SMALL to MODERATE	Impact would depend on location. Similar to Millstone if sited on retired oil-fired plant site.
Historic and Archaeological Resources	SMALL	Studies would likely be needed to identify, evaluate, and address mitigations of the potential impacts from construction and operation. Any potential impacts can likely be effectively managed.	SMALL	Same as Millstone.
Environmental Justice	SMALL to MODERATE	Impacts on minority and low-income communities should be similar to those experienced by the population as a whole. Some impacts on housing may occur during construction; loss of 1595 operating jobs at Millstone could reduce employment prospects for minority and low-income populations. Impacts could be offset by potential economic growth and the ability of affected workers to commute to other jobs.	SMALL to MODERATE	Impacts vary depending on population distribution and make-up at site.

8.3 Summary of Alternatives Considered

The environmental impacts of the proposed action, license renewal, would be SMALL for all impact categories except entrainment, which would be MODERATE (other exceptions include collective off-site radiological impacts from the fuel cycle and from high-level waste and spent fuel disposal, for which a single significance level was not assigned). The alternative actions, i.e., no-action alternative (discussed in Section 8.1), new generation alternatives (from coal, natural gas, and nuclear discussed in Sections 8.2.1 through 8.2.3, respectively), purchased electrical power (discussed in Section 8.2.4), alternative technologies (discussed in Section 8.2.5), and the combination of alternatives (discussed in Section 8.2.6) were considered.

The no-action alternative would require the replacement of electrical generating capacity by (1) demand-side management and energy conservation, (2) power purchased from other electricity providers, (3) generating alternatives other than Millstone, or (4) some combination of these options. For each of the new generation alternatives (coal, natural gas, and nuclear), the environmental impacts would not be less than the impacts of license renewal. For example, the land-disturbance impacts resulting from construction of any new facility would be greater than the impacts of continued operation of Millstone. The impacts of purchased electrical power (imported power) would still occur, but would occur elsewhere. Alternative technologies are not considered feasible at this time, and it is very unlikely that the environmental impacts of any reasonable combination of generation and conservation options could be reduced to the level of impacts associated with renewal of the Millstone OLs.

The staff concludes that the alternative actions, including the no-action alternative, may have environmental impacts in at least some impact categories that reach MODERATE or LARGE significance.

8.4 References

10 CFR Part 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, "Domestic Licensing of Production and Utilization Facilities."

10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Functions."

10 CFR Part 52. Code of Federal Regulations, Title 10, *Energy*, Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."

40 CFR Part 51. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 51, "Requirements for Preparation, Adoption, and Submittal of Implementation Plans."

40 CFR Part 60. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 60, "Standards of Performance for New Stationary Sources."

40 CFR Part 81. Code of Federal Regulations, Title 40, *Protection of Environment*, Part 81, "Designation of Areas for Air Quality Planning Purposes."

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9.0 Summary and Conclusions

By letter dated January 20, 2004, Dominion Nuclear Connecticut, Inc. (Dominion) submitted applications to the U.S. Nuclear Regulatory Commission (NRC) to renew the operating licenses (OLs) for Millstone Power Station, Units 2 and 3 (Millstone), for an additional 20-year period (Dominion 2004a). If the OLs are renewed, State regulatory agencies and Dominion will ultimately decide whether the plant will continue to operate, based on factors such as the need for power or other matters within the State's jurisdiction or the purview of the owners. If the OLs are not renewed, then the plants must be shut down at or before the expiration of the current OLs, which expire in July 2015 for Unit 2 and November 2025 for Unit 3.

Section 102 of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321) directs that an environmental impact statement (EIS) is required for major Federal actions that significantly affect the quality of the human environment. The NRC has implemented Section 102 of NEPA in Title 10 of the Code of Federal Regulations (CFR) Part 51. Part 51 identifies licensing and regulatory actions that require an EIS. In 10 CFR 51.20(b)(2), the Commission requires preparation of an EIS or a supplement to an EIS for renewal of a reactor OL; 10 CFR 51.95(c) states that the EIS prepared at the OL renewal stage will be a supplement to the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2 (NRC 1996; 1999).[a]

Upon acceptance of the Dominion application, the NRC began the environmental review process described in 10 CFR Part 51 by publishing a notice of intent to prepare an EIS and conduct scoping (69 FR 18409 [NRC 2004a]) on April 7, 2004. The staff visited the Millstone site in May 2004 and held public scoping meetings on May 18, 2004, in Waterford, Connecticut (NRC 2004b). The staff reviewed the Dominion Environmental Report (ER; Dominion 2004b) and compared it to the GEIS, consulted with other agencies, and conducted an independent review of the issues following the guidance set forth in NUREG-1555, Supplement 1, the *Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal* (NRC 2000). The staff also considered the public comments received during the scoping process for preparation of the draft Supplemental Environmental Impact Statement (SEIS) for Millstone. The public comments received during the scoping process that were considered to be within the scope of the environmental review are provided in Appendix A, Part 1, of this SEIS.

The staff held two public meetings in Waterford, Connecticut, in January 2005, to describe the preliminary results of the NRC environmental review and to answer questions, in order to provide members of the public with information to assist them in formulating their comments on

(a) The GEIS was originally issued in 1996. Addendum 1 to the GEIS was issued in 1999. Hereafter, all references to the "GEIS" include the GEIS and its Addendum 1.

the draft SEIS. The staff considered and addressed all of the comments received on the draft SEIS. These comments are recorded and addressed in Appendix A, Part 2, of this SEIS.

This SEIS includes the NRC staff's analysis, which considers and weighs the cumulative impacts of the action, the environmental impacts of the proposed action, the environmental impacts of alternatives to the proposed action, and mitigation measures available for reducing or avoiding adverse impacts. It also includes the staff's recommendation regarding the proposed action.

The NRC has adopted the following statement of purpose and need for license renewal from the GEIS:

> The purpose and need for the proposed action (renewal of an operating license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by State, utility, and, where authorized, Federal (other than NRC) decisionmakers.

The evaluation criterion for the staff's environmental review, as defined in 10 CFR 51.95(c)(4) and the GEIS, is to determine

> . . . whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

Both the statement of purpose and need and the evaluation criterion implicitly acknowledge that there are factors, in addition to license renewal, that will ultimately determine whether an existing nuclear power plant continues to operate beyond the period of the current OL.

NRC regulations [10 CFR 51.95(c)(2)] contain the following statement regarding the content of SEISs prepared at the license renewal stage:

> The supplemental environmental impact statement for license renewal is not required to include discussion of need for power or the economic costs and economic benefits of the proposed action or of alternatives to the proposed action except insofar as such benefits and costs are either essential for a determination regarding the inclusion of an alternative in the range of alternatives considered or relevant to mitigation. In addition, the supplemental environmental impact statement prepared at the license renewal stage need not discuss other issues not related to the environmental effects of the proposed

action and the alternatives, or any aspect of the storage of spent fuel for the facility within the scope of the generic determination in § 51.23(a) and in accordance with § 51.23(b).[a]

The GEIS contains the results of a systematic evaluation of the consequences of renewing an OL and operating a nuclear power plant for an additional 20 years. It evaluates 92 environmental issues using the NRC's three-level standard of significance—SMALL, MODERATE, or LARGE—developed using the Council on Environmental Quality guidelines. The following definitions of the three significance levels are set forth in the footnotes to Table B-1 of 10 CFR Part 51, Subpart A, Appendix B:

> SMALL — Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.
>
> MODERATE — Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
>
> LARGE — Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

For 69 of the 92 issues considered in the GEIS, the staff analysis in the GEIS shows the following:

(1) The environmental impacts associated with the issue have been determined to apply either to all plants or, for some issues, to plants having a specific type of cooling system or other specified plant or site characteristics.

(2) A single significance level (i.e., SMALL, MODERATE, or LARGE) has been assigned to the impacts (except for collective offsite radiological impacts from the fuel cycle and from high-level waste and spent fuel disposal).

(3) Mitigation of adverse impacts associated with the issue has been considered in the analysis, and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation.

(a) The title of 10 CFR 51.23 is "Temporary Storage of Spent Fuel after Cessation of Reactor Operations—Generic Determination of No Significant Environmental Impact."

These 69 issues were identified in the GEIS as Category 1 issues. In the absence of new and significant information, the staff relied on conclusions as amplified by supporting information in the GEIS for issues designated Category 1 in Table B-1 of 10 CFR Part 51, Subpart A, Appendix B.

Of the 23 issues that do not meet the criteria set forth above, 21 are classified as Category 2 issues requiring analysis in a plant-specific supplement to the GEIS. The remaining two issues, environmental justice and chronic effects of electromagnetic fields, were not categorized. Environmental justice was not evaluated on a generic basis and must also be addressed in a plant-specific supplement to the GEIS. Information on the chronic effects of electromagnetic fields was not conclusive at the time the GEIS was prepared.

This SEIS documents the staff's consideration of all 92 environmental issues identified in the GEIS. The staff considered the environmental impacts associated with alternatives to license renewal and compared the environmental impacts of license renewal and the alternatives. The alternatives to license renewal that were considered include the no-action alternative (not renewing the OLs for Millstone) and alternative methods of power generation. These alternatives were evaluated assuming that the replacement power generation plant is located at either the Millstone site or some other unspecified greenfield location.

9.1 Environmental Impacts of the Proposed Action—License Renewal

Dominion and the staff have established independent processes for identifying and evaluating the significance of any new information on the environmental impacts of license renewal. Neither Dominion nor the staff has identified information that is both new and significant related to Category 1 issues that would call into question the conclusions in the GEIS. Similarly, neither the public comments, Dominion, nor the staff has identified any new issue, applicable to Millstone, that has a significant environmental impact. Therefore, the staff relies upon the conclusions of the GEIS for all Category 1 issues that are applicable to Millstone.

Dominion's license renewal applications present an analysis of the Category 2 issues that are applicable to Millstone, plus environmental justice and chronic effects from electromagnetic fields. The staff has reviewed the Dominion analysis for each issue and has conducted an independent review of each issue plus environmental justice and chronic effects from electromagnetic fields. Six Category 2 issues are not applicable because they are related to plant design features or site characteristics not found at Millstone. Four Category 2 issues are not discussed in this SEIS because they are specifically related to refurbishment. Dominion (Dominion 2004b) has stated that its evaluation of structures and components, as required by 10 CFR 54.21, did not identify any major plant refurbishment activities or modifications as

necessary to support the continued operation of Millstone for the license renewal period. In addition, any replacement of components or additional inspection activities are within the bounds of normal plant component replacement and, therefore, are not expected to affect the environment outside the bounds of the plant operations evaluated in the U.S. Atomic Energy Commission's 1973 *Final Environmental Statement Related to the Continuation of Construction of Unit 2 and the Operation of Units 1 and 2, Millstone Nuclear Power Station* and in the NRC's 1984 *Final Environmental Statement related to operation of Millstone Nuclear Power Station, Unit No. 3.*

Eleven Category 2 issues related to operational impacts and postulated accidents during the renewal term, as well as environmental justice and chronic effects of electromagnetic fields, are discussed in detail in this SEIS. Five of the Category 2 issues and environmental justice apply to both refurbishment and to operation during the renewal term and are only discussed in this SEIS in relation to operation during the renewal term. For 10 Category 2 issues and environmental justice, the staff concludes that the potential environmental impacts would be of SMALL significance in the context of the standards set forth in the GEIS. For entrainment, the staff concludes that the potential environmental impacts would be of MODERATE significance in the context of the standards set forth in the GEIS. In addition, the staff determined that appropriate Federal health agencies have not reached a consensus on the existence of chronic adverse effects from electromagnetic fields. Therefore, no further evaluation of this issue is required. For severe accident mitigation alternatives (SAMAs), the staff concludes that a reasonable, comprehensive effort was made to identify and evaluate SAMAs. Based on its review of the SAMAs for Millstone and the plant improvements already made, the staff concludes that one of the candidate SAMAs is cost beneficial for Unit 2. One additional SAMA for each unit could be cost beneficial if it can be implemented by severe accident management guidelines without hardware modifications. None of these SAMAs relate to adequately managing the effects of aging during the period of extended operation. Therefore, they need not be implemented as part of license renewal pursuant to 10 CFR Part 54.

Mitigation measures were considered for each Category 2 issue. Current measures to mitigate the environmental impacts of plant operation were found to be adequate, and no additional mitigation measures were deemed sufficiently beneficial to be warranted. The Connecticut Department of Environmental Protection is currently reviewing Dominion's National Pollutant Discharge Elimination System permit application. The Connecticut Department of Environmental Protection may identify mitigations to further minimize entrainment as a condition of the permit.

The following sections discuss unavoidable adverse impacts, irreversible or irretrievable commitments of resources, and the relationship between local short-term use of the environment and long-term productivity.

9.1.1 Unavoidable Adverse Impacts

An environmental review conducted at the license renewal stage differs from the review conducted in support of a construction permit because the plant is in existence at the license renewal stage and has operated for a number of years. As a result, adverse impacts associated with the initial construction have been avoided, have been mitigated, or have already occurred. The environmental impacts to be evaluated for license renewal are those associated with refurbishment and continued operation during the renewal term.

The adverse impacts of continued operation identified are considered to be of SMALL significance with the exception of a MODERATE impact for entrainment, and none warrants implementation of additional mitigation measures. The adverse impacts of likely alternatives if Millstone Units 2 and 3 cease operation at or before the expiration of the current OLs will not be smaller than those associated with continued operation of these units, and they may be greater for some impact categories in some locations.

9.1.2 Irreversible or Irretrievable Resource Commitments

The commitment of resources related to construction and operation of the Millstone, Units 2 and 3 during the current license period was made when the plants were built. The resource commitments to be considered in this SEIS are associated with continued operation of the plants for an additional 20 years. These resources include materials and equipment required for plant maintenance and operation, the nuclear fuel used by the reactors, and ultimately, permanent offsite storage space for the spent fuel assemblies.

The most significant resource commitments related to operation during the renewal term are the fuel and the permanent storage space. Dominion replaces approximately one-third of the fuel assemblies in each of the two units during every refueling outage, which occurs on an 18-month cycle.

The likely power generation alternatives if Millstone ceases operation on or before the expiration of the current OLs will require a commitment of resources for construction of replacement plants as well as for fuel to run those plants.

9.1.3 Short-Term Use Versus Long-Term Productivity

An initial balance between short-term use and long-term productivity of the environment at the Millstone site was set when the plants were approved and construction began. That balance is

now well established. Renewal of the OLs for Millstone Units 2 and 3 and continued operation of the plants will not alter the existing balance but may postpone the availability of the site for other uses. Denial of the application to renew the OLs will lead to shutdown of the plants and will alter the balance in a manner that depends on subsequent uses of the site. For example, the environmental consequences of turning the Millstone site into a park or an industrial facility are quite different.

9.2 Relative Significance of the Environmental Impacts of License Renewal and Alternatives

The proposed action is renewal of the OLs for Millstone. Chapter 2 describes the site, power plants, and interactions of the plants with the environment. As noted in Chapter 3, no refurbishment and no refurbishment impacts are expected at Millstone. Chapters 4 through 7 discuss environmental issues associated with renewal of the OLs. Environmental issues associated with the no-action alternative and alternatives involving power generation and use reduction are discussed in Chapter 8.

The significance of the environmental impacts from the proposed action (approval of the application for renewal of the OLs), the no-action alternative (denial of the applications), alternatives involving coal, gas, or nuclear generation of power at the Millstone site and an unspecified "greenfield site"— and a combination of alternatives—are compared in Table 9-1. Continued use of a once-through cooling system for Millstone is assumed for Table 9-1.

Use of a closed-cycle cooling system is assumed for alternatives to the proposed action (Table 9-1). Substitution of once-through cooling for a closed-cycle cooling system in the evaluation of the nuclear, gas-, and coal-fired generation alternatives would result in somewhat greater environmental impacts in some impact categories.

Table 9-1 shows that the significance of the environmental impacts of the proposed action would be SMALL for all impact categories except for entrainment, which would be MODERATE, and for collective offsite radiological impacts from the fuel cycle and from high-level waste and spent fuel disposal, for which a single significance level was not assigned (see Chapter 6). The alternative actions, including the no-action alternative, may have environmental impacts in at least some impact categories that reach MODERATE or LARGE significance.

Table 9-1. Summary of Environmental Significance of License Renewal, the No-Action Alternative, and Alternative Methods of Energy Generation

	Proposed Action	No-Action Alternative	Coal-Fired Generation		Natural-Gas-Fired Generation		New Nuclear Generation		Combination of Alternatives	
Impact Category	License Renewal	Denial of Renewal	Millstone Site	Alternate Site	Millstone Site	Alternate Site	Millstone Site	Alternate Site	Millstone Site	Alternate Site
Land Use	SMALL	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	MODERATE	MODERATE to LARGE	SMALL to MODERATE	SMALL to MODERATE
Ecology	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE
Water Use and Quality—Surface Water	SMALL	SMALL	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE
Water Use and Quality—Groundwater	SMALL	SMALL	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL	SMALL to MODERATE
Air Quality	SMALL	SMALL	MODERATE	MODERATE	MODERATE	MODERATE	SMALL	SMALL	MODERATE	MODERATE
Waste	SMALL	SMALL	MODERATE	MODERATE	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL
Human Health	SMALL[a]	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL	SMALL
Socioeconomics	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to LARGE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to LARGE	SMALL to MODERATE	SMALL to MODERATE
Socioeconomics (Transportation)	SMALL	SMALL	SMALL to LARGE	SMALL to LARGE	SMALL to MODERATE	SMALL to MODERATE	SMALL to LARGE	SMALL to LARGE	MODERATE	MODERATE
Aesthetics	SMALL	SMALL	MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	MODERATE	SMALL to MODERATE	MODERATE	SMALL to MODERATE
Historic and Archaeological Resources	SMALL	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL	SMALL
Environmental Justice	SMALL	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE

(a) Except for collective offsite radiological impacts from the fuel cycle and from high-level waste and spent fuel disposal, for which a significance level was not assigned. See Section 6 for details.

9.3 Staff Conclusions and Recommendations

Based on (1) the analysis and findings in the GEIS (NRC 1996; 1999), (2) the ER submitted by Dominion (Dominion 2004b), (3) consultation with Federal, State, and local agencies, (4) the staff's own independent review, and (5) the staff's consideration of public comments, the recommendation of the staff is that the Commission determine that the adverse environmental impacts of license renewal for Millstone are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

9.4 References

10 CFR Part 51. Code of Federal Regulations, *Title 10, Energy,* Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions."

10 CFR Part 54. Code of Federal Regulations, *Title 10, Energy,* Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants."

Dominion Nuclear Connecticut, Inc. (Dominion). 2004a. *Application for Renewed Operating Licenses, Millstone Power Station, Units 2 and 3.* Waterford, Connecticut.

Dominion Nuclear Connecticut, Inc. (Dominion). 2004b. *Applicant's Environmental Report – Operating License Renewal Stage Millstone Power Station, Units 2 and 3.* Waterford, Connecticut.

National Environmental Policy Act of 1969 (NEPA). 42 USC 4321, et seq.

U.S. Atomic Energy Commission. 1973. *Final Environmental Statement Related to the Continuation of Construction of Unit 2 and the Operation of Units 1 and 2, Millstone Nuclear Power Station.* Docket Nos. 50-245 and 50-336, Washington D.C.

U.S. Nuclear Regulatory Commission (NRC). 1984. *Final Environmental Statement Related to the Operation of Millstone Nuclear Power Station, Unit No. 3.* Docket No. 50-423, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants.* NUREG-1437, Volumes 1 and 2, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 1999. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Main Report, Section 6.3, Transportation, Table 9.1, Summary of findings on NEPA issues for license renewal of nuclear power plants, Final Report.* NUREG-1437, Vol. 1, Addendum 1, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 2000. *Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal.* NUREG-1555, Supplement 1, Washington, D.C.

U.S. Nuclear Regulatory Commission (NRC). 2004a. "Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process." *Federal Register*, Vol. 69, No 67, pp 18409–18410. Washington, D.C. (April 7, 2004).

U.S. Nuclear Regulatory Commission (NRC). 2004b. *Environmental Impact Statement Scoping Process: Summary Report – Millstone Power Station, Units 2 and 3, New London County, Connecticut.* Washington, D.C. August 27, 2004.

Appendix A

Comments Received on the Environmental Review

Appendix A

Comments Received on the Environmental Review

Part I - Comments Received During Scoping

On April 7, 2004, the U.S. Nuclear Regulatory Commission (NRC) published a Notice of Intent in the *Federal Register* (69 FR 18409), to notify the public of the staff's intent to prepare a plant-specific supplement to the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (GEIS), NUREG-1437, Volumes 1 and 2, to support the renewal applications for the Millstone operating licenses and to conduct scoping. The plant-specific supplement to the GEIS has been prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) guidance, and 10 CFR Part 51. As outlined by NEPA, the NRC initiated the scoping process with the issuance of the *Federal Register* Notice. The NRC invited the applicant; Federal, State, and local government agencies; Native American tribal organizations; local organizations; and individuals to participate in the scoping process by providing oral comments at the scheduled public meetings and/or submitting written suggestions and comments no later than June 4, 2004.

The scoping process included two public scoping meetings, which were held at the Town Hall in Waterford, Connecticut on May 18, 2004. Approximately 95 members of the public attended the meetings. Both sessions began with NRC staff members providing a brief overview of the license renewal process and the NEPA process. After the NRC's prepared statements, the meetings were open for public comments. Thirty-three attendees provided oral statements that were recorded and transcribed by a certified court reporter and written statements that were appended to the transcript. The meeting transcripts are an attachment to the Scoping Meeting Summary dated June 24, 2004. In addition to the comments received during the public meetings, eight comment letters or email messages were received by the NRC in response to the Notice of Intent.

The NRC received an email dated September 7, 2004, from Mr. Michael Steinberg providing clarification to comments made during the scoping meeting. Because this comment was received well after the scoping process had ended, it was not included in the scoping summary report. However, the staff did consider the comment in the preparation of this supplemental environmental impact statement (SEIS).

At the conclusion of the scoping period, the NRC staff and its contractor(s) reviewed the transcripts and letters to identify specific comments and issues. Each set of comments from a given commenter was given a unique identifier (Commenter ID), so that each set of comments from a commenter could be traced back to the transcript or letter by which the comments were submitted. Specific comments were numbered sequentially within each comment set. Several

commenters submitted comments through multiple sources (e.g., afternoon and evening scoping meetings). All of the comments received and the staff responses are included in the Millstone Scoping Summary Report dated August 27, 2004.

Table A.1 identifies the individuals who provided comments applicable to the environmental review and the Commenter ID associated with each person's set(s) of comments. The individuals are listed in the order in which they spoke at the public meeting, and in alphabetical order for the comments received by letter or e-mail. To maintain consistency with the Scoping Summary Report, the unique identifier used in that report for each set of comments is retained in this appendix.

Specific comments were categorized and consolidated by topic. Comments with similar specific objectives were combined to capture the common essential issues raised by the commenters. The comments fall into one of the following general groups:

- Specific comments that address environmental issues within the purview of the NRC environmental regulations related to license renewal. These comments address Category 1 or Category 2 issues or issues that were not addressed in the GEIS. They also address alternatives and related Federal actions.

- General comments (1) in support of or opposed to nuclear power or license renewal or (2) on the renewal process, the NRC's regulations, and the regulatory process. These comments may or may not be specifically related to the Millstone license renewal applications.

- Questions that do not provide new information.

- Specific comments that address issues that do not fall within or are specifically excluded from the purview of NRC environmental regulations related to license renewal. These comments typically address issues such as the need for power, emergency preparedness, security, current operational safety issues, and safety issues related to operation during the renewal period.

Table A.1. Individuals Providing Comments During Scoping Comment Period

Commenters ID	Commenter	Affiliation (If Stated)	Comment Source and ADAMS Accession Number[a]
MS-A	Gerald Gaynor Jr.	Mayor, City of New London	Afternoon Scoping Meeting
MS-B	Mr. Fraser	First Selectman, Town of East Lyme	Afternoon Scoping Meeting
MS-C	Melodie Peters	CT State Senator	Afternoon Scoping Meeting
MS-D	Andrea Stillman	CT State Representative	Afternoon Scoping Meeting
MS-E	Richard Brown	City Manager, City of New London	Afternoon Scoping Meeting
MS-F	Steve Scace	Director of Safety and Licensing, Millstone	Afternoon Scoping Meeting
MS-G	Mr. Medeiros	Commercial Fisherman	Afternoon Scoping Meeting
MS-H	Mr. Maderia	Commercial Fisherman	Afternoon Scoping Meeting
MS-I	Nancy Burton	Spokesperson for the Connecticut Coalition Against Millstone	Afternoon Scoping Meeting
MS-J	Don Klepper-Smith	Data Core Partners, LLC	Afternoon Scoping Meeting
MS-K	Stephen Negri	Local Resident	Afternoon Scoping Meeting
MS-L	Brigadier General Zembrzuski	Deputy General, Connecticut National Guard	Afternoon Scoping Meeting
MS-M	John Markowicz	Executive Director, Southeastern CT Enterprise Region	Afternoon Scoping Meeting
MS-N	Susan McNamara	Executive Director, Long Island Sound Foundation	Afternoon Scoping Meeting
MS-O	Tony Sheridan	President, Chamber of Commerce of Eastern CT	Afternoon Scoping Meeting
MS-P	Evan Woollacott	Co-Chairman, CT Nuclear Energy Advisory Council	Afternoon Scoping Meeting
MS-Q	Paul Eccard	First Selectman, Town of Waterford	Evening Scoping Meeting
MS-R	Janet Dinkel Pearce	President, United Way of Southeastern CT	Evening Scoping Meeting
MS-S	James Butler	Executive Director, Southeastern CT Council of Government	Evening Scoping Meeting
MS-T	Steve Scace	Director of Safety and Licensing, Millstone	Evening Scoping Meeting
MS-U	Marvin Berger	Local resident	Evening Scoping Meeting
MS-V	Geraldine Winslow	Local resident	Evening Scoping Meeting
MS-W	Pete Reynolds	Local resident	Evening Scoping Meeting

Commenters ID	Commenter	Affiliation (If Stated)	Comment Source and ADAMS Accession Number[a]
MS-X	Michael Steinberg	Local resident	Evening Scoping Meeting
MS-Y	Mr. Schwartz	Local resident	Evening Scoping Meeting
MS-Z	John "Bill" Sheehan	Vice Chairman, CT Nuclear Energy Advisory Council	Evening Scoping Meeting
MS-AA	Tony Sheridan	President, Chamber of Commerce of Eastern CT	Evening Scoping Meeting
MS-AB	George Kee	Local resident	Evening Scoping Meeting
MS-AC	JQ	Local resident	Evening Scoping Meeting
MS-AD	John Markowicz	Executive Director, Southeastern CT Enterprise Region & Co-Chairman, CT Nuclear Energy Advisory Council	Evening Scoping Meeting
MS-AE	Fred W. Thiele, Jr.	Member, Assembly of the State of New York	Letter (ML041620373)
MS-AF	Lucille C. Malouche	Local resident	Letter (ML041620380)
MS-AG	Hortense and Ralph Carpentier	Local resident	Letter (ML041770288)
MS-AH	Charles D. Stephani	Local resident	Letter (ML041770290)
MS-AI	Douglas Schwartz	Local resident	Letter (ML041770175)
MS-AJ	Kelly L. Streich	Local resident	Letter (ML041770177)
MS-AK	Michael Steinberg	Local resident	Letter (ML041770179)
MS-AL	Nancy Burton	Spokesperson for the Connecticut Coalition Against Millstone	Letter (ML041770182)

(a) The accession number for the afternoon transcript is ML041740756.
The accession number for the evening transcript is ML041740767.
The accession number for the attachments to the evening transcript is ML041750500.

Comments applicable to this environmental review and the staff's responses are summarized in this appendix. The parenthetical alpha-numeric identifier after each comment refers to the comment set (Commenter ID) and the comment number. This information, which was extracted from the Millstone Scoping Summary Report, is provided for the convenience of those interested in the scoping comments applicable to this environmental review. The comments that are general or outside the scope of the environmental review for Millstone are not included here. More detail regarding the disposition of general or inapplicable comments can be found in the

summary report. The ADAMS accession number for the Scoping Summary Report is ML041830272.

This accession number is provided to facilitate access to the document through the Public Electronic Reading Room (ADAMS) http://www.nrc.gov/reading-rm.html.

Comments in this section are grouped into the following categories:

1. Surface Water Quality and Use
1. Aquatic Ecology
2. Air Quality
3. Socioeconomics
4. Land Use
5. Human Health
6. Uranium Fuel Cycle and Waste Management
7. Postulated Accidents
8. Alternatives

Part I. Comments Received During Scoping

1. Surface Water Quality and Use

Comment: They've been operating with an invalid permit that expired in 1997 to discharge these chemicals. If they were to go to a closed system which they know about, they would not be killing these fish and other things that are going in there and they wouldn't have to use this chemical to clean it either.
(MS-G-3)

Comment: I want to briefly discuss the issue of the Clean Water Act. Under the Federal Clean Water Act, this facility requires a valid permit to take in the billions of gallons of water per day that it needs to keep the reactors from melting down and to flush out chemicals into the sea. The organization that I'm affiliated with has brought this issue to various legal public fora. We have demonstrated without any doubt that the permit is not valid. Not only that, the information that Dominion has submitted to the NRC is incorrect. It relies upon submission of materials suggesting that the company has obtained lawful permits to do what it has been doing to the environment which, as you have heard, has been devastating to the indigenous winter flounder.
(MS-I-5)

Comment: Second, the fact that the Millstone Point Station has not received a renewal of the discharge permit from the Department of Environmental Protection is of considerable concern.
(MS-Q-4)

Comment: It is essential that the approval by the Department of Environmental Protection of the NPDES renewal application occur prior to granting the application for relicensing in my view. This concern is further reinforced by the fact that the plant operates at variance with the Clean Water Act as approved by the Commission of the Connecticut Department of Environmental Protection.
(MS-Q-6)

Comment: Eighth, the license renewal process concerns me in that it fails to include a description of the changes that have occurred since the initial license was issued; things like the harvesting of shellfish from Jordan Cove, which has been conditionally open, and the impact of the installation of a new water line to the site and the result in changing consumption rates. I anticipate that both of these changes and conditions will be carefully explored during this process.
(MS-Q-13)

Comment: The discharge permit, it's been an issue since 1993. It was brought up in 1997. It's been brought up at several meetings of the EPUC, the City Council, the Environmental Protection Agency. They are still operating under emergency discharge.
(MS-W-7)

Comment: These facts require the U.S. Nuclear Regulatory Commission to consider the prospect of its relicensing of Millstone nuclear reactors when the reactors are being operated in continuing flagrant violation of the federal Clean Water Act.
(MS-AL-1)

Response: *The comments are related to the status of Dominion's application for a revised National Pollutant Discharge Elimination System (NPDES) permit for Millstone and Millstone's compliance with the Clean Water Act. The Connecticut Department of Environmental Protection (CTDEP) is responsible for the review and issuance of NPDES permits in Connecticut. CTDEP is also responsible for implementation of the Clean Water Act in Connecticut. The NRC does not have authority over matters concerning discharge permits or compliance with the Clean Water Act. The comments provide no new and significant information; therefore, the comments will not be evaluated further. The status of Dominion's NPDES permit application will be discussed in Chapters 2 and 4 of the SEIS.*

Comment: Dominion also has been exploring ideas for creative ways to deal with watershed management aside from the obligations that they are going to be held to in the reissuing of their permit.
(MS-C-5)

Comment: The other thing is when the cooling system when they discharge, they discharge hydrazine which is cancer-causing chemical that causes cancer in fish and probably humans too.
(MS-G-2)

Comment: Seventh, does Millstone Point Station sample the sediments in Jordan Cove? Are there radioactive deposits identified in these sediments? What are they and in what quantity do they exist?
(MS-Q-12)

Comment: Those plants contribute to global warming and it increases the temperature of the water used in the cooling. One million gallons per minute of Long Island Sound are sucked in and out of that power, each plant, so that would be times two for Millstone. Many compounds, radiological and industrial chemicals like hydrazine, are discharged routinely.
(MS-V-3)

Comment: The potential accumulation of Hydrazine and Uranium in our local waters and marine life is deeply troubling and presents a serious hazard to public health. It is critical to the protection of our natural resources and the public health that we investigate the extent of the pollution and, most importantly, target the source to eliminate further discharge of these deadly toxins into our waters.
(MS-AE-3)

Comment: I encourage you to request further information from me as will assist your environmental analysis. For example, the Connecticut Coalition Against Millstone presented testimony of an expert in chemistry in a Connecticut Superior Court proceeding in which the expert testified about the synergistic effects of toxic chemical and radioactive waste byproduct releases to the Millstone environment.
(MS-AL-3)

Response: *The comments are related to water quality issues. Water quality, water use, and other water issues were evaluated in the GEIS and determined to be Category 1 issues. The comments provide no new and significant information on water quality; therefore, the comments will not be evaluated further. Water quality will be discussed in Chapters 2 and 4 of the SEIS.*

2. Aquatic Ecology

Comment: ... I was hoping that the present environment could be with the algae surrounding the power plant and other things could be studied more thoroughly in the upcoming weeks and months ahead.
(MS-AC-1)

Response: *The comment is related to aquatic ecology issues. Aquatic ecology issues such as stimulation of nuisance organisms, such as algae, were evaluated in the GEIS and determined to be Category 1 issues. The comments provide no new and significant information on aquatic ecology; therefore, the comments will not be evaluated further. Aquatic ecology will be discussed in Chapters 2 and 4 of the SEIS.*

Comment: And more recently, we've heard about the depletion of winter flounder and some of the other fisheries with respect to the watershed. And I have been involved in discussions with the Department of Environmental Protection in the State and Dominion in trying to move forward with an appropriate approach to how the reactors are being cooled and its impact on the fisheries. That, I understand, from one of your colleagues has something that has been somewhat unresolved since the late `90s in that is as much as a problem or more of a problem with the state environmental protection and their scheduling.
(MS-C-4)

Comment: In the past few years, we haven't been able to go there and that's mainly because there is no fish there anymore. Now the reason for that is because of the cooling system that Millstone uses to cool their reactors. They have an entrainment where they take in millions and millions and billions of little baby fish and whatever else there is and they kill them. The result is we have no fish anymore.
(MS-G-1)

Comment: You're really talking about livelihood of people, maybe people's lives or you're talking about some monetary figure that could take care of this whole problem. I think the only way to do this is to shut them down and make them change their system over to a closed system and that would be the only way that I would agree to renewing the permit.
(MS-G-4)

Comment: We have both have a lawsuit that's in the works against Millstone against this killing of winter flounder.
(MS-H-1)

Comment: We did a test there in the middle of May last year at the peak of the flounder season. We used to do seven bushels there so the tow that we towed, we had seven fish in

count. That's not a tribute to the mesh size in the new Federal laws. That's a tribute to the lack of fish there. I'd like to see a closed system go because I want to get to this problem before they are depleted. The way we're going, they will be totally extinct in Niantic Bay. It's not overfishing. I've heard this for years. And we stopped fishing there approximately seven years ago and it's worse now than it was before. I don't want to hear "all the fishing." I'm sick of it. We get blamed for a lot. We don't do it. It's time that the public realizes that maybe now the Government should start looking at other things besides the fishing, pollution, this hydrazine, everything. ... Let's go to a closed system. The money that it's cost us, the fishermen and resources, that money could have been well spent to put a closed system in.
(MS-H-2)

Comment: When Northeast Utilities applied to the NRC, initially to the Atomic Energy Commission, to operate, it made certain predictions of the effects that the operations would have over time in the community but never predicted, at least on paper to the NRC, that it would have the devastating effect that it has had which is to drive the indigenous fish to a point of near extinction.
(MS-I-6)

Comment: The outstanding issue on renewal of the discharge permit is not limited to thermal discharge. Although not described in Section 4, the issue of the impact of the plant on the Flounder population is the focus of a disagreement between Dominion Nuclear Connecticut and the Department of Environmental Protection.
(MS-Q-7)

Comment: The long-term impacts of discharging two billion gallons of water daily into the Long Island Sound cannot yet be determined and such discharge should cease until a proper and thorough examination of its effects can be measured before the facility is permitted to operate into the future. Such as examination of the power station's impacts should include, but not be limited to, aquatic organisms and the larger marine ecosystem. An analysis must also consider the cumulative impact of the facility upon Long Island.
(MS-AE-2)

Comment: The EIS should present a comprehensive evaluation of the impact of Millstone's water intake (used for cooling purposes) from Niantic Bay on both nektonic and planktonic species. As well as a consideration of economically important species (ie. winter flounder), the EIS should assess the mortality of species that support ecosystem functions (i.e. trophic dynamics). Such species may be significant to the life cycle of other economically important species.
(MS-AJ-1)

Comment: An evaluation of abotic and biotic interactions may be appropriate if the water intake results in modification of the hydrodynamics of Niantic Bay.
(MS-AJ-2)

Comment: The intake structures of the Millstone reactors are recognized as a significant, if not predominant, contributor to the collapse of the indigenous winter flounder population in the Niantic River-Bay. I encourage you to enquire of the Marine Fisheries Division of the Connecticut Department of Environmental Protection, located in Old Lyme, as to its analysis of this phenomenon.
(MS-AL-2)

Response: *The comments are related to aquatic ecology issues. Aquatic ecology will be discussed in Chapters 2 and 4 of the SEIS.*

3. Air Quality

Comment: ... Connecticut and especially, I would venture to say the shore line, Connecticut unfortunately receives the air quality from the Midwest and we don't need fossil fuel plants adding to the problems here in Connecticut in terms of air quality. Nuclear power is a cleaner source of electricity and I would state that it is something that if it is working well, we should continue to promote it here in this region and I believe it is working well.
(MS-D-5)

Comment: Millstone produces all of this electricity using nuclear fuel which does not generate the emissions to the air that are typical to other sources of electricity.
(MS-T-1)

Response: *The comments are related to air quality issues. Air quality issues were evaluated in the GEIS and determined to be Category 1 issues. The comments provide no new and significant information on air quality; therefore, the comments will not be evaluated further.*

4. Socioeconomics

Comment: Dominion has been at the table problem-solving looking for new ways to make this community feel as though they're protected and they're comfortable. They've made huge financial contributions as the Mayor suggested, often times, often times unsolicited with respect to education foundations, the Lion's Club, the children's museum. There's a host of contributions that they've made to improve the quality of life in our region.
(MS-C-6)

Response: *The comment is related to public services impacts in education, social services, and recreation. Public services involving education, social services, and recreation were evaluated in the GEIS and were determined to be Category 1 issues. The comment provides no new and significant information on these public service issues; therefore, the comment will not be evaluated further.*

Comment: ... I am here because this plant is a regional asset whose benefits are received by all of us in Southeastern Connecticut and New England for that matter.
(MS-A-2)

Comment: The construction and the operation of this plant have been a huge part of regional economy for more than 40 years and one that we need to protect for the planned license extension of another 20 years.
(MS-A-3)

Comment: I really feel that the business to provide electricity in Southeastern Connecticut is so important because it's such a major part of the State of Connecticut that the economic concerns that I can draw to right here, as the Mayor of New London also said, is huge to our area as they try their best to support our local businesses with purchases of goods and materials and that their commitment and their word is excellent.
(MS-B-4)

Comment: Electricity is becoming a rare commodity and the fact that we have Dominion supplying as much of the electricity as they have has kept our lights on in this state, a case in point in the recent brownouts that were triggered from someplace off in Ohio. We in Southwestern Connecticut lost our lights. We have transmission problems in south and we have congestion problems, but if it weren't for the fact that Dominion was up and generating in a safe manner our lights would have gone down all over the state and we would have been down the sinkhole as much as New York was in.
(MS-C-2)

Comment: This plant provides a large part of not only Waterford's tax base - I venture to say less than it did because of the of the electric restructuring, but it also provides to the tax base for the State of Connecticut.
(MS-D-2)

Comment: When you look at the fact as was mentioned that more than 45 percent of the electricity that's generated here supports the State of Connecticut, we all know what that means for business.
(MS-D-3)

Comment: We cannot forget what an important part of the economy Millstone is.
(MS-D-4)

Comment: ... not only contributes to the regional economy, but is a major supplier of power in Connecticut and the Northeast. Dominion Resources through Millstone Power Station is a major employer with over 460 persons employed within Southeastern Connecticut. Additionally, Millstone supports the local economy by purchasing as many goods and services locally as possible. The total economic impact of Millstone Power Station in New London County is estimated to exceed $500 million.
(MS-E-2)

Comment: Renewal of the Millstone operating licenses will continue the benefits our employees provide for our local community. Millstone has approximately 1,300 full-time employees. The annual payroll, including benefits, is over $150 million. More 250 local contractors work at Millstone and live in our community. During our regularly scheduled refueling outages, the number of contractors increases by about 800. Each reactor is refueled every 18 months. During the past two years, Millstone spent over $170 million on operations and capital projects, making vital investments in the future of our state.
(MS-F-1)

Comment: As our economy and the population grow, reliable sources of electricity including Millstone will be vital to our prosperity and our way of life. License renewal will help ensure Millstone remains available to meet these future needs.
(MS-F-3)

Comment: We have incentive within the State of Connecticut to keep the costs of doing business down. Clearly cost effective nuclear power has a role to play in keeping the cost of doing business under control. Our study pointed out, when we looked at production costs for electricity by fuel generation type, that nuclear power was clean. It was safe, and it was the most cost effective alternative. It was 30 percent cheaper than gas, 33 percent cheaper than oil, and actually less than coal without the environmental issues. A key point from our study was that Millstone Station provides cost effective power which in turn is essential to the state's long-term economic competitiveness.
(MS-J-1)

Comment: ... our study concluded that Millstone Station had positive and substantial economic benefits for the local area economy. Our study showed that there were 1,497 direct jobs

associated with Millstone Station generating $231.3 million in annualized direct spending. Accounting for multiplier effects, the level of spending, both direct and indirect, was about $500 million. So again, looking at these dollar volumes and the jobs generated, the economic impact was substantial and very, very clearly beneficial.
(MS-J-2)

Comment: Our bottom line conclusions were that Millstone Station provides cost effective and reliable electricity to the region's commercial, industrial, and residential users enhancing Connecticut's economic competitiveness.
(MS-J-3)

Comment: Millstone also contributes to the state's economy through direct job creation and spending on goods and services as well as the indirect multiplier effects.
(MS-J-4)

Comment: I cannot emphasize enough the economic importance of importance of Millstone for the town and region. Millstone provides good paying jobs and spends money at local businesses. It pays a very large portion of Waterford's taxes and contributes voluntarily to many community activities and charities. Personal spending by Millstone employees contributes greatly to the economic base of Southeastern Connecticut. In short, Millstone is one of the economic engines that keep our local economy on an upward track.
(MS-K-2)

Comment: The Millstone Nuclear Power Station, worth one percent of the workforce in Southeastern Connecticut, contributes a half a billion dollars to that $10 billion gross domestic product.... Roughly 1,500 employees are onsite. As has been indicated earlier, to use a conservative multiple, that leads to around 2,500 direct and indirect jobs in Southeastern Connecticut. Roughly two percent of our workforce is in one way, shape, or fashion connected to the Millstone Nuclear Power Station. The pay salaries at the nuclear power station are roughly 50 percent above the average in New London. As far as its expenditure within the region, as far as compensation of employees, it's around $75 million. If you add to that other parts of the state, you are roughly around $100 million annually. Direct and indirect compensation, if you want to play the multiple game, you are now talking about probably $150 million to $200 million. Millstone Point makes substantial purchases in New London County. In 2001, it bought a quarter of a billion dollars worth of goods and services in Southeastern Connecticut. It pays taxes. It pays a lot of taxes, $17 million in state and local taxes. Again, if you look at the indirect and direct effects, you are talking about roughly $60 million in state and local taxes as paid for by the nuclear power station.
(MS-M-2)

Comment: Of significance also to the economy of Southeastern Connecticut is the availability of safe and reliable electricity.
(MS-M-3)

Comment: And so the availability of safe and reliable nuclear power in Southeastern Connecticut gives us a cost-competitive advantage versus other parts of the state and other parts of the country in maintaining our economy. We support the relicensing of the Millstone Station.
(MS-M-4)

Comment: Suffice it to say that Millstone produces the equivalent of approximately 48 percent of the electricity that's used in Connecticut on a daily basis.
(MS-O-1)

Comment: I'm wondering if I understand correctly that there will be no major upgrades to the power plant that constitutes "refurbishment." Does this mean that major refurbishments are ongoing or will occur prior to 2015? Do improvements made before relicensing approval require the same level of scrutiny as refurbishments anticipated during the extended license period?
(MS-Q-3)

Comment: Page E-4-29 indicates that Dominion Nuclear Connecticut does not anticipate any related tax increase driven changes to off-site land use and development patterns. Well, I am here to say is that the impact of Millstone Point Station on tax revenue, infrastructure installation, and the overall level of service in Waterford is different than any other community in the State of Connecticut.
(MS-Q-8)

Comment: Now, on the down side, deregulation has suddenly removed two-thirds of the value of Millstone Point Station. We are left struggling to adjust and maintain a stable community.
(MS-Q-9)

Comment: Dominion is a key contributor to the regional and state economy directly employing more than 1,300 persons at the Millstone Station and annually purchasing more than $68 million in goods and services state-wide.
(MS-S-1)

Comment: I can't see how the taxes can go down on Millstone two and three. Unit 1, I can see where they went down because it's no longer in operation. But the value of the plants should be top-notched.
(MS-W-5)

Comment: Early today, Don Klepper-Smith, the economist, a very noted economist in the State of Connecticut, was the principal conducting that study and the figure that the overall impact that Millstone has on the economy of the region is $500 million. That's a major, major impact. That's includes goods and services purchased as well as personnel.
(MS-AA-2)

Comment: When restructuring occurred, our state legislature through the help of Melodie Peters and Andrea Stillman were very, very generous to the town of Waterford. In fact, they provided a ten year soft landing to the town. I stand corrected, but my memory, I believe, if it serves me correct, the ten years started with the sale of the plant. We got the equivalent the first year of the old assessment, the difference between the old assessment and the new assessment on the tenth year. The ninth year, it went down to 90 percent of that amount. Eighty percent. Seventy percent and it goes out for ten years.
(MS-AA-3)

Response: *The comments are related to the socioeconomic impacts on public services provided by public utilities and on offsite land use. These socioeconomic issues are specific to Millstone, and they will be addressed as Category 2 issues in Chapters 2 and 4 of the SEIS.*

5. Land Use

Comment: Sixth, issues of current land use of the property include a fill pile on Gardener's Wood Road. This pile was determined to contain materials of concern. What will occur with this pile if relicensing is approved?
(MS-Q-11)

Response: *The comment is related to land use. Land use issues are specific to Millstone, and they will be addressed as Category 2 issues in Chapters 2 and 4 of the SEIS.*

6. Human Health

Comment: My first comment has to be directed to the application materials and the assessment that appears to have been undertaken so far by the NRC. It seems to suffer from a major omission. That is, consideration of the biological effects of the ongoing operations of Millstone on the human population. Without even getting into the other aspects of the environment, we know that there has been a very significant effect on the human population in this community over the 34 years that the Millstone Reactors have been in operation. We have heard the business contributions ballyhoo here, but has anybody yet tallied up the enhancements to the health care professions in this industry going to the incidences of devastation and disease, despair brought about to individuals and families through cancer and other illnesses directly

attributable, we know, to the routine emissions from Millstone to the air and the water? We know that certain facilities such as the Community Cancer Center are doing well as businesses because of their patient load.
(MS-I-1)

Comment: We know that for our own organization, the Connecticut Coalition Against Millstone, we have suffered devastating losses just in the past year. We do not see any analysis in the present materials that have been submitted as to the deaths and illnesses of workers at Millstone. We have in mind particularly at the moment our wonderful stalwart, a friend and supporter, Joe Besade, who passed away this year. He had a devestating kind of cancer, suffered horribly, and there is every good reason to believe or every bad reason to believe that he suffered his illness and died because of what he was exposed to when he worked at the Millstone Nuclear Power Station. We don't see that you people have tracked any of the workers at Millstone since 1970 to the present time. What has happened to them? Where are they? Why have so many died prematurely? Why have so many suffered health effects? That's workers.
(MS-I-2)

Comment: Where is the information in this application and the NRC analysis of the human population and the areas around the communities immediately in the shadow of Millstone and even beyond? We know that there are cancer clusters. These have been identified to either side of Millstone and the beautiful areas. Take Millstone out of the picture and go to Jordan Cove and Niantic Bay, and these are some of the prettiest, most seemingly pristine areas of Southeastern Connecticut. They have identified cancer clusters. Go door to door. People have died. People are dying. There is a cancer wave, a cancer epidemic in this community that needs to be analyzed here during this process to determine the effects on the human population from the operations-to-date of Millstone. When the facts come in, there will be no question whatsoever that this plant, this facility must close because of its effect on the human population.
(MS-I-3)

Comment: ... in 1997, the Nuclear Energy Advisory Council commissioned a study looking to the incidence of cancer. It was initiated first because of our other plant down in Haddam. But the data was basically good for Millstone as well because Connecticut is such a small state. The scientists in the State of Connecticut indicated they could see no correlation between the operation of the nuclear plant in Waterford with the incidence of cancer in the State of Connecticut.
(MS-P-1)

Comment: The health of the public has not been considered or I'm not sure if it has at this point, but it must be taken into account. As a mother and a citizen, I know all too often the

heartbreaking stories of folks who have died and been stricken with cancers and leukemia. People are dying here and they have illnesses that should not be here. I believe it is caused by radiation.
(MS-V-4)

Comment: I have some information about some of the discharges that come from nuclear power plants. As far as the air, the routine releases, there is no filtering technology that exists for some gases like xenon 135 which decays into cesium 135, an isotope which multiplies, an isotope with a three million year half life. Also routine releases occur into the ocean. Radioactive corrosion products stick to the interior surfaces of the reactor vessels. Some call that radioactive crud. Fission products also enter the cooling water from leaks into the fuel rods. I'm sorry. I'm confused. I'll skip on. There's a maze of more than 50 miles of piping through which cooling water circulates. Leaks are bound to occur. In fact, the Nuclear Regulatory Commission allows leaks of up to 10 gallons a minute and this is a question I have. As nuclear plants age, the leaks generally increase. Also with a nuclear power plant, some of the discharge goes into the water and that, as well, cannot all be filtered. Tritium, for example, cannot be filtered. Tritiated water, a major byproduct of nuclear power plants, can be incorporated into the cells of the body. Some of the hazards resulting from tritium uptake include mutations, tumors and cell death. Dr. John Gofman, in his most recent report on low dose radiation, says that there is no such thing as a safe dose of radiation and that a low dose received slowly causes as many cancers as the same dose delivered all at once.
(MS-V-5)

Comment: ... while we cannot lower the level of natural radiation, it is my opinion that no one has the right to add manmade radiation on top of it. Any exposure to radiation increases the risk of genetic mutations, cancers and other life-shortening diseases.
(MS-V-6)

Comment: This is a document, "Millstone Power Station" - Dominion took the Nuclear out of its name - "2001 Radioactive Effluent Release Report." You can't see it from where you are, but I have extra copies I'm going to pass out. It shows all the different ways the radioactivity released into the air and into our waters makes its way through the environment, into our food supply, into our bodies and the bodies of other living things.
(MS-X-2)

Comment: Unfortunately, there's all too many stories, but those stories, I would argue, are backed up by a preponderance of evidence indicating that the radioactive releases from Millstone have caused all too many of these diseases and all too many of those kinds of deaths.
(MS-X-3)

Comment: Exhibit A is a report entitled "Elevated Childhood Cancer Incidents Proximate to U.S. Nuclear Power Plants." It's authored by Joseph Mangano and Janet Sherman of the Radiation and Public Health Project in New York City. It appeared in the Archives of Environmental Health in February of 2003. I'll read the abstract brief as follows: "Numerous reports document elevated cancer rates among children living near nuclear facilities in various nations. Little researching has examined U.S. rates near the nations 103 operating reactors. This study determined that cancer instance for children under 10 years of age who live within 30 miles of each of 14 nuclear plants in the Eastern United States exceeds the national average. The excess 12.4 percent risk suggests that one in nine cancers among children who reside near nuclear reactors is linked to radioactive emissions. Instance is particularly elevated for leukemia. Childhood cancer mortality exceeds the national average in seven of the 14 study areas." Of those 14 nuclear plants in the Eastern United States, one of those was Millstone. (MS-X-4)

Comment: Exhibit B is an excerpt from this document, "Cancer Incidence in Connecticut Counties 1995 by 1999." This is a publication of the Connecticut Tumor Registry. The Connecticut Tumor Registry is the oldest tumor registry in the United States that's been collecting this information since 1935. And keep in mind that our communities have suffered nearly 35 years of nuclear contamination from Millstone since Unit 1 started up in 1970. Looking at the — And also Millstone's radioactive releases are among the highest, if not the highest, of U.S. nuclear power plants. Particularly in the 1970's, the mid '70s, Unit 1 was operating with damaged fuel rods which exacerbated that problem. So we have a cumulative dose to our communities of nearly 35 years now. Looking at the records in more recent years since restart, I've seen that these releases are still continuing. Fortunately, they're not as excessive as they were back in the '70s, but they are still continuing. If you look at the record, the documents closely, you see that for what are called the liquid releases into Long Island Sound and Niantic Bay, each year there are hundreds of what are called batch releases. There are more releases. If you look at the documents closely, you see that there are identified in Unit 2 and Unit 3 continuous release points. If you look at the total amount of radioactivity that's documented, most of it comes from this continuous release points. So our communities are pretty much on daily basis being subjected to these releases.
(MS-X-5)

Comment: Going back to the Connecticut Tumor Registry Report '95 to '99, it reports the incidence of cancers. That is how many people get cancer as differentiated from the mortality, those who contract it who die because fortunately, not everyone who gets it dies. It reports the incidence rate per 100,000 population adjusted for age. ... So for those years in New London County, it's broken down by gender also. For females, New London County was number one among the eight states. Males, we're number two, just barely a little bit lower than Tolland County. There's an early report, 1995 to 1998, in which New London County was number one for both male and female. ... So New London County for the years we're talking about was

number one for the following cancers: esophagus for males, colon and rectum for females, colon for females, rectum for females, liver for males, breasts for females, cervix for females, uterus for females, other female genital, females of course, bladder, males, bladder, females, multi-myeloma for females in a tie with Fairfield County. ... Suffice it to say, that the total kind of cancers in which New London County was counted as a separate county because for some of these, it was lumped in with other counties, was a total of 39. Okay. New London County had 12 No. 1s, six No. 2s, five No. 3s and seven No. 4s for a total of 30 out of 39. Not a very good record.
(MS-X-6)

Comment: Document No. 3 is called "The Radiation Exposure Compensation Act." In 1990, Congress passed this act saying that people that were downwind of atmospheric nuclear tests in the '50s and '60s in parts of Utah and Nevada and Arizona and also people who worked in uranium mines should be compensated for the damages that they suffered because of those tests that were done in name of national security. It names specific diseases for the downwinders. Those were specified diseases. They're called lymphocytic leukemia, multiple myeloma, lymphomas other than Hodgkin's Disease and primary cancer of the thyroid, breast, esophagus, stomach, pharynx, small intestine, pancreas, bile ducts, gall bladder or liver except cirrhosis or hepatis B. The reason why I'm bringing this up is because if you look at the breakdown of the specific kinds of cancers in New London County, '95 to '98, pretty much all of those that were named in this 1990 Act of Congress show upon this list. They are caused by ionizing radiation, the kind of radiation that's released from Millstone every day and has been for almost 35 years now.
(MS-X-7)

Comment: The final document I'm going to bring up is a summary of a document by Joseph Mangano, who is one of the authors of the first document I've talked about. This was from 1998 and the title of it is "2,500 Excess Cancer Cases in New London County Since 1970: Radioactive Emissions from Millstone May Be The Cause." "About 2500 excess cancers have occurred in New London County since the first Millstone Nuclear Power reactor in Waterford opened in 1970. About 800 of these cases resulted in death, using official figures published by the National Cancer Institute and the Connecticut Tumor Registry.". ... "In the '50s and '60s," I'm quoting from the document now, "New London County cancer incidence rate was eight percent below the state average, rising to two percent below from '71 to '84 and 2.5 percent above in '89 to '91." So that goes from eight percent below the state average to 2.5 percent above. "In Millstone's first 14 years, the county cancer mortality rate was 11 percent above the nation compared to five percent above in the '50s and '60s according the National Cancer Institute. An approximate total 800 additional cancer deaths occurred in the county since Millstone opened."
(MS-X-8)

Comment: Then Mangano also looks at specific kinds of cancers. For children, leukemia in Millstone's first 14 years, leukemia cases for New London County for children under 10 was 55 percent higher than the state and leukemia deaths 45 percent higher. Again, his source is the National Cancer Institute.
(MS-X-9)

Comment: For thyroid cancer — And I should mention that in those worst years of 1970s when Millstone was operating with damaged fuel rods, it was releasing dangerous amounts of radioactive iodine into the air and into the water. So the rate of thyroid cancer in New London County has risen twice as fast as the rest of Connecticut after 1970. Before understanding that, thyroid cancer is normally, if there is such a thing as normal any more, a very rare disease and it predominantly strikes females. For Millstone, about three cases per year were diagnosed in the county. By the early 1990, the number jumped to 17. That's according to Connecticut Tumor Registry.
(MS-X-10)

Comment: And he also looked at the four towns nearest the reactor, being East Lyme, Groton, Waterford and New London. Females cancers in '89 to '91, cancer cases in these four towns were 15 percent higher than the state tumor registry. Female only cancers were especially high in breast cancer, 20 percent greater than the state. Cervical cancer, 26 percent greater. Ovarian cancer, 35 percent greater and uterine cancer, 29 percent greater.
(MS-X-11)

Comment: For skin cancer - this is the last thing I'm going to say - malignant myeloma incidence in the four towns in '89 to '90 was 65 percent greater than for the rest of Connecticut. Connecticut Tumor Registry. You might say, "Well we live at the shore. We go to the beach all the time. So that's why." But Mangano took the trouble to look at the rest of the Connecticut coastal towns and found that, yes, their rate was higher than the state also, but it was only seven percent higher compared to ours which was 65 percent higher.
(MS-X-12)

Comment: In the transcript of the May 18 public meeting re Millstone, on page 104, line 6, it reads: Mr. Steinberg (inaudible) What I actually said was: "Except Millstone. The study found a problem around Millstone with childhood leukemia." This was in reference to the NCI 1990 study of US nuclear power plants that Mr. Emch was discussing. I was referring to this passage from the study's conclusions: "On examination of the data for individual facilities, only the incidence data for the area around Millstone nuclear power plant ... showed a significantly increased relative risk of leukemia ages 0-9." I am requesting that the above be entered into the public record. Thank you.
(MS-X-13)

Comment: I'm going to read you some excerpts from the Nuclear Energy Advisory Council's Report to the Governor and the State Legislature of 2001, "Cancer Risk Study."... "As a result of its findings, the CASE committee concluded that atmospheric emissions from Connecticut Yankee have not had a detectable influence on cancer incident. The committee also concluded that an additional study of this topic is unlikely to produce any positive correlation." ... The committee then performed an analysis to compare the calculated doses with the Connecticut Tumor Registry data. Results of logistic regression analysis comparing these incidents, population counts and estimated exposure levels did not identify meaningful associations among the cancers and the radiation exposures in the towns. In comparison for some tumors, a negative correlation was found. Conclusions. The committee found that exposure to radionuclides emitted from Connecticut Yankee are so low as to be negligible. The committee also found no meaningful associations among the cancers studied, pediatric leukemia, adult chronic leukemia, multiple myeloma and thyroid cancer and the proximity of the Connecticut Yankee. ... I go back to the NEAC report now. "NEAC initiated this study in request and in response to public concern raised at this meeting. NEAC expressed its sincere appreciation to CASE and its leadership for this important study which clearly demonstrated that nuclear plant emissions had not had a detectable influence on cancer incidence in the State of Connecticut. As the CASE report used data from the Connecticut Tumor Registry, a like study of Millstone emissions would provide a similar result."
(MS-Z-1)

Comment: In considering the causes of these cancers, the radioactive releases from Millstone must be included, as the reactors have the highest contribution to manmade radioactive pollution in the county.
(MS-AK-1)

Comment: I also encourage you and the NRC staff to investigate the high incidences of ionizing radiation-related cancers and other related diseases in the Millstone vicinity. You are well advised to consult *Millstone and Me* by Michael Steinberg as an introductory source.
(MS-AL-4)

Response: *The comments are related to human health issues. Human health issues were evaluated in the GEIS and were determined to be Category 1 issues. However, the comments provided a large amount of information and health statistics related to the area around Millstone, which are being evaluated by the NRC staff to determine if they constitute significant, new information. Human health issues will be addressed Chapter 4 of the SEIS.*

7. Uranium Fuel Cycle and Waste Management

Comment: Nuclear energy is very, very dirty. That's why nobody wants to keep nuclear waste in their backyard. That's why everybody is talking about shipping it out somewhere far, far away. It's probably the dirtiest form of production of energy that can be fathomed. Even in the process of uranium enrichment, there are all kinds of ways in which the air is polluted through generation of fossil power.
(MS-I-7)

Comment: Nuclear plants are anything but clean and to say they don't burn fossil fuel, well that really burns me up too. Fossil fuel is used in mining the uranium, processing the uranium into the fuel. Onsite for construction, there's a lot of fossil fuel used. The energy to operate, perhaps they use their own electricity and at some point, we'll be transporting this waste to a final resting place and that will take a good amount of fossil fuel there.
(MS-V-2)

Comment: It would seem to me that it's something that could be done in a matter of days, not weeks, if the bureaucracy wanted to get going to figure out whether dry casks are safer than the water pools. It's not secret that the spent-fuel pools are the weak link in the safety of the plants from a terrorist attack standpoint. It would seem to me a no-brainer that dry casks harden, dry cask bunkers are safer and that it could quickly be determined and that everybody whether you're pro or anti-nuclear, whether you're industry or regulatory, we could all agree that this is the cardinal safety issue that needs to be addressed and could be addressed in a matter of months, I would think.
(MS-Y-2)

Response: *The comments are related to the uranium fuel cycle and waste management issues. Uranium fuel cycle and waste management issues were evaluated in the GEIS and were determined to be Category 1 issues. The comments provide no new and significant information on these fuel cycle and waste issues; therefore, the comments will not be evaluated further.*

8. Postulated Accidents

Comment: I'm looking at Table F.3-2 submitted January 2004 on page E-F-80. This is one page of many that list a number of potential improvements that the company itself believes could enhance safety and operations at Millstone. Let me read one to you. "187, potential improvement, automate start capability of Terry turbine. Discussion, operator fails to start the

Terry turbine." Then there's an analysis of what it would cost to make this potential improvement. There is a conclusion that it is not worth the cost. It is not cost beneficial since the cost is greater than twice the benefit. That doesn't sound to me like the company has decided always to go for safety over cost.
(MS-I-8)

Response: *The comment is related to the severe accident mitigation alternatives analysis. This analysis will be discussed in Chapter 5 and Appendix G of the SEIS.*

9. Alternatives

Comment: While the town is continuously concerned about the plant's impacts on the fisheries of Long Island Sound, the installation of cooling towers on this site has broad aesthetic as well as land use implications.
(MS-Q-5)

Comment: I would like to conclude by saying it's time to consider phasing out these plants and move ahead with combinations of conservation and alternative energies such as gas, wind and solar technologies which are moving forward.
(MS-V-7)

Comment: ... the biggest problem is there are alternative methods out there and we do not need an energy to produce electricity.
(MS-W-1)

Comment: They've had co-generation plants start up that's helped produced just as much power as Unit 3 and there's more and more.
(MS-W-2)

Comment: We can diversify our energy. We can't depend on nuclear. We can't depend on oil.
(MS-W-8)

Response: *The comments are related to the environmental impacts of alternatives to license renewal at Millstone. The GEIS included an extensive discussion of alternative energy sources. Environmental impacts associated with various reasonable alternatives to renewal of the operating licenses for Millstone will be evaluated in Chapter 8 of the SEIS.*

Part II - Comments Received on the Draft SEIS

Pursuant to 10 CFR Part 51, the staff transmitted the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Millstone Power Station Units 2 and 3, Draft Report for Comment* (NUREG-1437, Supplement 22, referred to as the draft SEIS) to Federal, State, and local government agencies as well as interested members of the public, requesting comments by March 2, 2005. As part of the process to solicit public comments on the draft SEIS, the staff:

- placed a copy of the draft SEIS into the NRC's electronic Public Document Room, its license renewal website, and the Waterford Public Library, 49 Rope Ferry Road, Waterford, Connecticut, and the Three Rivers Community College, Thames River Campus Library, 574 New London Turnpike, Norwich, Connecticut
- sent copies of the draft SEIS to the applicant, members of the public who requested copies, and certain Federal, State, and local agencies
- published a notice of availability of the draft SEIS and opportunity for comment in the *Federal Register* on December 9, 2004 (69 FR 71437)
- issued public announcements, such as advertisements in local newspapers and postings in public places, of the availability of the draft SEIS
- announced and held two public meetings in Waterford, Connecticut on January 11, 2005, to describe the results of the environmental review and answer related questions
- issued public service announcements and press releases announcing the issuance of the draft SEIS, the public meetings, and instructions on how to comment on the draft SEIS
- established a website to receive comments on the draft SEIS through the Internet.

During the comment period, the staff received a total of 59 sets of comments in the forms of letters, emails, and public meeting feedback forms.

The staff has reviewed the public meeting transcripts and the written comments that are part of the docket file for the application, all of which are available in the NRC's Electronic Public Document Room. Appendix A, Part II, Section A.4 contains a summary of the comments and the staff's responses. Related issues are grouped together. Appendix A, Part II, Section A.5 contains excerpts of the January 11, 2005, public meeting transcripts, the written statements provided at the public meetings, and the written comments.

Each comment identified by the staff was assigned a specific alpha-numeric identifier (marker). That identifier is typed in the margin of the transcript or letter at the beginning of the discussion of the comment. A cross-reference of the alpha-numeric identifiers, the speaker or author of the comment, the page where the comment can be found, and the section(s) of this report in which the comment is addressed are provided in Table A-2. The speakers at the meetings are listed in speaking order along with the page of the transcript excerpts in this report on which the comment appears. These comments are identified by the letters "MPS" followed by a number that identifies each comment in approximate chronological order in which the comments were made. The written statements (from the public meetings) and written comment letters are also identified by the letters "MPS."

The staff made a determination on each comment that it was one of the following:

(1) a comment that was actually a request for information and introduced no new information

(2) a comment that was either related to support or opposition of license renewal in general (or specifically Millstone Power Station, Units 2 and 3) or that made a general statement about the license renewal process. It may have made only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provided no new information and does not pertain to safety considerations reviewed under 10 CFR Part 54

(3) a comment about a Category 1 issue that
- (a) provided significant new information that required evaluation during the review, or
- (b) provided no significant new information

(4) a comment about a Category 2 issue that
- (a) provided significant information that required evaluation during the review, or
- (b) provided no such information

(5) a comment that raised an environmental issue that was not addressed in the GEIS or the draft SEIS

(6) a comment on safety issues pertaining to 10 CFR Part 54

(7) a comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54), or

(8) a comment that was editorial in nature.

Comment types 3, 4, 5, and 8 may have resulted in changes to the text.

There was no significant new information provided on Category 1 issues [(3)(a) above] or

information that required further evaluation on Category 2 issues [(4)(a)]. Therefore, the GEIS and draft SEIS remained valid and bounding, and no further evaluation was performed. Comments without a supporting technical basis or without any new information are discussed in this appendix, and not in other sections of this report. Relevant references that address the issues within the regulatory authority of the NRC are provided where appropriate. Many of these references can be obtained from the NRC Electronic Public Document Room.

Within each section of Part II of this appendix (A.4.1 through A.4.16), similar comments are grouped together for ease of reference, and a summary description of the comments is given, followed by the staff's response. Where the comment or question resulted in a change in the text of the draft report, the corresponding response refers the reader to the appropriate section of this report where the change was made. Revisions to the text in the draft report are designated by vertical lines beside the text.

Some numbers were initially assigned to portions of verbal or written statements that were later determined not to be comments. These items were removed from the table. As a result, not all numbers are sequential (see Table A-2.)

Table A.2 Comments Received on the Draft SEIS

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-1-1	G. Merrill	Afternoon Transcript (01/11/05)	A-121	A.2.9
MPS-1-2	G. Merrill	Afternoon Transcript (01/11/05)	A-114	A.2.9
MPS-1-3	G. Merrill	Afternoon Transcript (01/11/05)	A-85	A.2.9
MPS-1-4	G. Merrill	Afternoon Transcript (01/11/05)	A-115	A.2.9
MPS-1-5	G. Merrill	Afternoon Transcript (01/11/05)	A-115	A.2.9
MPS-1-6	G. Merrill	Afternoon Transcript (01/11/05)	A-103	A.2.9
MPS-2-1	N. Burton	Afternoon Transcript (01/11/05)	A-86	A.2.9
MPS-2-2	N. Burton	Afternoon Transcript (01/11/05)	A-85	A.2.9
MPS-2-3	N. Burton	Afternoon Transcript (01/11/05)	A-103	A.2.9
MPS-2-4	N. Burton	Afternoon Transcript (01/11/05)	A-113	A.2.9
MPS-2-5	N. Burton	Afternoon Transcript (01/11/05)	A-86	A.2.9
MPS-2-6	N. Burton	Afternoon Transcript (01/11/05)	A-85	A.2.9
MPS-2-7	N. Burton	Afternoon Transcript (01/11/05)	A-86	A.2.9
MPS-2-8	N. Burton	Afternoon Transcript (01/11/05)	A-100	A.2.9
MPS-2-9	N. Burton	Afternoon Transcript (01/11/05)	A-50	A.2.4
MPS-2-10	N. Burton	Afternoon Transcript (01/11/05)	A-38	A.2.1
MPS-3-1	M. Steinberg	Afternoon Transcript (01/11/05)	A-86	A.2.9
MPS-3-2	M. Steinberg	Afternoon Transcript (01/11/05)	A-86	A.2.9
MPS-3-3	M. Steinberg	Afternoon Transcript (01/11/05)	A-87	A.2.9
MPS-3-4	M. Steinberg	Afternoon Transcript (01/11/05)	A-87	A.2.9

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-3-5	M. Steinberg	Afternoon Transcript (01/11/05)	A-104	A.2.9
MPS-3-6	M. Steinberg	Afternoon Transcript (01/11/05)	A-87	A.2.9
MPS-3-7	M. Steinberg	Afternoon Transcript (01/11/05)	A-87	A.2.9
MPS-3-8	M. Steinberg	Afternoon Transcript (01/11/05)	A-87	A.2.9
MPS-3-9	M. Steinberg	Afternoon Transcript (01/11/05)	A-88	A.2.9
MPS-3-10	M. Steinberg	Afternoon Transcript (01/11/05)	A-88	A.2.9
MPS-3-11	M. Steinberg	Afternoon Transcript (01/11/05)	A-119	A.2.9
MPS-3-12	M. Steinberg	Afternoon Transcript (01/11/05)	A-143	A.2.13
MPS-3-13	M. Steinberg	Afternoon Transcript (01/11/05)	A-47	A.2.3
MPS-3-14	M. Steinberg	Afternoon Transcript (01/11/05)	A-88	A.2.9
MPS-3-15	M. Steinberg	Afternoon Transcript (01/11/05)	A-88	A.2.9
MPS-4-1	P. Bowman	Afternoon Transcript (01/11/05)	A-122	A.2.10
MPS-4-2	P. Bowman	Afternoon Transcript (01/11/05)	A-47	A.2.3
MPS-4-3	P. Bowman	Afternoon Transcript (01/11/05)	A-113	A.2.9
MPS-4-4	P. Bowman	Afternoon Transcript (01/11/05)	A-129	A.2.12
MPS-4-5	P. Bowman	Afternoon Transcript (01/11/05)	A-131	A.2.13
MPS-5-1	M. Bowman	Afternoon Transcript (01/11/05)	A-114	A.2.9
MPS-5-2	M. Bowman	Afternoon Transcript (01/11/05)	A-110	A.2.9
MPS-5-3	M. Bowman	Afternoon Transcript (01/11/05)	A-82	A.2.8
MPS-5-4	M. Bowman	Afternoon Transcript (01/11/05)	A-124	A.2.11
MPS-5-5	M. Bowman	Afternoon Transcript (01/11/05)	A-132	A.2.13
MPS-6-1	C. Besade	Afternoon Transcript (01/11/05)	A-129	A.2.12
MPS-6-2	C. Besade	Afternoon Transcript (01/11/05)	A-129	A.2.12
MPS-6-3	C. Besade	Afternoon Transcript (01/11/05)	A-129	A.2.12
MPS-6-4	C. Besade	Afternoon Transcript (01/11/05)	A-141	A.2.13
MPS-6-5	C. Besade	Afternoon Transcript (01/11/05)	A-111	A.2.9
MPS-6-6	C. Besade	Afternoon Transcript (01/11/05)	A-111	A.2.9
MPS-6-7	C. Besade	Afternoon Transcript (01/11/05)	A-89	A.2.9
MPS-6-8	C. Besade	Afternoon Transcript (01/11/05)	A-89	A.2.9
MPS-7-1	S. Scace	Afternoon Transcript (01/11/05)	A-143	A.2.13
MPS-8-1	J. Horton	Afternoon Transcript (01/11/05)	A-56	A.2.5
MPS-8-2	J. Horton	Afternoon Transcript (01/11/05)	A-38	A.2.1
MPS-8-3	J. Horton	Afternoon Transcript (01/11/05)	A-39	A.2.1
MPS-8-4	J. Horton	Afternoon Transcript (01/11/05)	A-132	A.2.13
MPS-8-5	J. Horton	Afternoon Transcript (01/11/05)	A-132	A.2.13
MPS-8-6	J. Horton	Afternoon Transcript (01/11/05)	A-39	A.2.1
MPS-8-7	J. Horton	Afternoon Transcript (01/11/05)	A-39	A.2.1
MPS-8-8	J. Horton	Afternoon Transcript (01/11/05)	A-39	A.2.1
MPS-9-1	M. Domino	Afternoon Transcript (01/11/05)	A-122	A.2.10
MPS-9-2	M. Domino	Afternoon Transcript (01/11/05)	A-132	A.2.13

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MPS-9-3	M. Domino	Afternoon Transcript (01/11/05)	A-132	A.2.13
MPS-9-4	M. Domino	Afternoon Transcript (01/11/05)	A-122	A.2.10
MPS-9-5	M. Domino	Afternoon Transcript (01/11/05)	A-40	A.2.1
MPS-9-6	M. Domino	Afternoon Transcript (01/11/05)	A-47	A.2.3
MPS-10-1	M. Domenici	Afternoon Transcript (01/11/05)	A-40	A.2.1
MPS-10-2	M. Domenici	Afternoon Transcript (01/11/05)	A-133	A.2.13
MPS-10-3	M. Domenici	Afternoon Transcript (01/11/05)	A-89	A.2.9
MPS-10-4	M. Domenici	Afternoon Transcript (01/11/05)	A-138	A.2.13
MPS-10-5	M. Domenici	Afternoon Transcript (01/11/05)	A-138	A.2.13
MPS-10-6	M. Domenici	Afternoon Transcript (01/11/05)	A-122	A.2.10
MPS-10-7	M. Domenici	Afternoon Transcript (01/11/05)	A-47	A.2.3
MPS-11-1	C.Willauer	Afternoon Transcript (01/11/05)	A-138	A.2.13
MPS-11-2	C.Willauer	Afternoon Transcript (01/11/05)	A-89	A.2.9
MPS-11-3	C.Willauer	Afternoon Transcript (01/11/05)	A-130	A.2.9
MPS-11-4	C.Willauer	Afternoon Transcript (01/11/05)	A-125	A.2.11
MPS-11-5	C.Willauer	Afternoon Transcript (01/11/05)	A-138	A.2.13
MPS-11-6	C.Willauer	Afternoon Transcript (01/11/05)	A-47	A.2.3
MPS-11-7	C.Willauer	Afternoon Transcript (01/11/05)	A-125	A.2.11
MPS-11-8	C.Willauer	Afternoon Transcript (01/11/05)	A-82	A.2.8
MPS-11-9	C.Willauer	Afternoon Transcript (01/11/05)	A-121	A.2.9
MPS-11-10	C.Willauer	Afternoon Transcript (01/11/05)	A-125	A.2.11
MPS-12-1	T. Sheridan	Afternoon Transcript (01/11/05)	A-143	A.2.13
MPS-12-2	T. Sheridan	Afternoon Transcript (01/11/05)	A-40	A.2.1
MPS-12-3	T. Sheridan	Afternoon Transcript (01/11/05)	A-141	A.2.13
MPS-13-1	J. Markowicz	Afternoon Transcript (01/11/05)	A-46	A.2.2
MPS-13-2	J. Markowicz	Afternoon Transcript (01/11/05)	A-46	A.2.2
MPS-13-3	J. Markowicz	Afternoon Transcript (01/11/05)	A-133	A.2.13
MPS-14-1	M. Peters	Afternoon Transcript (01/11/05)	A-46	A.2.2
MPS-14-2	M. Peters	Afternoon Transcript (01/11/05)	A-141	A.2.13
MPS-14-3	M. Peters	Afternoon Transcript (01/11/05)	A-125	A.2.11
MPS-15-1	G. Merrill	Evening Transcript (01/11/05)	A-89	A.2.9
MPS-16-1	C. Besade	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-16-2	C. Besade	Evening Transcript (01/11/05)	A-89	A.2.9
MPS-16-3	C. Besade	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-16-4	C. Besade	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-16-5	C. Besade	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-17-1	S. Herbert	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-18-1	G. Winslow	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-18-2	G. Winslow	Evening Transcript (01/11/05)	A-130	A.2.12
MPS-18-3	G. Winslow	Evening Transcript (01/11/05)	A-130	A.2.12
MPS-18-4	G. Winslow	Evening Transcript (01/11/05)	A-130	A.2.12

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MPS-18-5	G. Winslow	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-18-6	G. Winslow	Evening Transcript (01/11/05)	A-44	A.2.1
MPS-18-7	G. Winslow	Evening Transcript (01/11/05)	A-53	A.2.4
MPS-18-8	G. Winslow	Evening Transcript (01/11/05)	A-76	A.2.5
MPS-18-9	G. Winslow	Evening Transcript (01/11/05)	A-119	A.2.9
MPS-18-10	G. Winslow	Evening Transcript (01/11/05)	A-83	A.2.8
MPS-18-11	G. Winslow	Evening Transcript (01/11/05)	A-44	A.2.1
MPS-18-12	G. Winslow	Evening Transcript (01/11/05)	A-122	A.2.10
MPS-18-13	G. Winslow	Evening Transcript (01/11/05)	A-47	A.2.3
MPS-19-1	D. Schwartz	Evening Transcript (01/11/05)	A-138	A.2.13
MPS-19-2	D. Schwartz	Evening Transcript (01/11/05)	A-44	A.2.1
MPS-19-3	D. Schwartz	Evening Transcript (01/11/05)	A-139	A.2.13
MPS-19-4	D. Schwartz	Evening Transcript (01/11/05)	A-139	A.2.13
MPS-20-1	B. Ritter	Evening Transcript (01/11/05)	A-46	A.2.2
MPS-20-2	B. Ritter	Evening Transcript (01/11/05)	A-143	A.2.13
MPS-21-1	B. Vachris	Evening Transcript (01/11/05)	A-82	A.2.8
MPS-21-2	B. Vachris	Evening Transcript (01/11/05)	A-82	A.2.8
MPS-21-3	B. Vachris	Evening Transcript (01/11/05)	A-46	A.2.2
MPS-21-4	B. Vachris	Evening Transcript (01/11/05)	A-46	A.2.2
MPS-22-1	G. Merrill	Evening Transcript (01/11/05)	A-104	A.2.9
MPS-22-2	G. Merrill	Evening Transcript (01/11/05)	A-90	A.2.9
MPS-22-3	G. Merrill	Evening Transcript (01/11/05)	A-115	A.2.9
MPS-22-4	G. Merrill	Evening Transcript (01/11/05)	A-115	A.2.9
MPS-22-5	G. Merrill	Evening Transcript (01/11/05)	A-115	A.2.9
MPS-23-1	N. Burton	Evening Transcript (01/11/05)	A-40	A.2.1
MPS-23-2	N. Burton	Evening Transcript (01/11/05)	A-139	A.2.13
MPS-23-3	N. Burton	Evening Transcript (01/11/05)	A-91	A.2.9
MPS-23-4	N. Burton	Evening Transcript (01/11/05)	A-91	A.2.9
MPS-23-5	N. Burton	Evening Transcript (01/11/05)	A-104	A.2.9
MPS-23-6	N. Burton	Evening Transcript (01/11/05)	A-91	A.2.9
MPS-23-7	N. Burton	Evening Transcript (01/11/05)	A-104	A.2.9
MPS-23-8	N. Burton	Evening Transcript (01/11/05)	A-53	A.2.4
MPS-23-9	N. Burton	Evening Transcript (01/11/05)	A-70	A.2.5
MPS-23-10	N. Burton	Evening Transcript (01/11/05)	A-76	A.2.5
MPS-23-11	N. Burton	Evening Transcript (01/11/05)	A-77	A.2.5
MPS-23-12	N. Burton	Evening Transcript (01/11/05)	A-126	A.2.11
MPS-23-13	N. Burton	Evening Transcript (01/11/05)	A-40	A.2.1
MPS-24-1	J. Markowicz	Evening Transcript (01/11/05)	A-141	A.2.13
MPS-24-2	J. Markowicz	Evening Transcript (01/11/05)	A-139	A.2.13
MPS-24-3	J. Markowicz	Evening Transcript (01/11/05)	A-139	A.2.13

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MPS-24-4	J. Markowicz	Evening Transcript (01/11/05)	A-133	A.2.13
MPS-25-1	L. Natusch	Evening Transcript (01/11/05)	A-139	A.2.13
MPS-25-2	L. Natusch	Evening Transcript (01/11/05)	A-61	A.2.5
MPS-25-3	L. Natusch	Evening Transcript (01/11/05)	A-109	A.2.9
MPS-26-1	L. Suter	January 11, 2005, letter	A-47	A.2.3
MPS-26-2	L. Suter	January 11, 2005, letter	A-139	A.2.9
MPS-27-1	M. Hess	January 25, 2005 email	A-62	A.2.5
MPS-28-1	C. Pillsbury/A Brison	February 10, 2005 letter	A-48	A.2.3
MPS-28-2	C. Pillsbury/A Brison	February 10, 2005 letter	A-141	A.2.13
MPS-28-3	C. Pillsbury/A Brison	February 10, 2005 letter	A-133	A.2.13
MPS-28-4	C. Pillsbury/A Brison	February 10, 2005 letter	A-139	A.2.13
MPS-28-5	C. Pillsbury/A Brison	February 10, 2005 letter	A-83	A.2.8
MPS-28-6	C. Pillsbury/A Brison	February 10, 2005 letter	A-109	A.2.9
MPS-28-7	C. Pillsbury/A Brison	February 10, 2005 letter	A-144	A.2.13
MPS-28-8	C. Pillsbury/A Brison	February 10, 2005 letter	A-41	A.2.1
MPS-29-1	D. Simpson	January 5, 2005 email	A-79	A.2.5
MPS-29-2	D. Simpson	January 5, 2005 email	A-56	A.2.5
MPS-29-3	D. Simpson	January 5, 2005 email	A-56	A.2.5
MPS-29-4	D. Simpson	January 5, 2005 email	A-56	A.2.5
MPS-30-1	M. Domenici	January 6, 2005 email	A-48	A.2.3
MPS-30-2	M. Domenici	January 6, 2005 email	A-139	A.2.13
MPS-30-3	M. Domenici	January 6, 2005 email	A-110	A.2.9
MPS-30-4	M. Domenici	January 6, 2005 email	A-125	A.2.11
MPS-31-1	M. Baran	January 7, 2005 email	A-133	A.2.13
MPS-32-1	P. Acampora	January 10, 2005 email	A-133	A.2.13
MPS-33-1	W. J. Burgess	January 11, 2005 email	A-46	A.2.2
MPS-34-1	B. Doyle	January 11, 2005 email	A-48	A.2.3
MPS-34-2	B. Doyle	January 11, 2005 email	A-122	A.2.10
MPS-35-1	A. Farinacci	January 14, 2005 email	A-48	A.2.3
MPS-35-2	A. Farinacci	January 14, 2005 email	A-134	A.2.13
MPS-36-1	C. Case	January 14, 2005 email	A-134	A.2.13

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MPS-37-1	J. Circo-Randazzo	January 14, 2005 email	A-48	A.2.3
MPS-37-2	J. Circo-Randazzo	January 14, 2005 email	A-134	A.2.13
MPS-38-1	B. & V. DiPaola	January 17, 2005 email	A-41	A.2.1
MPS-38-2	B. & V. DiPaola	January 17, 2005 email	A-134	A.2.13
MPS-39-1	B. Garrett	January 17, 2005 email	A-48	A.2.3
MPS-40-1	V. Briody/ M. Swearingen	January 31, 2005 email	A-48	A.2.3
MPS-40-2	V. Briody/ M. Swearingen	January 31, 2005 email	A-134	A.2.13
MPS-41-1	Josephine	February 1, 2005 email	A-48	A.2.3
MPS-42-1	J. Magnesi	February 9, 2005 email	A-41	A.2.1
MPS-43-1	M. Domenici	February 23, 2005 email	A-41	A.2.1
MPS-44-1	M. Domino	January 11, 2005 Public Meeting Feedback Form	A-42	A.2.1
MPS-45-1	W. Parahas	January 11, 2005 Public Meeting Feedback Form	A-48	A.2.3
MPS-45-2	W. Parahas	January 11, 2005 Public Meeting Feedback Form	A-79	A.2.5
MPS-45-3	W. Parahas	January 11, 2005 Public Meeting Feedback Form	A-91	A.2.9
MPS-46-1	N. Burton	January 11, 2005 letter	A-104	A.2.9
MPS-46-2	N. Burton	January 11, 2005 letter	A-91	A.2.9
MPS-46-3	N. Burton	January 11, 2005 letter	A-105	A.2.9
MPS-46-4	N. Burton	January 11, 2005 letter	A-91	A.2.9
MPS-46-5	N. Burton	January 11, 2005 letter	A-119	A.2.9
MPS-46-6	N. Burton	January 11, 2005 letter	A-92	A.2.9
MPS-46-7	N. Burton	January 11, 2005 letter	A-144	A.2.13
MPS-47-1	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-2	E. Grecheck	February 25, 2005 letter	A-54	A.2.4
MPS-47-3	E. Grecheck	February 25, 2005 letter	A-54	A.2.4
MPS-47-4	E. Grecheck	February 25, 2005 letter	A-123	A.2.10
MPS-47-5	E. Grecheck	February 25, 2005 letter	A-123	A.2.10
MPS-47-6	E. Grecheck	February 25, 2005 letter	A-123	A.2.10
MPS-47-7	E. Grecheck	February 25, 2005 letter	A-124	A.2.10
MPS-47-8	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-9	E. Grecheck	February 25, 2005 letter	A-80	A.2.6
MPS-47-10	E. Grecheck	February 25, 2005 letter	A-54	A.2.4
MPS-47-11	E. Grecheck	February 25, 2005 letter	A-54	A.2.4

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MPS-47-12	E. Grecheck	February 25, 2005 letter	A-55	A.2.4
MPS-47-13	E. Grecheck	February 25, 2005 letter	A-55	A.2.4
MPS-47-14	E. Grecheck	February 25, 2005 letter	A-55	A.2.4
MPS-47-15	E. Grecheck	February 25, 2005 letter	A-81	A.2.7
MPS-47-16	E. Grecheck	February 25, 2005 letter	A-56	A.2.5
MPS-47-17	E. Grecheck	February 25, 2005 letter	A-56	A.2.5
MPS-47-18	E. Grecheck	February 25, 2005 letter	A-55	A.2.4
MPS-47-19	E. Grecheck	February 25, 2005 letter	A-57	A.2.5
MPS-47-20	E. Grecheck	February 25, 2005 letter	A-57	A.2.5
MPS-47-21	E. Grecheck	February 25, 2005 letter	A-57	A.2.5
MPS-47-22	E. Grecheck	February 25, 2005 letter	A-57	A.2.5
MPS-47-23	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-24	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-25	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-26	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-27	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-28	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-29	E. Grecheck	February 25, 2005 letter	A-80	A.2.6
MPS-47-30	E. Grecheck	February 25, 2005 letter	A-80	A.2.6
MPS-47-31	E. Grecheck	February 25, 2005 letter	A-80	A.2.6
MPS-47-32	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-33	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-34	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-35	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-36	E. Grecheck	February 25, 2005 letter	A-84	A.2.8
MPS-47-37	E. Grecheck	February 25, 2005 letter	A-85	A.2.8
MPS-47-38	E. Grecheck	February 25, 2005 letter	A-58	A.2.5
MPS-47-39	E. Grecheck	February 25, 2005 letter	A-59	A.2.5
MPS-47-40	E. Grecheck	February 25, 2005 letter	A-59	A.2.5
MPS-47-41	E. Grecheck	February 25, 2005 letter	A-59	A.2.5
MPS-47-42	E. Grecheck	February 25, 2005 letter	A-62	A.2.5
MPS-47-43	E. Grecheck	February 25, 2005 letter	A-64	A.2.5
MPS-47-44	E. Grecheck	February 25, 2005 letter	A-59	A.2.5
MPS-47-45	E. Grecheck	February 25, 2005 letter	A-60	A.2.5
MPS-47-46	E. Grecheck	February 25, 2005 letter	A-60	A.2.5
MPS-47-47	E. Grecheck	February 25, 2005 letter	A-60	A.2.5
MPS-47-48	E. Grecheck	February 25, 2005 letter	A-60	A.2.5
MPS-47-49	E. Grecheck	February 25, 2005 letter	A-60	A.2.5
MPS-47-50	E. Grecheck	February 25, 2005 letter	A-85	A.2.8
MPS-47-51	E. Grecheck	February 25, 2005 letter	A-80	A.2.6
MPS-47-52	E. Grecheck	February 25, 2005 letter	A-60	A.2.5

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MPS-47-53	E. Grecheck	February 25, 2005 letter	A-127	A.2.11
MPS-47-54	E. Grecheck	February 25, 2005 letter	A-127	A.2.11
MPS-47-55	E. Grecheck	February 25, 2005 letter	A-131	A.2.12
MPS-48-1	J. Thorsen	February 20, 2005 letter	A-127	A.2.11
MPS-48-2	J. Thorsen	February 20, 2005 letter	A-48	A.2.3
MPS-49-1	R. Fromer	February 28, 2005 letter	A-127	A.2.11
MPS-50-1	R. Varney	March 1, 2005 letter	A-61	A.2.5
MPS-50-2	R. Varney	March 1, 2005 letter	A-61	A.2.5
MPS-50-3	R. Varney	March 1, 2005 letter	A-61	A.2.5
MPS-50-4	R. Varney	March 1, 2005 letter	A-65	A.2.5
MPS-50-5	R. Varney	March 1, 2005 letter	A-65	A.2.5
MPS-50-6	R. Varney	March 1, 2005 letter	A-65	A.2.5
MPS-50-7	R. Varney	March 1, 2005 letter	A-66	A.2.5
MPS-50-8	R. Varney	March 1, 2005 letter	A-66	A.2.5
MPS-50-9	R. Varney	March 1, 2005 letter	A-73	A.2.5
MPS-50-10	R. Varney	March 1, 2005 letter	A-66	A.2.5
MPS-50-11	R. Varney	March 1, 2005 letter	A-66	A.2.5
MPS-50-12	R. Varney	March 1, 2005 letter	A-69	A.2.5
MPS-50-13	R. Varney	March 1, 2005 letter	A-69	A.2.5
MPS-50-14	R. Varney	March 1, 2005 letter	A-76	A.2.5
MPS-50-15	R. Varney	March 1, 2005 letter	A-71	A.2.5
MPS-50-16	R. Varney	March 1, 2005 letter	A-71	A.2.5
MPS-51-1	N. Burton	March 2, 2005 email	A-48	A.2.3
MPS-51-2	N. Burton	March 2, 2005 email	A-92	A.2.9
MPS-51-3	N. Burton	March 2, 2005 email	A-116	A.2.9
MPS-51-4	N. Burton	March 2, 2005 email	A-106	A.2.9
MPS-51-5	N. Burton	March 2, 2005 email	A-106	A.2.9
MPS-52-1	S. Levy	February 23, 2005 letter	A-42	A.2.1
MPS-52-2	S. Levy	February 23, 2005 letter	A-45	A.2.1
MPS-52-3	S. Levy	February 23, 2005 letter	A-134	A.2.13
MPS-52-4	S. Levy	February 23, 2005 letter	A-142	A.2.13
MPS-52-5	S. Levy	February 23, 2005 letter	A-73	A.2.5
MPS-52-6	S. Levy	February 23, 2005 letter	A-130	A.2.12
MPS-53-1	H. Walter	February 25, 2005 email	A-48	A.2.3
MPS-53-2	H. Walter	February 25, 2005 email	A-135	A.2.13
MPS-53-3	H. Walter	February 25, 2005 email	A-50	A.2.4
MPS-53-4	H. Walter	February 25, 2005 email	A-75	A.2.5
MPS-54-1	M. Brock	February 25, 2005 email	A-48	A.2.3
MPS-55-1	S. Pafenyk	February 26, 2005 email	A-135	A.2.13
MPS-55-2	S. Pafenyk	February 26, 2005 email	A-92	A.2.9

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MPS-55-3	S. Pafenyk	February 26, 2005 email	A-79	A.2.5
MPS-56-1	C. Case	February 27, 2005 email	A-49	A.2.3
MPS-56-2	C. Case	February 27, 2005 email	A-50	A.2.4
MPS-56-3	C. Case	February 27, 2005 email	A-75	A.2.5
MPS-56-4	C. Case	February 27, 2005 email	A-135	A.2.13
MPS-57-1	K. McGraw	February 26, 2005 email	A-49	A.2.3
MPS-57-2	K. McGraw	February 26, 2005 email	A-135	A.2.13
MPS-57-3	K. McGraw	February 26, 2005 email	A-50	A.2.4
MPS-57-4	K. McGraw	February 26, 2005 email	A-75	A.2.5
MPS-58-1	J. Porter	February 28, 2005 email	A-49	A.2.3
MPS-58-2	J. Porter	February 28, 2005 email	A-135	A.2.13
MPS-58-3	J. Porter	February 28, 2005 email	A-50	A.2.4
MPS-58-4	J. Porter	February 28, 2005 email	A-75	A.2.5
MPS-59-1	A. Benners	February 28, 2005 email	A-49	A.2.3
MPS-59-2	A. Benners	February 28, 2005 email	A-135	A.2.13
MPS-59-3	A. Benners	February 28, 2005 email	A-51	A.2.4
MPS-59-4	A. Benners	February 28, 2005 email	A-75	A.2.5
MPS-60-1	J. Bloom	February 28, 2005 email	A-49	A.2.3
MPS-60-2	J. Bloom	February 28, 2005 email	A-135	A.2.13
MPS-60-3	J. Bloom	February 28, 2005 email	A-92	A.2.9
MPS-60-4	J. Bloom	February 28, 2005 email	A-79	A.2.5
MPS-61-1	Judi	February 28, 2005 email	A-51	A.2.4
MPS-61-2	Judi	February 28, 2005 email	A-75	A.2.5
MPS-61-3	Judi	February 28, 2005 email	A-49	A.2.3
MPS-62-1	M. Schwartz	February 28, 2005 email	A-49	A.2.3
MPS-62-2	M. Schwartz	February 28, 2005 email	A-92	A.2.9
MPS-62-3	M. Schwartz	February 28, 2005 email	A-127	A.2.11
MPS-63-1	A. Martin	February 28, 2005 email	A-49	A.2.3
MPS-63-2	A. Martin	February 28, 2005 email	A-135	A.2.13
MPS-63-3	A. Martin	February 28, 2005 email	A-51	A.2.4
MPS-63-4	A. Martin	February 28, 2005 email	A-92	A.2.9
MPS-64-1	J. Rooney	March 2, 2005 email	A-49	A.2.3
MPS-64-2	J. Rooney	March 2, 2005 email	A-135	A.2.13
MPS-64-3	J. Rooney	March 2, 2005 email	A-51	A.2.4
MPS-65-1	A. Levitt	February 25, 2005 email	A-49	A.2.3
MPS-65-2	A. Levitt	February 25, 2005 email	A-92	A.2.9
MPS-65-3	A. Levitt	February 25, 2005 email	A-42	A.2.1
MPS-65-4	A. Levitt	February 25, 2005 email	A-139	A.2.13
MPS-65-5	A. Levitt	February 25, 2005 email	A-83	A.2.8
MPS-66-1	M. Baran	February 25, 2005 email	A-49	A.2.3
MPS-66-2	M. Baran	February 25, 2005 email	A-135	A.2.13

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-66-3	M. Baran	February 25, 2005 email	A-51	A.2.4
MPS-66-4	M. Baran	February 25, 2005 email	A-75	A.2.5
MPS-67-1	A. Tillman	February 25, 2005 email	A-49	A.2.3
MPS-67-2	A. Tillman	February 25, 2005 email	A-136	A.2.13
MPS-68-1	K. Faraone	March 2, 2005 email	A-136	A.2.13
MPS-68-2	K. Faraone	March 2, 2005 email	A-51	A.2.4
MPS-68-3	K. Faraone	March 2, 2005 email	A-75	A.2.5
MPS-68-4	K. Faraone	March 2, 2005 email	A-49	A.2.3
MPS-69-1	K. Elenteny	March 2, 2005 email	A-49	A.2.3
MPS-69-2	K. Elenteny	March 2, 2005 email	A-92	A.2.9
MPS-69-3	K. Elenteny	March 2, 2005 email	A-79	A.2.5
MPS-70-1	A. Greene	March 2, 2005 email	A-136	A.2.13
MPS-70-2	A. Greene	March 2, 2005 email	A-51	A.2.4
MPS-70-3	A. Greene	March 2, 2005 email	A-75	A.2.5
MPS-71-1	R. MacNish	February 25, 2005 email	A-49	A.2.3
MPS-72-1	J. Horton	March 2, 2005 letter	A-42	A.2.1
MPS-72-2	J. Horton	March 2, 2005 letter	A-136	A.2.13
MPS-72-3	J. Horton	March 2, 2005 letter	A-43	A.2.1
MPS-73-1	G. Schroeder	March 1, 2005 email	A-50	A.2.3
MPS-73-2	G. Schroeder	March 1, 2005 email	A-43	A.2.1
MPS-73-3	G. Schroeder	March 1, 2005 email	A-137	A.2.13
MPS-73-4	G. Schroeder	March 1, 2005 email	A-139	A.2.13
MPS-74-1	A. Raddant	February 28, 2005 letter	A-47	A.2.2
MPS-75-1	J. Wallmuller	January 17, 2005 email	A-50	A.2.3
MPS-76-1	Carjam10 @aol.com	January 16, 2005 email	A-137	A.2.13
MPS-77-1	A. Gobin	March 2, 2005 letter	A-128	A.2.11
MPS-78-1	M. Domenici	January 12, 2005 email	A-43	A.2.1
MPS-79-1	D. Downes	March 7, 2005 letter	A-47	A.2.2
MPS-79-2	D. Downes	March 7, 2005 letter	A-143	A.2.13
MPS-79-3	D. Downes	March 7, 2005 letter	A-143	A.2.13
MPS-80-1	L. Kaley	March 11, 2005 email	A-124	A.2.10
MPS-80-2	L. Kaley	March 11, 2005 email	A-125	A.2.11
MPS-81-1	J. Calandrelli	March 18, 2005email	A-125	A.2.11
MPS-81-2	J. Calandrelli	March 18, 2005email	A-137	A.2.13
MPS-81-3	J. Calandrelli	March 18, 2005email	A-83	A.2.8
MPS-81-4	J. Calandrelli	March 18, 2005email	A-92	A.2.9
MPS-81-5	J. Calandrelli	March 18, 2005email	A-140	A.2.13
MPS-81-6	J. Calandrelli	March 18, 2005email	A-126	A.2.11
MPS-81-7	J. Calandrelli	March 18, 2005email	A-50	A.2.3

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-82-1	N. Burton	March 16, 2005 letter	A-44	A.2.1
MPS-82-2	N. Burton	March 16, 2005 letter	A-144	A.2.13
MPS-82-3	N. Burton	March 16, 2005 letter	A-52	A.2.4
MPS-82-4	N. Burton	March 16, 2005 letter	A-44	A.2.1
MPS-82-5	N. Burton	March 16, 2005 letter	A-116	A.2.9
MPS-82-6	N. Burton	March 16, 2005 letter	A-107	A.2.9
MPS-82-7	N. Burton	March 16, 2005 letter	A-45	A.2.1
MPS-82-8	N. Burton	March 16, 2005 letter	A-92	A.2.9
MPS-82-9	N. Burton	March 16, 2005 letter	A-74	A.2.5
MPS-82-10	N. Burton	March 16, 2005 letter	A-52	A.2.4
MPS-82-11	N. Burton	March 16, 2005 letter	A-93	A.2.9
MPS-82-12	N. Burton	March 16, 2005 letter	A-100	A.2.9
MPS-82-13	N. Burton	March 16, 2005 letter	A-145	A.2.13
MPS-82-14	N. Burton	March 16, 2005 letter	A-85	A.2.8
MPS-82-15	N. Burton	March 16, 2005 letter	A-93	A.2.9
MPS-82-16	N. Burton	March 16, 2005 letter	A-116	A.2.9
MPS-82-17	N. Burton	March 16, 2005 letter	A-116	A.2.9
MPS-82-18	N. Burton	March 16, 2005 letter	A-145	A.2.13
MPS-82-19A	N. Burton	March 16, 2005 letter	A-111	A.2.9
MPS-82-19B	N. Burton	March 16, 2005 letter	A-93	A.2.9
MPS-82-20	N. Burton	March 16, 2005 letter	A-145	A.2.13
MPS-82-21	N. Burton	March 16, 2005 letter	A-78	A.2.5
MPS-82-22	N. Burton	March 16, 2005 letter	A-141	A.2.13
MPS-82-23	N. Burton	March 16, 2005 letter	A-52	A.2.4
MPS-82-24	N. Burton	March 16, 2005 letter	A-107	A.2.9
MPS-82-25	N. Burton	March 16, 2005 letter	A-140	A.2.13
MPS-82-26	N. Burton	March 16, 2005 letter	A-111	A.2.9
MPS-82-27	N. Burton	March 16, 2005 letter	A-93	A.2.9
MPS-82-28	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-29	N. Burton	March 16, 2005 letter	A-140	A.2.13
MPS-82-30	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-31	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-32	N. Burton	March 16, 2005 letter	A-117	A.2.9
MPS-82-33	N. Burton	March 16, 2005 letter	A-107	A.2.9
MPS-82-34	N. Burton	March 16, 2005 letter	A-45	A.2.1
MPS-82-35	N. Burton	March 16, 2005 letter	A-109	A.2.9
MPS-82-36	N. Burton	March 16, 2005 letter	A-102	A.2.9
MPS-82-37	N. Burton	March 16, 2005 letter	A-107	A.2.9
MPS-82-38	N. Burton	March 16, 2005 letter	A-102	A.2.9
MPS-82-39	N. Burton	March 16, 2005 letter	A-117	A.2.9
MPS-82-40	N. Burton	March 16, 2005 letter	A-117	A.2.9

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-82-41	N. Burton	March 16, 2005 letter	A-107	A.2.9
MPS-82-42	N. Burton	March 16, 2005 letter	A-119	A.2.9
MPS-82-43	N. Burton	March 16, 2005 letter	A-120	A.2.9
MPS-82-44	N. Burton	March 16, 2005 letter	A-120	A.2.9
MPS-82-45	N. Burton	March 16, 2005 letter	A-79	A.2.5
MPS-82-46	N. Burton	March 16, 2005 letter	A-77	A.2.5
MPS-82-47	N. Burton	March 16, 2005 letter	A-78	A.2.5
MPS-82-48	N. Burton	March 16, 2005 letter	A-77	A.2.5
MPS-82-49	N. Burton	March 16, 2005 letter	A-100	A.2.5
MPS-82-50	N. Burton	March 16, 2005 letter	A-70	A.2.5
MPS-82-51	N. Burton	March 16, 2005 letter	A-67	A.2.5
MPS-82-52	N. Burton	March 16, 2005 letter	A-68	A.2.5
MPS-82-53	N. Burton	March 16, 2005 letter	A-70	A.2.5
MPS-82-54	N. Burton	March 16, 2005 letter	A-72	A.2.5
MPS-82-55	N. Burton	March 16, 2005 letter	A-118	A.2.9
MPS-82-56	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-57	N. Burton	March 16, 2005 letter	A-118	A.2.9
MPS-82-58	N. Burton	March 16, 2005 letter	A-111	A.2.9
MPS-82-59	N. Burton	March 16, 2005 letter	A-111	A.2.9
MPS-82-60	N. Burton	March 16, 2005 letter	A-74	A.2.5
MPS-82-61	N. Burton	March 16, 2005 letter	A-101	A.2.9
MPS-82-62	N. Burton	March 16, 2005 letter	A-81	A.2.8
MPS-82-63	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-64	N. Burton	March 16, 2005 letter	A-83	A.2.8
MPS-82-65	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-66	N. Burton	March 16, 2005 letter	A-94	A.2.9
MPS-82-67	N. Burton	March 16, 2005 letter	A-109	A.2.9
MPS-82-68	N. Burton	March 16, 2005 letter	A-109	A.2.9
MPS-82-69	N. Burton	March 16, 2005 letter	A-95	A.2.9
MPS-82-70	N. Burton	March 16, 2005 letter	A-95	A.2.9
MPS-82-71	N. Burton	March 16, 2005 letter	A-96	A.2.9
MPS-82-72	N. Burton	March 16, 2005 letter	A-96	A.2.9
MPS-82-73	N. Burton	March 16, 2005 letter	A-96	A.2.9
MPS-82-74	N. Burton	March 16, 2005 letter	A-97	A.2.9
MPS-82-75	N. Burton	March 16, 2005 letter	A-97	A.2.9
MPS-82-76	N. Burton	March 16, 2005 letter	A-97	A.2.9
MPS-82-77	N. Burton	March 16, 2005 letter	A-97	A.2.9
MPS-82-78	N. Burton	March 16, 2005 letter	A-98	A.2.9
MPS-82-79	N. Burton	March 16, 2005 letter	A-98	A.2.9
MPS-82-80	N. Burton	March 16, 2005 letter	A-98	A.2.9

Comment ID	Commenter	Source	Comment Location	Section(s) Where Addressed
MPS-82-81	N. Burton	March 16, 2005 letter	A-99	A.2.9
MPS-82-82	N. Burton	March 16, 2005 letter	A-99	A.2.9
MPS-82-83	N. Burton	March 16, 2005 letter	A-114	A.2.9
MPS-82-84	N. Burton	March 16, 2005 letter	A-101	A.2.9
MPS-83-1	N. Burton	March 21, 2005 letter	A-53	A.2.4
MPS-83-2	N. Burton	March 21, 2005 letter	A-53	A.2.4
MPS-83-3	N. Burton	March 21, 2005 letter	A-100	A.2.9
MPS-83-4	N. Burton	March 21, 2005 letter	A-75	A.2.5
MPS-83-5	N. Burton	March 21, 2005 letter	A-100	A.2.9
(a) The accession number for the transcripts and attachments is ML050540167.				

A.2 Comments and Responses

Comments in this section are grouped into the following categories:

1. Comments Regarding the License Renewal Process
2. Comments in Support of License Renewal at Millstone Power Station, Units 2 and 3
3. Comments in Opposition to License Renewal at Millstone Power Station, Units 2 and 3
4. Comments Concerning Water Use and Quality
5. Comments Concerning Aquatic Ecology
6. Comments Concerning Terrestrial Resources
7. Comments Concerning Air Quality
8. Comments Concerning Socioeconomics
9. Comments Concerning Human Health
10. Comments Concerning Uranium Fuel Cycle and Waste Management
11. Comments Concerning Alternatives
12. Comments Concerning Postulated Accidents
13. Comments Concerning Issues Outside the Scope of the Environmental Review for License Renewal: Emergency Response and Preparedness, Safeguards and Security, Operational Safety, Aging Management, Need for Power, and Regulatory History

1. Comments Regarding the License Renewal Process

Comment: I would join with the gentleman from Southold in asking the NRC to disband these proceedings. They are flawed procedurally. (MPS-2-10)

Comment: That is necessarily the case, because even though a portion of my town -- Southold town -- is located within the EPZ of Millstone, and the rest of my town is just a short ferry ride away, my office received no official notification of these hearings. That's the first I'm hearing of a scoping session. (MPS-8-2)

Comment: Your EIS, the process, not even the EIS, skip the EIS, the process alone is flawed, and you've got to start over. You've got to start over with all of us involved. (MPS-8-3)

Comment: And, furthermore, that no permits for this facility be granted until such data is compiled, disseminated, thoroughly discussed in public, and its findings implemented. (MPS-8-6)

Comment: I call upon the NRC -- and this I hope is reflected in your responses -- I call upon the NRC to request input and guidance from United States Senators Schumer, Clinton, Lieberman, and Dodd. And I don't want it from their aides. I think it's got to come from their mouths. I think you have to have a conference, a senatorial conference, and seek their input.

The same must be sought from Governors Rell and Pataki. In addition, NRC must seek the counsel and input from Representative Tim Bishop of the First Congressional District of New York, and his colleagues in Connecticut. The testimony of these officials must be incorporated into the GEIS and addressed within. (MPS-8-7)

Comment: The hearing was poorly noticed. Although the hearing may have met the legal requirements for notification, very few stakeholders in the North Fork were aware of today's hearing, or, for that matter, the entire scoping process -- we certainly were not given ample time to fully read, consider, and prepare thoughtful comment on the generic environmental impact statement for license renewal of nuclear power plants or the 449-page draft supplemental environmental impact statement, which examines the renewal of the Millstone licenses specifically.

Because the actions of the NRC in this licensing renewal process will affect the residents of the North Fork and Long Island, we request that the NRC hold an additional public hearing on Long Island. (MPS-9-5)

Comment: ... as a community 10 miles across the pond, we are underrepresented here today because the turnaround time of notification was too short a time for anyone to really rally the troops. And, frankly, I find that a little bit -- a little disingenuous on behalf of the NRC, not to make it a point to speak to your neighbors. (MPS-10-1)

Comment: The people who weren't here earlier don't know that Long Island wasn't notified of this meeting. The supervisor of the Town of Southhold, 22,000 people, his jurisdiction extends over Fisher's Island, which is within the 10-mile evacuation zone, they were not notified of this proceeding until the last minute.

They came. They protested. They pointed out -- and I would agree with them -- the defect of this proceeding by failure of notice. Under Federal law, National Environmental Protection Act requires meaningful public opportunities for public participation. And that is at the basis of it. (MPS-23-13)

Comment: Speaking for the New Haven Chapter of the Green Party, we feel the draft EIS, as proposed, is flawed, and thus a new process should be initiated with hearings that include all stakeholders and their concerns. (MPS-28-8)

Comment: I would like to protest your scheduling a vital public meeting on operations at the Millstone nuclear plant without adequately notifying the residents who would be effected if an accident should happen. I read the New York Times every day. No notice was published. It looks like you didn't want anyone to know there was a meeting. (MPS-38-1)

Comment: I wish to register my opinion that license renewal for Millstone nuclear power plant be delayed. All the parties who have concerns about this renewal have not been fully heard. These parties include Long Island communities, citizen groups and anti-nuclear activists. The health effects of this power plant may not have been fully considered. As a consequence, I urge you to delay renewal of the license. (MPS-42-1)

Comment: In the future, when posting "public meetings" I recommend the NRC place your notifications in no less than 3 newspapers:

1. NY Times
2. Newsday
3. Suffolk Times

The Easthampton Independent is a free newspaper that is distributed in local supermarkets and is not necessarily a well read newspaper. So, in fairness to the residents of Long Island, it would be prudent on your behalf to place your public notifications in the 3 newspapers stated above. If you require contact info on these newspapers, I will be happy to provide that information. Additionally, on January 12, I sent an email to Mr. Zalcman providing him with all the elected officials contact information, from the Town Supervisor all the way up to Governor Pataki to ensure that future notifications were made as appropriate. If you would like a copy of that email, please contact me.

Lastly, I ask that I be added as a contact name for future will be conducted as it relates to Millstone. (MPS-43-1)

Comment: The hearing was poorly noticed, perhaps meeting legal requirements, but missing the major avenues for correctly notifying the public on the North Fork of Long Island. Consequently we did not have enough time to read and consider the GEIS or SEIS. (MPS-44-1)

Comment: The County of Suffolk finds the document overly narrow in scope, and lacking detail with regard to the issues of concern to the 1.4 million residents of our county. It appears that public notifications to areas in Suffolk County within the 10 and 50 mile emergency planning zones were neglected; that there is no need to rush operating license renewal for the plants decades prior to their license expiration; and, that radiological emergency evacuation plans for Suffolk County were not addressed.

I was dismayed that a public hearing was not held in Suffolk County concerning the renewal application and that the Commission filed to contact local municipalities and environmental groups on eastern Long Island (Supplement 22, Appendix D, Organizations Contacted). An analysis of major points of view concerning significant problems and objections raised by federal, state or local agencies is required by 10 CFR 51.71 in a draft environmental impact statement. In accordance with NRC policy regarding public involvement in reactor license renewal and as Suffolk County residents may be adversely affected by the renewal, we request that a public hearing be held in Suffolk County where the NRC and Dominion can respond to these issues. (MPS-52-1)

Comment: I would appreciate your consideration of a new hearing to include all stakeholders, including nearby Long Island Communities, as the effects are far-reaching. (MPS-65-3)

Comment: On January 11, 2005, I appeared and made comments on the record on behalf of the residents of the Town of Southold at the public hearing on the Draft Environmental Impact Statement (DEIS) for the proposed renewal of the operating licenses for the Millstone Power Station, Units 2 and 3. Those comments stand; these written comments serve as supplemental objections to the renewal of those licenses in the absence of the due consideration for the safety of the affected nearby Long Island residents.

Furthermore, I hereby join in the request of other parties, including, without limitation, the Connecticut Coalition Against Millstone, for an extension of time in which to submit written comments due to the failure of the NRC to make available for review relevant documents such as the transcript of the January 11, 2005 hearing.

In the first instance, I object that the Town of Southold was given no notice whatsoever of the "scoping process" that was apparently held in this purportedly public environmental review procedure. It is precisely because we were not included in this process, and not afforded the opportunity to "identify the significant issues to be analyzed in depth", that critical issue of the safety of Long Island residents has been completely omitted from the environmental review. (MPS-72-1)

Comment: Clearly, as far as safety of affected residents is concerned, the environmental review process has not yet begun. Since this is a matter of federal concern, and which is the subject of federal regulation, it is crucial that the NRC seek and heed the input of the federal elective officials in the surrounding areas for their input regarding the concerns of their constituents. The NRC must, therefore, seek formal input from the Senators and Representatives in New York as well as Connecticut.

Furthermore, the NRC must appropriate funding and conduct a proper study for the evacuation of eastern Long Island residents, which should then be included as part of the DEIS, and subject to public input, at a forum Long Island residents can attend - on Long Island. The DEIS must not, and cannot move forward until these crucial matters are properly considered and integrated into the document. (MPS-72-3)

Comment: If the NRC is not prepared to deny the request of Dominion to renew the operating license for the Millstone reactors, we request, at the very least, that the NRC hold an additional public hearing on Long Island. The actions of the NRC in this licensing renewal process will affect residents of the North Fork and it is morally reprehensible to deny our voice in the process. The January hearing held in Ct. was poorly noticed. Although the hearing may have met the legal requirements for notification, very few stakeholders on the North Fork were aware of the hearing, or for that matter, the entire scoping process. We certainly were not given ample time to fully read, consider and prepare thoughtful comments on the Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants or the 449 page draft Supplemental Environmental Impact Statement (SEIS) which examines the renewal of the Millstone licenses specifically. (MPS-73-2)

Comment: Lastly, I would like to provide you with contact information of our local representatives who should be put on your list of "people to contact" representing Long Island & NYS. These individuals should be advised of future meetings as it relates to the Millstone Power Plant license renewal or other matters relating to this plant. Please ensure your community affairs people have this information for future reference. Additionally, would like to recommend conducting this licensing meeting on Long Island for "public" feedback. If you would like to plan a meeting on Long Island, I recommend you contact one of the individuals listed below to determine a mutually agreeable location. (MPS-78-1)

Response: *The comments criticize the public noyification process used by the NRC in conducting the environmental review of the Millstone license renewal applications. The public notification process included publication of several notices in the Federal Register, multiple advertisements in four newspapers distributed in Connecticut and Long Island, press releases, meeting notices, and flyers. Contacts were also made with interest groups and elected officials. This issue is not within the scope of this environmental review. The comments provide no new and significant information, therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

Comment: Small, medium, and large. You guys spoke about that. It's meaningless. It's all relative. And, really, to say an impact is small, you have no figures or no numbers. It's all through the book. It really doesn't mean a lot to me. (MPS-18-6)

Comment: I don't understand why socioeconomics is part of this report. It's an environmental report. Do you mean socioeconomic environment versus a natural environment? Because the emphasis in the report is on socioeconomics. It is not the NRC's job to be concerned with the economic impact of relicensing. And you did mention that you have to have that.

My comment on this aspect of the report is a strong objection to the emphasis placed on the economic impact of relicensing. (MPS-18-11)

Comment: In one instance, the way numbers are handled, $1.5 times 10^9, when I have no idea whether that was an attempt to obfuscate or just an engineer writing that, but it should have been one and a half billion dollars for the cost of the catastrophic cleanup. (MPS-19-2)

Comment: The NRC staff has preliminarily concluded in its draft Environmental Impact Statement that the adverse environmental impacts of license renewal are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

This conclusion is clearly erroneous and based on incorrect and incomplete in formation, industry bias and flawed analysis. It also manifests a profound disregard for the health and welfare of the community.

This conclusion ignores substantial available evidence that Millstone operations have had and will continue to have devastating health impacts on a wide scale and will continue to cause irreversible environmental damage on a wide scale. (MPS-82-1)

Comment: For this reason, each of the environmental issues required for consideration in the Environmental Impact Statement process should be considered to be a Category 2 issue, subject to site-specific consideration. (MPS-82-4)

Comment: We perceive a determined lack of dedication by the NRC staff to genuinely understand the full scope of environmental - including human health - impacts of continued operations of Millstone. Documents which we provided to the NRC have apparently been destroyed. Comments made in relicensing proceedings attended by the SEIS staff and documents submitted in such proceedings were ignored or disregarded by the SEIS staff.

We continue to be troubled by the fact that documents produced by the SEIS staff in response to our queries about the SEIS submitted to the SEIS staff on January 23, 2005 were withheld by the NRC's own Freedom of Information staff and have yet to be released. (MPS-82-7)

Comment: Given all these facts and circumstances, the application of a "Generic Environmental Impact Statement" to Millstone, thereby precluding site-specific analysis in the Environmental Impact Statement, is so deeply flawed as to be fraudulent.

The Coalition and others have provided "new and significant" information which compels the NRC to conduct a site-specific analysis of the environmental impacts of relicensing Millstone Units 2 and 3. See discussion at pages 32 *et seq. infra.* (MPS-82-34)

Response: *The commenters disagree with the staff's analysis approach. The environmental review was conducted in accordance with NUREG-1555, Supplement 1, Environmental Standard Review Plan Supplement 1: Operating License Renewal. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

Comment: Suffolk County views the applications to renew Millstone's operating licenses as premature at this time. The current operating licenses do not expire for periods of 10 and 20 years, until July 2015 for Unit 2 and November 2025 for Unit 3. With the advance of science in the next two decades, it is likely that alternative cleaner energy sources and/or conservation will negate the need for license renewal for outmoded and hazardous nuclear generating plants. It is clearly self-serving for the Commission to conclude that environmental impacts for future generating and conservation alternatives would be greater than those operating Millstone (Supplement 22, pages xix and 8-51). The NRC Fact Sheet on Reactor License Renewal states that the license renewal procedure is expected to take no more than 30 months. Why then is there a push to renew operating licenses decades before it is necessary to perform such a review? (MPS-52-2)

Response: *The comment opposes the timing of the license renewal process. 10 CFR 54.17(c) allows licensees to submit license renewal applications up to 20 years before the expiration of the current license. The time period is intended to allow licensees time to plan and build replacement power generating capacity if license renewal is not granted. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

2. Comments in Support of License Renewal at Millstone Power Station, Units 2 and 3

Comment: I was Selectman when Millstone had a lot of difficulty and when, quite frankly, the process was not like the process that I see here today. The process was quite unfair, quite awkward, and certainly wasn't as fair or as balanced as it seems to be today. So I appreciate the learning that both the NRC has done, and certainly it seems to be a lot more fair than the days of -- my Selectman days where we'd sit here night after night listening to NRC speak the speak and really not address the issue.

Today there is a valid attempt -- and I have seen that now for several meetings -- a valid attempt to take into consideration public comments. What I did when I was First Selectman -- and this is a little bit of criticism -- I allowed the people of eastern Connecticut to come and speak first. They're the people who live here, work here, who pay the price one way or the other of having nuclear power plants in their community.

With all due respect to our neighbors in Long Island, we would ask them to wait their turn. But that's another point. (MPS-12-2)

Comment: I'd like to note that in my opinion the NRC has been very thorough and very detailed and very complete in the material that has been presented to them to date, and the information and the conclusions that are in this report. (MPS-13-1)

Comment: Upon review of this report, I submit the following comments for the record. I support the staff conclusions and recommendations that are contained in Section 9.3. I also reiterate our support for the relicensing of Millstone 2 and Millstone 3, as is documented on page A-14 of this report. (MPS-13-2)

Comment: First, let me say I appreciate and support the preliminary recommendations of the NRC staff, which states that the Commission determined that the adverse environmental impacts of license renewal for Millstone are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable. (MPS-14-1)

Comment: I want to speak in support of the relicensing effort by the power plant. The Town of Waterford, the surrounding communities, as well as the State of Connecticut have very clearly benefitted from its presence here in Waterford for many years. (MPS-20-1)

Comment: This community supports nuclear power. (MPS-21-3)

Comment: And I do hope that to the extent technically feasible, you will extend the licenses of these plants as long as possible. (MPS-21-4)

Comment: The Southeastern Connecticut Central Labor Council, AFL-CIO has voted to support the renewal of the operating license for Millstone Power Station.

Many of our members and delegates have lived and worked in Southeastern Connecticut since Millstone Power Station started unit one. The Power Station has had some problems over the years. However, we believe the current management, Dominion Nuclear, Inc has demonstrated responsible behavior, has been a good member of the community and has worked to provide good jobs for citizens in Southeastern Connecticut.

Therefore we support the license renewal of units two and three at Millstone power station. (MPS-33-1)

Comment: The Department of the Interior (Department) has reviewed the Draft Supplemental Environmental Impact Statement (SEIS), NUREG-1437, Supplement 22, regarding Millstone Power Station, Units 2 and 3. The Department has no comment on, or concern with the Draft Supplemental Environmental Impact Statement. (MPS-74-1)

Comment: The Connecticut Department of Public Utility Control (Department) submits this letter in support of the Application for Renewed Operating License for Millstone Power Station, located in Waterford, Connecticut. (MPS-79-1)

Response: *The comments are supportive of license renewal and its processes and are general in nature. The comments are consistent with the conclusions in this SEIS. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

3. General Comments in Opposition to License Renewal at Millstone

Comment: I'm against the operation of Millstone right now, and I certainly don't think it should be relicensed. (MPS-3-13)

Comment: And we certainly will not subscribe to this impact statement that's being presented today. (MPS-4-2)

Comment: In conclusion, the NFEC wishes to go on record as being in opposition to the license renewal of Millstone Power Station's Units 2 and 3,... (MPS-9-6)

Comment: I go on record as opposing the issuance of this license. (MPS-10-7)

Comment: We urge you not to relicense Millstone. Relicensing is a recipe for disaster. (MPS-11-6)

Comment: I'm saddened by the thought of 20 more years of Millstone operating and saddened for future generations, which will be adversely affected by our need and our greed for more nuclear electricity. (MPS-18-13)

Comment: What I neglected to say was that our review of this document shows it is very seriously flawed. If this is an environmental impact statement, it is difficult to understand why it omits to analyze the chief environmental impacts of this nuclear power plant on this community. (MPS-23-1)

Comment: I write to you today on behalf of my family and close friends who all live near the Millstone Nuclear Plant. It has come to our attention that although the plant has already outlived its intended life span, it is slated for re-licensing for another 20 years. We strongly oppose this decision and regard it as shortsighted and foolhardy. (MPS-26-1)

Comment: The Green Party of New Haven opposes extension of operating licenses for Millstone's 2 and 3 nuclear power reactors in Waterford, Connecticut, ... (MPS-28-1)

Comment: I want to go on record as Opposing the renewal for licensing for Units 2 and 3. (MPS-30-1)

Comment: Hello NRC staff. I would like to not see a renewal of Units 2 & 3 at the Millstone Power Plant site in CT. (MPS-34-1)

Comment: I am a former Long Island resident and I strongly oppose the relicensing of the Millestone Nuclear Power Plant, Units 2 and 3 to the year 2045. (MPS-35-1)

Comment: I am a Long Island resident and I strongly oppose the relicensing of the Millestone Nuclear Power Plant, Units 2 and 3 to the year 2045. (MPS-37-1)

Comment: I urge you to not allow the Millstone nuclear facilities to operate for all the safety, toxic waste, public health and national security reasons cited by so many for so long and documented over the years by members of the scientific community who have no economic or other pecuniary interests in the Millstone projects. (MPS-39-1)

Comment: We want to voice our concern about the renewal of the Millstone Power Plant license. We are strongly opposed to this, and hope that you will consider closing the plant. (MPS-40-1)

Comment: I have read the available information sent to me about Millstone. I am deeply distressed that you would even consider extending the opening of this facility. It seems that it would be common sense with all the other data in the world about this type of situation, that you would have no reason to keep this open or to extend the opening of it. (MPS-41-1)

Comment: Close Millstone Power Station 2 & 3 at once. (MPS-45-1)

Comment: Therefor, I hope you will not renew this license. (MPS-48-2)

Comment: The Coalition strongly opposes Millstone relicensing. (MPS-51-1)

Comment: I urge you to deny Millstone's Relicensing (MPS-53-1)

Comment: Please deny the license extension to Millstone. (MPS-54-1)

Comment: Gentlemen: It is very upsetting to learn that you are considering relicensing the Millstone plant with all the negative considerations ... How can you be thinking of this? Millstone must be shut down. Dont fool with our lives! (MPS-56-1)

Comment: As a property owner on Long Island Sound at Northville Beach, I am opposed to the relicensing of the Millstone Nuclear Plant. (MPS-57-1)

Comment: I oppose renewing the license on the Millbrook [sic] Nuke. I feel it threatens the safety and security of Eastern Long Islanders. I am a US Citizen that votes. (MPS-58-1)

Comment: Deny license extension to Millstone. (MPS-59-1)

Comment: Please deny Millstone's operating license. (MPS-60-1)

Comment: CLOSE MILLSTONE PLEASE. (MPS-61-3)

Comment: I am a resident of Connecticut and I am writing to you to strongly urge you to deny the renewal of the license for this plant. (MPS-62-1)

Comment: My husband and I live in Greenport NY and are seriously opposed to the relicensing of Millstone. (MPS-63-1)

Comment: Do NOT reissue license to Millstone reactor in Connecticut. (MPS-64-1)

Comment: I am writing to oppose the license renewal for the millstone nuclear reactors in Waterford. (MPS-65-1)

Comment: I wish to voice my opposition to the Millstone Nuclear power plant.... (MPS-66-1)

Comment: I want to go on record as being against the re licensing of Millstone. (MPS-67-1)

Comment: Please do not allow this power plant to reopen without mitigation of the above impacts. (MPS-68-4)

Comment: I am writing to inform you that as a resident of New London County, I am in opposition of the license extension of Millstone. (MPS-69-1)

Comment: My family, (which consists of my 4 children and my wife) and myself are opposed to the re licensing of Millstones Units 2 & 3. (MPS-71-1)

Comment: On behalf of NFEC, I am writing to strongly oppose the relicensure of the Millstone Nuclear Reactors and to express my grave concerns about their continued operation. (MPS-73-1)

Comment: I am against Millstone Nuclear Power Plant which is located in Connecticut renewing its operating licenses. (MPS-75-1)

Comment: ... do not renew the Millstone licence. (MPS-81-7)

Response: *The comments are in opposition to license renewal and are general in nature. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

4. Comments Concerning Water Use and Quality

Comment: Those are the same expired and illegal permits that the NRC today is saying are perfectly valid and permit Millstone to kill fish, discharge waste -- radioactive waste and caustic chemicals in the Sound. (MPS-2-9)

Comment: Millstone has been operating with an expired Clean Water Act discharge permit since 1997. The Clean Water Act mandates permit holders to obtain five-year permits so that every five years they will have to demonstrate that they have implemented best available technology to reduce or eliminate pollution if they want their permits renewed. Millstone has been able to get away with operating with non-updated technology an extra five years. (MPS-53-3, MPS-57-3, MPS-58-3, MPS-59-3, and MPS-66-3)

Comment: Millstone has been operating an expired clean water act permit for a full 5 years beyond the alloted time. (MPS-56-2)

Comment: Does Millstone have an updated Clean Water Act discharge permit? I understand their's expired in 1997. If this is true, why has it been allowed to operate without one??? (MPS-61-1)

Comment: ... this plant is functioning with an expired clean Water discharge permit for over 4 years time. (MPS-63-3)

Comment: ... its clean water permit is expired. (MPS-64-3)

Comment: Millstone has been operating with an expired Clean Water Act discharge permit since 1997. The Clean Water Act mandates permit holders to obtain five-year permits so that every five years they will have to demonstrate that they have implemented best available technology to reduce or eliminate pollution if they want their permits renewed. Millstone has been able to operate with non-updated technology for an additional five years with no consequence. (MPS-68-2)

Comment: Millstone has been operating with an expired Clean Water Act discharge permit since 1997. The Clean Water Act mandates permit holders to obtain five-year permits so that every five years they will have to demonstrate that they have implemented best available technology to reduce or eliminate pollution if they want their permits renewed. Millstone has been able to get away with operating with non-updated technology an extra five years. Why is Millstone allowed to subvert the intent of the law? (MPS-70-2)

Comment: Connecticut's regulatory apparatus has failed to safeguard the public. Millstone's five-year National Pollution [sic] Discharge Elimination System ("NPDES") permit expired on

December 14, 1997 – eight years ago - and it has not been renewed. Nevertheless, DEP has permitted Millstone to operate under the 1992 permit in brazen violation of the letter and spirit of the federal Clean Water Act. Former DEP Commissioner Arthur J. Rocque, Jr., routinely authorized "emergency authorizations" ("EAs") while recognizing his lack of legal authority to do so. These EAs – of indefinite duration permitting releases of toxic and carcinogenic substances without enforceable limits – permit Millstone's owners and operators to do, *inter alia*, what Northeast Utilities pleaded guilty to doing wilfully and illegally when it pleaded guilty in the U.S. District Court in September 1999 to committing environmental felonies at Millstone and paying a $10 million fine. Clearly, the Clean Water Act prohibits major waivers of NPDES permit conditions without notice to the public and a meaningful opportunity for public input. Commissioner Rocque issued sequential EAs without notice to the public and he did not provide an opportunity for public comment. To our knowledge, Rocque's successor, DEP Commissioner Gina McCarthy, has done nothing to bring the Millstone operations into compliance with the law. She has permitted the *status quo* to reign. Connecticut Attorney General Richard S. Blumenthal is complicit in the illegal Millstone activities. Mr. Blumenthal successfully suppressed the truth of Millstone's illegal operations in litigation brought to require Millstone operations to comply with existing laws.

The Coalition attaches hereto the "Emergency Authorization" issued on October 13, 2000 which "legalizes" violations of the expired NPDES permit and which ex-Commissioner Rocque "transferred" to Dominion when it was a paper company without assets. Prior to issuing EAs for Millstone operations, Commissioner Rocque admitted in writing he lacked authority to issue emergency authorizations on an emergency basis for unlimited durations. The EA attached hereto has been in effect on an emergency basis since 2000 premised on a "finding" that it was required to avert "an imminent threat to health or safety." The SEIS makes no reference to this EA. (MPS-82-3)

Comment: *Indeed, Dominion* is currently seeking permission from CTDEP to add **new chemicals** to the "mixing zone" and continue the routine discharge of others. Nowhere in the SEIS is it stated that the NRC staff reviewed Dominion's application for renewal of the NPDES permit. Nowhere are these facts assessed in the SEIS. (MPS-82-10)

Comment: In April 2001, Connecticut's Commissioner of Environmental Protection, Arthur J. Rocque, Jr., "transferred"" [sic] an expired NPDES (National Pollution Discharge Elimination System) permit (it had expired four years earlier) and "emergency authorizations" (which he admitted in writing he lacked legal authority to issue) to "Dominion Nuclear Connecticut, Inc.," at that time a paper company with a post office box in Niantic but no assets. Dominion has been operating under the authority of the expired permit for four years and DEP has not renewed the permit in the intervening time. (MPS-82-23)

Comment: The Coalition hereby places Dominion Nuclear Connecticut, Inc. and Dominion Generation and their related Dominion corporate entities (collectively, "Dominion") on notice pursuant to section 505(b) of the CWA, 33 U.S.C. section 1365(b), that it believes that Dominion has violated and continues to violate "an effluent standard or limitation" under section 505(a)(1)(A) of the CWA, 33 U.S.C. Section 1365(a)(1)(A), by failing to comply with National Pollution [sic] Discharge Elimination System ("NPDES") permit number CT0003253, issued pursuant to section 402(b) of the CWA, 33 U.S.C. Section 1342(b) by the Connecticut Department of Environmental Protection ("DEP") pursuant to authority delegated to it. (MPS-83-1)

Comment: Based on records maintained by the DEP, the Coalition believes that Dominion has discharged and will continue to discharge pollutants into the Long Island Sound in violation of effluent standards or limitations of the NPDES permit issued on December 15, 1992. (MPS-83-2)

Response: *The comments discuss NPDES permit status. As discussed in Section 4.1.1 of the SEIS, CTDEP is responsible for the review and issuance of NPDES permits in Connecticut. The NRC does not have regulatory authority over these permits or the permitting process. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

Comment: And the fact is that Millstone uses massive amounts of water, which you guys did mention, to coolant systems. And chemicals must be used to keep its water system functioning. (MPS-18-7)

Response: *The comments are related to water quality and water use conflict impacts. Water quality and CTDEP oversight of discharges are discussed in Sections 2.2.3 and 4.1 of this SEIS. CTDEP has regulatory authority over NPDES permits in Connecticut. However, the permit was reviewed as part of the preparation of the SEIS. The NPDES permit identifies discharge requirements and chemicals and other effluent attributes that are regulated under the permit and requires testing of discharges for biological toxicity. There is no evidence to suggest that Millstone's discharges of chemical and radioactive effluents are adversely affecting Long Island Sound. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

Comment: Section 2.1.3 Cooling and Auxiliary Water Systems Page 2-7, Line 9 Draft GEIS Supplement 22 Statement - ...cuts excavated from the bedrock at the eastern end of the quarry into Long Island Sound. Dominion Comment - "eastern" should be changed to "southern," such that the line reads:"...cuts excavated from the bedrock at the southern end of the quarry into Long Island Sound." (MPS-47-2)

Comment: Section 2.1.3 Cooling and Auxiliary Water Systems Page 2-7, Lines 29-32 Draft GEIS Supplement 22 Statement - Service water is withdrawn and diverted from the system before the water enters the condensers. This water is used in a variety of applications, including component cooling (e.g., pump bearings and spent fuel pool water) and fire protection. A maximum of 2.3 m^3/s (36,000 gpm) of service water is withdrawn. Dominion Comment - The configuration of the service water system is somewhat different than that stated, and the stated pump capacity is that only for the three pumps at Unit 2. During normal operation, two pumps at each unit are operating, for a total of 3.4 m^3/s (54,000 gpm). Also, service water issued as backup for several other systems, but not for fire protection. This paragraph should be changed to read: "Service water is also withdrawn inside the intake structures. This water is used in a variety of applications, including component cooling (e.g., pump bearings and spent fuel pool water) and as an emergency backup supply for some systems. During normal operation, approximately 3.4 m^3/s (54,000 gpm) of service water is withdrawn for both units." (MPS-47-3)

Comment: Section 2.2.2 Water Use Page 2-17, Line 2 Draft GEIS Supplement 22 Statement - Additional minor amounts of ocean water are used for fire protection and other systems. Dominion Comment - Although ocean water can be used as backup for some systems, it is not used in the fire protection system. The sentence should be modified as follows: "Additional minor amounts of ocean water may be used as emergency backup for other systems." (MPS-47-10)

Comment: Section 2.2.2 Water Use Page 2-17, Lines 6-7 Draft GEIS Supplement 22 Statement - Dye tracer and modeling studies estimate that 20 percent of the Niantic River discharge goes through the plant. Dominion Comment - These studies determined flow characteristics during three-unit operation. It is estimated that current two-unit operation results in approximately 15 percent of the Niantic River discharge going through the plant. The sentence should be changed to: "Dye tracer studies estimated that 20 percent of the Niantic River discharge went through the plants during three-unit operation. It is estimated that current two-unit operation results in approximately 15 percent of Niantic River discharge going through the plants." (MPS-47-11)

Comment: Section 2.2.3 Water Quality Page 2-17, Line 36 Draft GEIS Supplement 22 Statement - The NPDES permit, which is renewed every five years, expired in 1997. Dominion Comment - Change "expired in 1997" to "was set to expire in 1997 but remains in effect because a timely renewal application was filed with the CTDEP" so sentence reads: "The NPDES permit, which is renewed every five years, was set to expire in 1997 but remains in effect because a timely renewal application was filed with the CTDEP." (MPS-47-12)

Comment: Section 2.2.3 Water Quality Page 2-18, Lines 7-8 Draft GEIS Supplement 22 Statement - Recent monitoring results show that the discharge quality occasionally exceeds permit limits. Dominion Comment - It is suggested that the sentence be changed by adding "There have been occasional instances when" before "monitoring results," substituting "have been above" for "show that the discharge quality occasionally exceeds" and adding "These instances have been properly reported in Millstone's monthly discharge monitoring reports to the CTDEP" so the sentence reads: "There have been occasional instances when monitoring results have been above permit limits (e.g., total suspended solids). These instances have been properly reported in Millstone's monthly discharge monitoring reports to the CTDEP." (MPS-47-13)

Comment: Section 2.2.3 Water Quality Page 2-18, Line 24 Draft GEIS Supplement 22 Statement - ...may be present for no more than two hours in any one day. Dominion Comment - After "two hours," insert "per unit," so the sentence reads:"...may be present for no more than two hours per unit in any one day." (MPS-47-14)

Comment: Section 2.2.5.1 General Water Body Characteristics Page 2-22, Lines 12-15 Draft GEIS Supplement 22 Statement - Millstone Point lies on the western shore of Long Island Sound, near the mouth of the sound. This area of Long Island Sound experiences a salinity of approximately 23 parts per thousand. Salinity is influenced by the presence of three major rivers: the Thames, the Housatonic, and the Connecticut. These rivers flow into the Sound in the vicinity of the site. Dominion Comment - It is suggested that "western shore" be changed to "eastern end," that "23" be changed to "26-30," and that "These" be changed to "The Thames and Connecticut," so the sentence reads: "Millstone Point lies on the eastern end of Long Island Sound, near the mouth of the sound. This area of Long Island Sound experiences a salinity of approximately 26-30 parts per thousand. Salinity is influenced by the presence of three major rivers: the Thames, the Housatonic, and the Connecticut. The Thames and Connecticut rivers flow into the Sound in the vicinity of the site." (MPS-47-18)

Response: *The comments by Dominion concerning water resource issues were reviewed by the NRC staff, and the proposed changes were found acceptable. Sections 2.1.3, 2.2.2, 2.2.3,and 2.2.5.1of the SEIS have been revised to include the suggested changes.*

5. Comments Concerning Aquatic Resources

Comment: Now, let me tell you something. Winter flounder are running strong in our neck of the woods. They're running strong. You do the math. We've got winter flounder in Poconac Bay. We've got winter flounder off the tip of Montock. It's running strong, and it's running strong because the New York State Department of Environmental Conservation has set regulations and limits in regard to how they're caught, protecting their habitat.

And I'm sure the EPA or their environmental organization over here has done the same -- protected the habitat, protected the limits. Therefore, if they're not flourishing in or about the bottom feeding grounds of Millstone, you're going to have to draw your own conclusions. You've done it here in this environmental impact statement. I'd just like to challenge that. (MPS-8-1)

Response: *The comment provides no additional information. Local population trends for winter flounder are discussed in Section 2.2.5.5. There were no changes made to the text of the SEIS because of this comment.*

Comment: I have only a few minor comments on pages 2-25 and 2-26 reference is made to the Gulf of Maine stock - sure you meant southern New England. (MPS-29-2)

Comment: pg 2-26 line 8 "The stock is at low biomass level and is considered to be OVER exploited" (NOAA 1998). (MPS-29-3)

Comment: pg 2-25 Commercial havrest [sic] is generally accomplished with trawl and seines". I'd scratch seines for our area. Virtually all landings are by trawl. (MPS-29-4)

Comment: Section 2.2.5 Aquatic Resources Page 2-20, Lines 28-29 Draft GEIS Supplement 22 Statement - Millstone is located at Millstone Point, a small peninsula of land situated on the west shore of Long Island Sound near Waterford, Connecticut. Dominion Comment - Change "west" to "north," and change "near" to "in," so the sentence reads: "Millstone is located at Millstone Point, a small peninsula of land situated on the north shore of Long Island Sound in Waterford, Connecticut." (MPS-47-16)

Comment: Section 2.2.5 Aquatic Resources Page 2-20, Lines 38-39, and Page 2-21, Line 4. Draft GEIS Supplement 22 Statement - ...about 20 percent of the water discharged from the station from the Niantic River could be passed through the Millstone cooling water system under three-unit operation... Dominion Comment - Delete "from the station," and add "and about 15 percent under two-unit operation" to the end of the sentence, so the sentence reads: "...about 20 percent of the water discharged from the Niantic River could be passed through the Millstone cooling water system under three-unit operation, and about 15 percent under two-unit operation..." (MPS-47-17)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-24, Line 41Draft GEIS Supplement 22 Statement - ...and the northern Atlantic cost of the U.S. Dominion Comment - Change "cost" to "coast." (MPS-47-19)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-25, Line 28 Draft GEIS Supplement 22 Statement - Individual females can produce up to 500,000 eggs. Dominion Comment - It is suggested that the sentence be changed to read: "Individual females can produce up to 2,500,000 eggs, but 500,000 eggs is an approximate average." (MPS-47-20)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-25, Line 36 and Page 2-26, Figure 2-6. Draft GEIS Supplement 22 Statement - ...reporting years (Figure 2-6) (NOAA 1998; MacLeod 2003; National Marine Fisheries Service... Dominion Comment - It is suggested that "Gottschall et al. 2003" be added to the reference list for Figure 2-6 online 36, and in the figure itself. Gotschall et al. is the citation for the CTDEP Long Island Sound Trawl Survey. (MPS-47-21)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-26, Lines 4-8 Draft GEIS Supplement 22 Statement - According to NOAA, "The continuing low levels of landings, catch per unit effort indices, and survey indices suggest that winter flounder abundance in the Gulf of Maine has been reduced substantially. Future improvements in the condition of the stock will depend on decreases in exploitation in both the recreational and commercial fisheries, and on improved recruitment. The stock is at a low biomass level and is considered to be exploited) (NOAA 1998). Dominion Comment - It is suggested that the following information regarding the Southern New England stock be added to this paragraph, or as an additional paragraph: "With regard to current winter flounder stock abundance, NEFSC (2003) stated that the Southern New England/Mid-Atlantic winter flounder stock complex has been overfished and overfishing is continuing to occur. The current assessment provided a much more pessimistic evaluation of stock status than the previous assessment made in 1998. Recruitment to the winter flounder stock has been below average since 1989, and indications are that the 2001 year-class is the smallest in 22 years. "The reference for this statement is: NEFSC (Northeast Fisheries Science Center). 2003. B1. Southern New England/Mid-Atlantic (SNE/MA) winter flounder. Pages 139-220 in Report of the 36th northeast regional stock assessment workshop (SAW): stock assessment review committee (SARC) consensus summary of assessments. NOAA/National Marine Fisheries Service, Woods Hole, MA. Accessed via: http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0306 (MPS-47-22)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-28, Lines 15-16 Draft GEIS Supplement 22 Statement - ...with commercial harvests over the past seven years for the Atlantis seaboard ranging from approximately 259 to over 300 MT (286 to 331 tons)... Dominion Comment - Change "Atlantis" to "Atlantic." Also, all of the numbers in this sentence should be followed by "x 10^3." (MPS-47-23)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-28, Line 25 Draft GEIS Supplement 22 Statement - The silverside (*Menidia menidia,* family *Atherinidae*) is a small... Dominion Comment - Two different species of silverside are found in the area. It is suggested that the sentence be changed to: "The silversides (*Menidia menidia/Menidia beryllina,* family *Atherinidae*) are small..." (MPS-47-24)

Comment: Section 2.2.5.5 Population Trends Associated with Important Fish and Shellfish Species Page 2-28, Line 32 Draft GEIS Supplement 22 Statement - Regional abundance data are not available. Dominion Comment - Dominion notes that Gotschall et al (2003) observed similar fluctuations without trend throughout Long Island Sound. (MPS-47-25)

Comment: Section 2.2.5.6 Other Important Aquatic Resources Page 2-31, Line 8 Draft GEIS Supplement 22 Statement - ...barnacles, the algae *Fucus* spp., the red alga *Chondrus* spp., and... Dominion Comment - It is suggested that this sentence include *Ascophyllum nodosum,* and that it read: "...barnacles, the brown algae *Fucus* spp. and *Ascophyllum nodosum,* the red alga *Chondruscrispus,* and... (MPS-47-26)

Comment: Section 2.2.5.6 Other Important Aquatic Resources Page 2-31, Line 22 Draft GEIS Supplement 22 Statement - ...and the bivalve mollusc *Nuculana annulata* ... Dominion Comment - Change "*Nuculana*" to "*Nucula.*" (MPS-47-27)

Comment: Section 2.2.5.7 Threatened or Endangered Aquatic Species Page 2-33, Line 9 Draft GEIS Supplement 22 Statement - Adult-sized (10 cm [6 or more in.]) sturgeon are occasionally seen... Dominion Comment - Dominion believes that the intent was to characterize adult-sized sturgeon as 6 feet long, rather than 6 inches. (MPS-47-28)

Comment: Section 2.3 References. Dominion Comment - It is suggested that the following new references be added to this list, as discussed in comments above: "Gottschall, K.F., D.J. Pacileo, and D.R. Molnar. 2003. Job 2: Marine finfish survey. Part I: Long Island Sound trawl survey and Part II: estuarine seine survey. Pages 41-149 in: A study of marine recreational fisheries in Connecticut. CT Dept. of Envir. Prot., Bureau of Natural Resources, Fisheries Division." and "NEFSC (Northeast Fisheries Science Center). 2003. B1. Southern New England/Mid-Atlantic (SNE/MA) winter flounder. Pages 139-220 in Report of the 36th northeast regional stock assessment workshop (SAW): stock assessment review committee (SARC) consensus summary of assessments. NOAA/National Marine Fisheries Service, Woods Hole, MA. Accessed via: http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0306" (MPS-47-38)

Comment: Section 4.1 Cooling System Page 4-7, lines 38-39 Draft GEIS Supplement 22 Statement - The barrier prevents fish from entering the quarry. Since installation of the fish barriers, the licensee has not observed any fish kills related to the station discharge. Dominion

Comment - As discussed in section 4.1.3, page 4-28, lines 26-27, temperatures within the quarry occasionally exceed lethal temperature thresholds for some species. Some periodic, smaller-scale fish kills have occurred due to thermal stress for fish that entered the quarry as eggs/larvae, as juveniles, or during barrier maintenance activities. None of these occurrences have been of a magnitude that resulted in an impact to source populations, and they have been confined to the quarry. The sentences should be modified as follows: "The barrier is designed to prevent fish from swimming into the quarry. Since installation of the fish barriers, the licensee has not observed any gas bubble disease-related fish kills related to the station discharge." (MPS-47-39)

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-10, lines 17-19 Draft GEIS Supplement 22 Statement - Licensees are required to demonstrate compliance with the Phase II performance standards at the time of renewal of their NPDES permit. Dominion Comment - "are" should be changed to "will be," and "at the time of renewal of their NPDES permit" should be changed to "in accordance with the provisions of the new rule" so the sentence reads as follows: "Licensees will be required to demonstrate compliance with the Phase II performance standards in accordance with the provisions of the new rule." (MPS-47-40)

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-10, Lines 19-21 Draft GEIS Supplement 22 Statement - Licensees may be required as part of the NPDES renewal to alter the intake structure, redesign the cooling system, modify station operation, or take other mitigative measures as a result of this regulation. Dominion Comment - Delete the words "as part of the NPDES renewal" so the sentence reads as follows: "Licensees may be required to alter the intake structure, redesign the cooling system, modify station operation or take other mitigative measures as a result of this regulation." (MPS-47-41)

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-16, Line 1 Draft GEIS Supplement 22 Statement - *...nonentrained, late stage larvae from reaching reproductive maturity.* Dominion Comment - It is suggested that "and subsequent juveniles" be inserted after larvae, so the sentence reads: "...nonentrained, late stage larvae and subsequent juveniles from reaching reproductive maturity." (MPS-47-44)

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-18, line 17 Draft GEIS Supplement 22 Statement - ... cooling water entrained through the cooling system, the number of eggs entrained,... Dominion Comment - It is suggested that "eggs" be changed to "larvae." (MPS-47-45)

Comment: Section 4.1.2 Impingement of Fish and Shellfish Page 4-22, lines 8-10 Draft GEIS Supplement 22 Statement - Licensees are required to demonstrate compliance with the

Phase II performance standards at the time of renewal of their NPDES permit. Dominion Comment - "are" should be changed to "will be," and "at the time of renewal of their NPDES permit" should be changed to "in accordance with the provisions of the new rule" so the sentence reads as follows: "Licensees will be required to demonstrate compliance with the Phase II performance standards in accordance with the provisions of the new rule." (MPS-47-46)

Comment: Section 4.1.2 Impingement of Fish and Shellfish Page 4-22, lines 10-12 Draft GEIS Supplement 22 Statement - Licensees may be required as part of the NPDES renewal to alter the intake structure, redesign the cooling system, modify station operation, or take other mitigative measures as a result of this regulation. Dominion Comment - Delete the words "as part of the NPDES renewal" so the sentence reads as follows: "Licensees may be required to alter the intake structure, redesign the cooling system, modify station operation or make other mitigative measures as a result of this regulation." (MPS-47-47)

Comment: Section 4.1.2.1 Impingement Monitoring Page 4-24, Table 4-6. Dominion Comment - Dominion believes that the correct reference for this table is Jacobson et al (1998). See the comment below for Section 4.10 for the complete reference. Also, on line 18, the species name for the rock crab is *irroratus.* (MPS-47-48)

Comment: Section 4.1.3 Heat Shock Page 4-29, Lines 9-15. Dominion Comment - Dominion offers the following minor edits: Line 9, change *"concorta" to "contorta."* Line 10, change *"gragile"* to *'fragile,"* and change *"Saragassum gilipendula"* to *"Sargassum filipendula."* Line 13, change "abundance" to "nodal growth." Line 15, change "abundance" to "growth." (MPS-47-49)

Comment: Section 4.10 References Page 4-62. Dominion Comment - Add the following reference, as discussed above: "Jacobson, P.M., E. Lorda, D.J. Danila, J.D. Miller, C.A. Tomichek, and R.A. Sher. 1998. Studies of cooling water intake effects at two large coastal nuclear power stations in New England. In Proceedings of a workshop on Clean Water Act Section 316(b) Technical Issues held at the Coolfont Conference Center, Berkeley Springs, WV, September 22-23, 1998. Electric Power Research Institute, Palo Alto, CA EPRI Technical Report." (MPS-47-52)

Comment: Pg. 2-1. The DSEIS identifies the years when construction began for each of Millstone's three units, but does not mention when the units came on line for commercial production of electricity. These dates, as well as dates when each unit was offline for extended periods, would be helpful in reviewing fish impingement and entrainment data, and should be included in the FSEIS. (MPS-50-1)

Response: *The comments of Dave Simpson of CTDEP, Dominion, and EPA's Region I office regarding aquatic resources were reviewed by the NRC staff and the proposed changes were accepted. Sections 2.0, 2.2.3, 2.2.5, 4.1, 4.10 of the SEIS were modified to include the proposed changes.*

Comment: Pg. 2-7. Intake velocity is estimated to be about 0.2 meters per second in front of the Unit 2 structure. The DSEIS does not state at what distance from the intake screen the velocity was measured. Intake velocity should be presented in feet per second and should be estimated as through-screen velocity, not in front of the screen, which estimates approach velocity. Additionally, no intake velocity data are provided for Unit 3. This information is important for assessing the potential of the intake structure to impinge organisms, and should be provided in the FSEIS. (MPS-50-2)

Comment: Pg. 2-7. The DSEIS identifies some features of the intake structure (e.g., traveling screens, fish return trough), but additional information is heeded to assess the adequacy of the system for returning fish and other organisms in good condition, as well as the potential to re-impinge organisms that have been discharged from the fish return troughs. We recommend that the FSEIS include information on the water pressure(s) of the spray wash system used to remove fish and debris from the traveling screens, the frequency at which the traveling screens are rotated, a spatial-view diagram that includes the location of the intake structures and fish return troughs of each unit, and any other information pertaining to system design or operation that may affect the impingement of organisms and the likely condition of those that are impinged. (MPS-50-3)

Response: *The comments by EPA's Region I office requested additional information regarding the water intake structures and their operation. The staff has revised the text in Section 2.1.3 of the SEIS to include the additional available information.*

Comment: My second point is I object to the risk assessment for winter flounder as moderate. If I understand you correctly, you were saying that because there are so many other risk factors for the flounder, you can't figure out exactly how important this particular risk is.

I want to say that the risks are cumulative. And when you have a flounder population that is already endangered, any additional risk factor becomes more than moderate. It becomes critical. It becomes larger than large. It could be the last straw. (MPS-25-2)

Response: *Cumulative impacts of continued cooling water system operations are discussed in Section 4.8.1. The staff has determined that the Niantic River winter flounder population is affected by gradual long-term warming of Long Island Sound, overfishing, development, predation, and operations of the Millstone cooling water system. There is no agreement regarding the relative contribution of each of these adverse impacts on the Niantic River winter*

flounder. The staff has determined that the cumulative impacts resulting from the operation of the Millstone cooling water system are MODERATE. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.

Comment: QUESTION: Can the report be modified to make clear that entrainment of 20% of the larvae production does not result in 20% reduction of adult fish because the larvae entrained is outside of the river and this larvae may have little or no impact on the total population of adult Niantic River Winter Flounder?

BACKGROUND: Section 4.1.1 seems to assume that the percentage of Niantic River Winter Flounder larvae that result in adult fish is the same, regardless of whether the larvae is allowed to reach fry stage in the river or whether the larvae is released to Niantic Bay and Long Island Sound. It would seem that larvae released to the bay and sound would experience a more hostile environment, even without Millstone. Therefore, larvae that have left the river would have significantly less impact on the adult population than larvae that remains in the river. Since Millstone can only entrain larvae that has left the river, the effect of entrainment would seem to be greatly exaggerated by simple comparisons as a percentage of larvae production, as discussed on page 4-15 of the report. (MPS-27-1)

Response: *Data are not available to evaluate survival differences for larvae that remain in the Niantic River compared to larvae that enter Niantic Bay and Long Island Sound. Researchers have been unable to explain the relationship between yaer-to-year variation in larval abundance and subsequent year class success. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-13, Table 4-4. Dominion Comment - The 2003 Annual Report (Dominion 2004b) contained minor changes to the data in this table. Also, the data columns are each $x10^6$. It is suggested that the table be replaced with the following: (MPS-47-42)

Table 4-4. Estimated Number of Anchovies, Winter Flounder, American Sand Lance, Grubby, and Atlantic Menhaden Larvae Entrained Each Year from 1976 Through 2003 at Millstone and the Volume of Cooling Water on Which the Entrainment Estimates Were Based (from Dominion [2004b]).

Year	Anchovies		Winter Founder		American Sand Lance[a]		Grubby		Atlantic Menhaden	
	No. entrained ($X10^6$)	Volume (m^3)[b] ($X10^6$)	No. entrained ($X10^6$)	Volume (m^3)[b] ($X10^6$)	No. entrained ($X10^6$)	Volume (m^3)[b] ($X10^6$)	No. entrained ($X10^6$)	Volume (m^3)[b] ($X10^6$)	No. entrained ($X10^6$)	Volume (m^3)[b] ($X10^6$)
1976	381	738	121	629	--	--	--	--	3	796
1977	418	821	29	444	81	954	30	489	2	773
1978	165	912	80	390	176	709	11	554	3	621
1979	805	786	44	343	110	919	20	546	<1	716
1980	877	633	168	562	111	960	32	699	2	643
1981	1452	860	45	373	74	620	42	408	2	711
1982	451	635	164	638	27	932	48	648	14	743
1983	623	691	211	541	30	902	54	628	19	564
1984	169	801	84	508	18	835	38	524	4	557
1985	693	697	80	469	8	712	35	527	44	521
1986	1096	1208	123	1064	4	1577	53	844	5	1217
1987	119	1332	165	1193	30	1712	51	1144	2	893
1988	386	1790	184	1173	74	1291	112	1132	6	791
1989	518	1445	167	889	42	1511	67	857	208	1420
1990	981	1483	133	1174	39	1607	47	998	33	1367
1991	451	899	116	750	7	1278	31	760	56	802
1992	157	1091	492	1076	19	1302	76	1293	51	1220
1993	214	1221	42	1387	46	1801	51	1157	21	1126
1994	507	1033	173	920	58	899	58	843	66	868
1995	171	896	214	1006	90	1532	57	996	86	997
1996	24	138	51	472	18	729	41	467	23	92
1997	17	145	76	173	3	212	28	154	5	135
1998	64	480	84	358	11	440	22	300	33	615
1999	157	1119	146	748	14	860	49	620	124	1337
2000	75	875	333	1003	88	1459	47	754	466	1571
2001	26	1031	377	963	13	1008	178	721	143	908
2002	28	881	119	880	6	760	33	875	1454	1088
2003	--	--	434	1096	19	725	153	890	--	--

(a) Includes data from December of the previous calendar year.
(b) Volume was determined from the condenser and service cooling water flow at Millstone during the season of occurrence for each taxon.

Response: *Table 4-4 was revised to include the data from the table presented by Dominion.*

Comment: Section 4.1.1 Entrainment of Fish and Shellfish in Early Life Stages Page 4-14, Table 4-5. Dominion Comment - The 2003 Annual Report (Dominion 2004b) contained minor changes to the data in this table. It is suggested that the table be replaced with the following: Table 4-5. Estimated Number of Cunner, Tautog, and Anchovy Eggs Entrained Each Year from 1979 through 2002 at Millstone and the Volume of Cooling Water on Which the Entrainment Estimates Were Based (From Dominion [2004b]). (MPS-47-43)

Year	Cunner		Tautog		Anchovies	
	No. Entrained (X106)	Volume (m3) (X10 6)	No. entrained (X10 6)	Volume (ml3) a (X10 6)	No. Entrained (X106)	Volume (m3) a (x106)
1979	1,055	423	445	680	323	383
1980	1,640	677	962	773	87	359
1981	1,535	620	1,353	620	285	583
1982	2,074	755	1,248	719	210	501
1983	1,888	462	1,019	627	411	377
1984	2,089	532	1,302	569	883	453
1985	2,809	737	1,717	774	26	441
1986	2,855	1,795	3,747	1,795	523	772
1987	4,082	1,713	3,575	1,713	31	740
1988	4,294	1,800	2,693	1,800	15	905
1989	4,306	1,436	3,001	1,510	5	632
1990	3,634	1,689	2,100	1,641	27	724
1991	4,116	1,223	1,513	1,214	105	538
1992	2,648	1,509	1,341	1,509	18	648
1993	5,379	1,492	2,048	1,492	228	626
1994	6,099	1,381	1,989	1,381	175	867
1995	5,524	1,198	2,481	1,198	29	737
1996	871	256	312	256	4	114
1997	569	185	105	134	<1	92
1998	577	718	494	709	47	376
1999	1,963	1,222	1,173	1,222	1	339
2000	4,800	1,254	2,149	1,369	<1	849
2001	4,339	1,416	3,015	1,416	8	635
2002	3,340	1,188	2,040	1,188	<1	750

(a) Volume was determined from the condenser cooling-water flow at Millstone during the season of occurrence for each taxon.

Response: *Table 4-5 was revised to include the data from the table presented by Dominion.*

Comment: In Section 4.1.1 entitled "Entrainment of fish and shellfish in Early Lifestages," we could not find data or discussion about shellfish resources. While shellfish larvae may represent a small fraction of the total composition of all larvae entrained, we recommend that the FSEIS include a discussion about species such as lobster, which has suffered significant declines throughout Long Island Sound. Larval lobster are entrained at other coastal plants, and it is likely that there is some loss occurring at Millstone associated with the daily withdrawal of up to 2.1 billion gallons of water. We recommend that the FSEIS address the entrainment of larval lobster, blue crab, and other shellfish of commercial and recreational interest. (MPS-50-4)

Response: *Table 4-4 and the associated text were expanded to include data and discussion about lobster. Data are not available for blue crab or other shellfish.*

Comment: Pg. 4-12. Table 4-3 (Percent Composition of Fish Larvae and Eggs) is unclear on what the significance of the dates is for each column, and why dates for larvae differ from those for eggs. In addition, it is unclear why a 26-year average of percent composition data for larvae is compared to data from one year (2002-03). We believe it would be more useful to provide a graph that depicts how percent composition has changed annually over the past 27 years. We recommend that the graph include, at minimum, bay anchovy, winter flounder, Atlantic menhaden, American sandlance, grubby, tautog, and cunner. (MPS-50-5)

Response: *A footnote was added to Table 4-3 was modified to improve clarity. The graph suggested by SPA's Region I office was not provided because that level of detail was not necessary for an understanding of relative proportion of entrainment losses by species.*

Comment: Pg. 4-13. Table 4-4 presents larvae entrainment data for select species of fish. As presented, this table is not clear as to how many larvae are entrained on an annual basis. While knowing larval concentration (i.e., the number of larvae per volume of water sampled) is important in understanding the seasonal variations in larval abundance for each species, it does not in itself provide a clear sense of the annual loss of larvae from the plant's operation. We recommend that this table be replaced or accompanied by a table in the FSEIS that lists the estimated total larvae for each species entrained annually from 1976 - 2003. While the entrainment numbers may reflect differences in operating schedules from year to year and such considerations should be noted where they exist, of greatest interest is the number of larvae for each species being removed from the system. We recommend that that number be provided in the FSEIS. (MPS-50-6)

Response: *The headers for Table 4-4 were revised to improve clarity.*

Comment: While an understanding of how many eggs and larvae are entrained annually is important, the significance of those numbers varies from species to species based on a number

of variables including species fecundity, age to maturity, estimated annual mortality, recruitment, and status of the local population. Another consideration that we recommend be addressed is whether a species is an important forage source to local predatory species, and what the loss of their eggs and larvae represent in terms of foregone productivity to the local ecosystem. These analyses were likely performed by Millstone, and we recommend that the FSEIS provide additional information on what the loss of eggs and larvae represent in terms of adult equivalents, and the amount of production foregone for forage species. (MPS-50-7)

Comment: Additionally, for species that are exhibiting depressed local stocks, such as winter flounder and cunner, we recommend that information on spawning stock biomass forgone also be provided. The loss of one adult winter flounder could represent the cumulative loss of future egg production for 14 years, or more. (MPS-50-8)

Response: *Text in Section 4.1.1 was modified to include affected species. Analysis was not available that quantified foregone productivity due to Millstone operation for local species and their predators. In fact, for this area, researchers have been unable to establish a relationship between winter flounder larval production and subsequent recruitment.*

Comment: Pg 4-20. The DSEIS concludes that there is no clear evidence of entrainment impact on species other than winter flounder. While other species may not exhibit the same site fidelity for spawning that winter flounder exhibit, data presented in the DSEIS indicate there is a potential cause for concern that additional losses associated with entrainment to already depressed fish stocks, such as bay anchovy and cunner, could impede stock recovery, at least locally. We believe that entrainment impacts to fish populations that are regionally depressed should receive closer scrutiny in the FSEIS. (MPS-50-10)

Comment: The DSEIS notes that populations of sandlance, bay anchovy, and cunner have been depressed for decades. Anchovy populations reached a 27-year low in 2002. On pg. 4-27, the DSEIS states that anchovy declines appear to be reflecting a regional decline in the stock, but on pg. 2-28 it states that population data for anchovy are not available for Long Island Sound or the Mid-Atlantic region, and therefore "...it is not possible to assess whether decreasing abundance of this species near Millstone is a reflection of regional populations". For the FSEIS, we recommend that Millstone's potential impacts to anchovy populations be reassessed and clarified. (MPS-50-11)

Response: *The comments were considered and text in Section 2.2.5.5 and Section 4.1.1 has been revised. The staff believes that the anchovy population shows high levels of regional variation in abundance. Millstone's impact on the regional anchovy population is indeterminate but likely SMALL.*

Comment: While the SEIS reports that "[T]he CTDEP [Division of Marine Fisheries which has been analyzing this issue for nearly a decade] believes that Millstone is having a significant impact due to entrainment of winter flounder larvae," the SEIS relies on NOAA and NMFS reports – which contain no data of the unique conditions at Niantic Bay but are devoted to a broad, regional analysis of fishing stocks - to discredit CTDEP Division of Marine Fisheries, as follows:

Regulatory agencies concerned with the management of winter flounder have concluded that the resource is overfished and overexploited (NOAA 1998; NMFS 2003) and have instituted measures to reduce fishing pressure throughout Long Island Sound and the southern New England-middle-Atlantic region. Thus, there is ample evidence to suggest that fishing pressure is directly contributing to the decline **both local and regional levels** at and may represent the major impact to this resource. The extent to which Dominion contributes to or exacerbates the problem in the Niantic River system is not elucidated by fish population studies reviewed in this SEIS." [Emphasis added.]

As stated, the SEIS does not identify either a NOAA or NFSS study specific to the Niantic River winter flounder nor the recent fishing habits of commercial fishermen in the area; thus, its failure to accord credit to the CTDEP for its insights appears to be result-driven, to obscure and downplay the fact that the Millstone Nuclear Power State has been the primary factor in driving indigenous fishing stocks to collapse. Or, as Rhode Island expert on Niantic winter flounder, Mark Gibson – a witness whose testimony aided Connecticut Superior Court Judge Robert Hale in issuing a temporary restraining order keeping Millstone Unit 2 shut down during the 1999 spawning season to avoid harmful entrainment effects to the fish population – has stated, Millstone is the worst predator of fish in the Northeast. (MPS-82-51)

Response: *Figure 2-6 has been revised to clarify local and regional population trends for winter flounder. Based on review of the data, the staff agrees with NOAA Fisheries that the resource continues to be overfished and that the stock throughout the region is depressed, including the Niantic River population segment. It is unlikely that Millstone is depressing the population segment in the entire Long Island Sound region, or that the Niantic River population segment is not receiving the same fishing pressure that the rest of the Long Island Sound population segment is experiencing, since winter flounder from the Niantic River range throughout southern New England. To further support this thesis, extended shutdowns of Millstone, Units 2 and 3 from 1997 to 1999 did not result in marked increases in year-classes or adult recruitment of winter flounder from the Niantic River.*

The staff does not agree with the unsubstantiated comment that Millstone is the major contributor to the decline of the stock or with the comment about Millstone's impact on Northeast fisheries. Clearly, Millstone does not remove more fish from the environment than commercial fishery.

With respect to the testimony by Mr. Gibson, there was no final resolution of the referenced case on the merits. The NRC evaluated entrainment in Section 4.1.1 of the SEIS. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.

Comment: The Coalition has reference to Figure 2-6 ("Comparison of Winter Flounder Population Trends in Niantic River and Long Island Sound". This figure illustrates clearly that while the winter flounder fishing stocks in the region are rebounding – perhaps due in part to fishing restrictions that apply throughout the region – the Niantic River winter flounder population continues its collapse.

The facts available to the NRC staff demonstrate that the sole factor which has prevented the Niantic River winter flounder population from enjoying a rebound as has the species elsewhere in the region due to tightened fishing restrictions is the most obvious one: the Millstone Nuclear Power Station.

It is submitted that if the SEIS staff had pondered the ramifications of Figure 2-6 in consultation with the Niantic fishermen who have gone out of business and the fishermen's expert witnesses and CTDEP's marine biologist Victor Crecco, in light of all the facts and circumstances, the NRC staff would have been compelled to categorize the impact to Niantic winter flounder from continued operations of Millstone in a license renewal period to be "major" and devastating and probably irreversible.

The weight of credible evidence is that the operations of the Millstone Nuclear Power Station have driven the winter flounder to virtual extinction, a phenomenon not contemplated in the original Millstone environmental impact statement. Future entrainment during the license renewal period will definitely assure that the once-abundant, commercially important resource will never return. (MPS-82-52)

Response: *The comment states that the "operations of Millstone Nuclear Power Station have driven the winter flounder to virtual extinction." The NRC staff does not agree with the statement. NOAA Fisheries classifies the Southern New England/Mid Atlantic (SNEMA) winter flounder stock complex as overfished, not near extinction. Winter flounder population trends depicted in Figure 2-6 show an overall decline in Niantic River abundance, and also an overall decline in winter flounder in Long Island Sound.*

The apparent increase in winter flounder at regional scales based on earlier data is called into question based on more recent information compiled by the Northeast Fisheries Science Center (NFSC) 2003. The summary conclusions in that study were that "...the SNEMA winter flounder stock complex is overfished and overfishing is occurring." The document adds "The current

assessment provides a much more pessimistic evaluation of stock status than the SARC [Stock Assessment Review Committee] 28 assessment in 1998 (NEFSC 1999). This is mainly due to the retrospective pattern of underestimating F [fishing pressure] and overestimating SSB [standing stock biomass] in the current VPA [virtual population analysis]." Fishery data for Connectucut are included in this publication and confirm the pattern presented in Figure 4-6. Figure 4-6 has been revised for clarity.

Reference: NEFSC (Northeast Fisheries Science Center). 2003. B1. Southern New England/Mid Atlantic (SNE/MA) winter flounder. Pages 139-220 in Report of the 36th Northeast regional stock assessment workshop (SAW@): Stock Assessment Review Committee (SARC) consensus summary of assessments. NOAA/National Marine Fisheries Service, Woods Hole, Maine. Accessed at: http://www.nesfc.noaa.gov/nefsc/publications/crd/crd0306 on April 15, 2005.

Comment: Pg. 4-24. Table 4-6 provides impingement data for Units 1 and 2. Apparently, no data was collected for Unit 3 based on survival studies that indicated high survival rates for demersal species during cool and cold water periods. Pelagic species, including long-finned squid, bay anchovy, and Atlantic silversides, had poor rates of survival year-round. While these studies may provide some sense of the fish return system's effectiveness for demersal species in cool or cold water conditions, it also clearly demonstrates that some species such as bay anchovy and menhaden are not likely to survive impingement. In addition, it does not indicate what the survival rate is during the warm water months of summer and early fall when the newest year class of some species such as winter flounder are likely to be present in the vicinity of the intakes, and vulnerable to impingement. We recommend that Information on survival rates of demersal species during warmer periods be included in the FSEIS. (MPS-50-12)

Response: *The text in Section 4.1.2 was revised to provide additional information on survival rates for impinged species.*

Comment: The DSEIS states (pg. 4-23) that the highest annual impingement of winter flounder for Unit 2 and 3 combined was 2,446 fish, in 1986. However, Table 4-6 indicates that the largest annual impingement of winter flounder was estimated to be 23,554. The table does not mention whether the number reflects impingement rates for Unit 3. The FSEIS should clarify the estimate of total annual impingement for winter flounder and other species listed in Table 4-6 that reflects impingement numbers for all units together. (MPS-50-13)

Response: *Text in Section 4.1 was revised to clarify this apparent discrepancy and provide additional information about impingement monitoring studies.*

Comment: The most recent data for Unit 2 involves sampling collected biweekly from July 2000 to June 2001. It is questionable whether the Unit 2 fish return was in operation during such period. Data for Unit 3 involve samplings collected biweekly from January to December 1993.

These samplings do not suffice in frequency to form a data base to support conclusions about impingement during the 35-year operations of Millstone, nor to provide an adequate basis for extrapolation to the future.

Thus, the SEIS statement is not supported by genuine evidence:

Based on the assessment to date, the staff expects that the measures in place at Millstone Units 2 and 3 (i.e., aquatic organism return systems) provide mitigation for impacts related to impingement, and no new mitigation measures are warranted. (MPS-82-53)

Response: *The commenter is questioning whether adequate data exist to evaluate impingement impacts of Millstone operation. The original 316(b) demonstration and subsequent studies required by the NPDES permitting process have demonstrated the adequacy of the licensee's data to assess impingement. Under new 316(b) Phase II regulations, the licensee will be again required to adequately characterize impingement losses and comply with new performance standards for cooling water intakes. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: Heat of the sound is one of the factors you people say is one of the causes for the loss of fish, but you don't think the thermal plume with the loss of fish. At the same time, such a closed cooling system would have the effect of virtually eliminating the killing of the indigenous fish species. (MPS-23-9)

Comment: Attributing the collapse of the fishing stocks to elevated water temperatures, the SEIS fails to consider the contribution of Millstone's 24- hour-a-day, seven-day-a-week thermal discharges to the Long Island Sound. (MPS-82-50)

Response: *A comment was made that NRC staff acknowledged the general increase in water temperature in Long Island Sound over the past few years as impacting winter flounder but did not acknowledge the thermal plume resulting from operation of Millstone's cooling water system as having an impact on winter flounder. The gradual warming of Long Island Sound has ecosystem-level impacts, whereas the thermal plume from Millstone is localized. While there may be some direct effects on some fish from the thermal discharge from Millstone, the effects would not affect regional populations because of the limited extent of the thermal plume. The*

comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.

Comment: Pg 4-27. This section of the DSEIS provides a limited discussion of some potential environmental impacts associated with the discharge of heated effluent. The use of the term "heat shock" implies a fairly limited scope of review for a pollutant (i.e., heat) that can affect aquatic organisms and their habitats in many ways. We recommend that the FSEIS's discussion be expanded to address heat's less conspicuous ability to: 1) preclude the use of affected areas by temperature-sensitive species; 2) attract and expose organisms to areas of fi:elevated temperature during spawning periods; and 3) expose eggs and larvae to water ·rtemperatures well above levels that are typical under ambient conditions.

While thermal plumes tend to remain near the surface during most of the year, they have been known to become negatively buoyant during the colder winter periods. If this is the case at Millstone, or if the thermal plume affects the entire water column in shallow areas of Niantic Bay, we recommend that the FSEIS address how the plume might affect adult winter flounder entering Niantic Bay in the winter months en route to spawning grounds in the Niantic River. The 8,000 foot thermal mixing zone, in which temperatures are permitted to exceed ambient levels by 4°F, appears to cover most of Niantic Bay. We recommend that the FSEIS provide a spatial-view graphic depicting maximum temperatures of the thermal plume under various tidal conditions and seasons, and a more comprehensive analysis of the potential sub-lethal effects caused by the thermal plume.

The DSEIS contains a preliminary conclusion that potential impacts to fish and shellfish due to heat shock are small, and that no new mitigation measures are warranted (pg. 4-29). As stated above, EPA believes that the FSEIS should provide a broader review to ensure that all of the possible thermal effects associated with Millstone's daily discharge of up to 2.1 billion gallons of heated water are adequately assessed. We recommend that the FSEIS re-evaluate Millstone's thermal impacts, at least for winter flounder, before reaching a final conclusion on this issue. (MPS-50-15)

Comment: The DSEIS (pg. 4-57) identifies fishing mortality, entrainment from Millstone water withdrawals, environmental changes associated with regional increases in water temperature, and predator-prey interactions as the primary stressors contributing to continuing low winter flounder population levels in the Niantic River area. EPA agrees that there are multiple stressors affecting winter flounder, but we believe that other impacts from Millstone besides entrainment may be helping to impede stock recovery, if not contributing to the population decline.

Impacts from impingement on winter flounder and other depressed stocks have an additive effect to entrainment losses, and we recommend that they be discussed in the assessment of

cumulative impacts. In addition, while the thermal plume from Millstone may not be causing acute mortality to winter flounder and other species, non-lethal effects may have a significant effect to the Niantic Bay area. According to the DSEIS, water temperatures in Long Island Sound (LIS) have increased over a 25-year period by 2.8°F/1 .8°F (daily/annual mean). Temperatures in Millstone's mixing zone are permitted to be up to 4.0°F higher than ambient. The DSEIS states that elevated water temperatures in LIS may be a major contributing factor to the flounder's decline, but the report does not address possible effects elevated temperature from Millstone's thermal plume has on Niantic Bay, most of which is contained within the designated thermal mixing zone. If there is information supporting a conclusion that thermal effects are not having any adverse impacts on winter flounder behavior, spawning success, habitat use, young-of-year survival, changes in trophic dynamics or forage opportunities, we recommend that it be included in the FSEIS.

We recommend that the FSEIS provide maps with depictions of the thermal plume on multiple stages of the tide. These maps should include known aquatic resources, such as shellfish beds, fish spawning and nursery habitats and fish migration routes. (MPS-50-16)

Response: *Comments were made by EPA's Region I office that the NRC staff should the expand discussion on thermal-related impacts in Section 4.1.3. Thermal plume barriers to migrating fish, altered distribution of aquatic organisms due to thermal effects, and stimulation of nuisance organisms have been categorized as Category 1 issues for license renewal. A Category 1 issue is one for which a single significance level has been assigned and applies to all plants with a specific cooling system, that additional plant-specific mitigation measures are not likely to be sufficiently beneficial to warrant implementation. Nevertheless, the staff has included additional text and figures in section 4.1.3 to provide additional information on monitoring studies of thermal impacts.*

Comment: The SEIS states:

Millstone has remained in compliance with the NPDES thermal and discharge volume limits at the quarry cut. [SEIS at page 4-28]

Yet, the SEIS report is absent any indicia of an independent basis from which to render such a conclusion.

The SEIS states:

The [NRC] staff also independently reviewed monitoring reports for the cooling-water discharge mixing zone .... the boundary of the mixing zone cannot exceed a radius of 2438 m (8000 ft) from discharge outlet at the quarry cut.

The SEIS report does not identify a single monitoring report by date or otherwise; any conclusions regarding the cooling-water discharge mixing zone are utterly unsubstantiated. (MPS-82-54)

Response: *The comment states that the draft SEIS does not identify a single monitoring report by date or otherwise. This statement is not true. Monitoring reports cited and discussed in Section 4.1.3 include Dominion (2004b) and NUSCO (1987b). The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: The cumulative impact of routine operations to aquatic resources, although recognized as significant for winter flounder (Supplement 22, page 4-56), are not adequately addressed or mitigated by the SEIS. (MPS-52-5)

Response: *Possible mitigation measures to reduce the impacts associated with the Millstone cooling water system are not discussed in the SEIS because such measures fall within the regulatory responsibility of the CTDEP. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: Pg. 4-21. The DSEIS concludes that impacts to the Niantic River winter flounder population from entrainment is "moderate," though it suggests fishing mortality plays a much more significant role. Other stressors, including rising water temperatures, are also cited as possible contributing factors. According to the DSEIS (pg.1-4), "moderate" is defined as "Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource." From our review of the DSEIS, there seems to be general agreement that the Niantic River winter flounder stock has been destabilized, that multiple stressors are contributing to this condition, and that the entrainment of larvae at Millstone (e.g., 492 million in 1992) is one of the contributing stressors.

The DSEIS concludes that the NRC has no role in mitigating for entrainment impacts since such impacts are regulated under the Clean Water Act. We agree that these impacts are regulated under CTDEP's NPDES permit. However, we believe that under NEPA, the FSEIS needs to fully evaluate and disclose the potential environmental impacts from this operation, and identify possible operational and technology alternatives that could effectively mitigate for the loss of aquatic resources. The DSEIS correctly identifies the unique vulnerabilities associated with the winter flounder's habitat of returning to natal systems to spawn, suggesting that localized impacts could dramatically influence local population dynamics. However, the DSEIS includes only a very limited discussion on mitigation alternatives, and suggests that any reduction in entrainment losses would lessen the impact of the plant on the Niantic River winter flounder population. This assessment does not fully document the plant's impact on the decline of local winter flounder stocks. (MPS-50-9)

Response: *The staff agrees that the SEIS does not fully quantify Millstone's impact on the decline of local winter flounder stocks because data necessary to fully quantify the level of impact are not available. Nevertheless, the staff believes that sufficient information exists to make a qualitative assessment of impact, and the staff has concluded that the impacts of continued operation of the Millstone cooling water system would be MODERATE. Text in Section 4.1.1.2 has been revised to clarify the NRC's position on mitigation.*

Comment: The SEIS does not address the prospect that Millstone will undergo a major refurbishment in the conversion from the once-through to a closed cooling system. This is a major omission in the SEIS. (MPS-82-9)

Comment: The NRC SEIS staff accepted at face value Dominion's self-assessment that it would not conduct "major" refurbishment in the future. Thus, the NRC SEIS staff considered neither "major" or "minor" refurbishments. The NRC SEIS staff's conclusions about the radiological impacts during refurbishment are therefore necessarily flawed. Given the strong likelihood that major refurbishment in the form of a stationwide conversion from once-through cooling to closed cooling systems will be ordered by the Connecticut DEP – to avoid future exposure of pregnant women and others to harmful radioactive and toxic waste effluents in the "mixing zone" and to avoid irreversible impacts to the indigenous Niantic winter flounder – the radiological impacts from such refurbishment should have been fully explored and analyzed in the SEIS. (MPS-82-60)

Comment: Let me move into another area, which is a major oversight in this so-called environmental analysis. And that has to do with discharges, both to the air and the water of pollutants. There is no documentation in this entire environmental impact statement of the chemicals, no identification of the hundreds of chemicals, many of them caustic, carcinogenic agents that are used at the plant routinely and flushed out into the Long Island Sound along with radioactive waste agents.

Why doesn't it say that in this environmental impact statement? It's so simple. It can be stopped. That is an alternative. The way to stop it other than shutting Millstone is to convert it to a closed cooling system. (MPS-23-8)

Response: *Conversion to closed-cycling cooling is not considered refurbishment because it is not a required action that is to prepare the facility to operate during the renewal term. At this time, there is no specific proposal by CTDEP or the licensee to convert the Millstone once-through cooling system to a closed-cycle system. As discussed in Section 4.1 of this SEIS, Dominion and CTDEP are discussing mitigation measures as part of the NPDES permit renewal application. There are several mitigation options being discussed, including the installation of*

cooling towers. CTDEP is responsible for the review and issuance of NPDES permits and implementation of the Clean Water Act in Connecticut. The NRC does not have authority over matters concerning discharge permits or compliance with the CWA. Any mitigation required by the state of Connecticut as a result of the ongoing NPDES permit review would be considered at that time. The comments provide no new and significant information, therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.

Comment: Millstone is responsible for the depletion of native fish species through the operations of its intake structures. All these assaults on the environment would end if (a) Millstone were shut down or (b) if Millstone converted to closed cooling system. This important issue certainly affects Long Island because of the dispersion of toxic and radioactive waste byproducts by tidal and wave action. (MPS-53-4, MPS-57-4, MPS-58-4, MPS-59-4, MPS-68-3, and MPS-70-3)

Comment: The Millstone operation depletes the native fish population due to ineffective intake methods. (MPS-56-3)

Comment: And if a closed cooling system existed, would that not have a positive impact upon the environment? Why isn't one being installed? (MPS-61-2)

Comment: Millstone is responsible for driving the native fisheries stock to near-extinction through the operations of its intake structures. All these assaults on the environment would end if (a) Millstone were shutdown or (b) if Millstone converted to closed cooling system. This important issue certainly affects Long Island because of the dispersion of toxic and radioactive waste byproducts by tidal and wave action. (MPS-66-4)

Comment: The Coalition further represents that some or all of the discharges to the Long Island Sound as listed hereinabove are unnecessary; if the Millstone Nuclear Power Station were to convert from a "once-through" to a "closed" cooling system, some or all of these harmful discharges to the Long Island Sound would be eliminated. (MPS-83-4)

Comment: ... but I still would recommend that Millstone build the cooling towers, especially after reading this report. It would save some of the fish and other wildlife in our area. (MPS-18-8)

Response: *The comments are related to closure of Millstone, mitigation through conversion to closed-cycle cooling, and discharge of chemical and radioactive waste to Long Island Sound. The staff recognizes that there are at least five primary factors that are contributing to the depletion of native fish species in Long Island Sound. These factors are overfishing, entrainment by Millstone, gradual regional increase in water remperature, land use changes affecting water quality in the Niantic River, and predation. The relative contribution of each of these factors can not be quantified at this time. However, during the three-year period*

(1997–1999) of plant shutdown, during which there was no significant water withdrawal from Long Island Sound and no appreciable thermal discharge, there was no corresponding increase in winter flounder abundance. Before requiring any significant mitigation, the staff recommends that the relative contribution of each of these five primary stressors be understood. Finally, there is no evidence to suggest that plant discharges of chemical and radioactive waste are having an adverse effect on the environment. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.

Comment: When you analyzed the loss of fish, winter flounder, in your report, you state that you spoke with the DEP. You don't name anyone from DEP. (MPS-23-10)

Response: *Appendix D contains information about organizations that were contacted during preparation of the draft SEIS. NRC staff consulted with Dave Simpson, Vic Crecco, and Eric Smith at CTDEP. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: The DSEIS states (pg. 4-27) that the measures in place at Millstone Units 2 and 3 provide mitigation for impacts related to impingement, and no new measures are warranted. This conclusion is a departure from NRC's approach taken for entrainment which is to defer the issue of mitigation to the CTDEP. It is unclear why the DSEIS advises that no further mitigation is warranted for impingement, but for entrainment impacts which the NRC believe are moderate, the question of need for, and alternative ways to accomplish, mitigation is largely deferred. As noted above, we believe that under NEPA, a discussion of appropriate mitigation alternatives should be in the FSEIS. In addition, we recommend that the FSEIS not view entrainment and impingement as mutually exclusive impacts, but instead assess the combined effects of entrainment, impingement, and the thermal plume on species such as winter flounder and anchovy that are vulnerable to two or all of these stressors. (MPS-50-14)

Response: *The staff has revised the text in Sections 4.1.1.2, 4.1.2.3, and 4.1.3 to clarify its position on mitigation. The combined impacts of impingement and thermal effects on winter flounder do not change the staff's conclusion in Section 4.8.1 that the combined impacts would be MODERATE.*

Comment: At the same time, you didn't talk to fishermen. You said that you were concerned that over-fishing was responsible for depletion of the winter flounder. You didn't talk to fishermen. You didn't go back and talk to the expert, Mark Gibson from Long Island, who was able to persuade a judge of the Superior Court of this State to shut down Millstone Unit 2 to spare the winter flounder back in 1998. Why didn't you talk to him?

Why didn't you talk to Victor Crecco at the Department of Environmental Protection? Why was your bias so manifest in your report? (MPS-23-11)

Comment: Astonishingly, the NRC staff does not report any attempt to consult with the fishermen who are targeted in the SEIS for the demise of the Niantic winter flounder population. Had the NRC staff attempted to locate commercial fishermen who fish for Niantic winter flounder near Millstone, it would have learned that the resource has vanished and, with it, the fishermen and a way of life.

Nor, apparently, did the NRC staff make any effort to consult with the experts who have testified in court proceedings to the overwhelming evidence that the suction action of the Millstone intake structures is the predominant cause of the collapse of the Niantic winter flounder population and has been since 1986, when Millstone Unit 3 went online. (MPS-82-46)

Comment: Why did the NRC staff not meet with DEP's Victor Crecco, author of reports debunking Dominion's theorizing about the Millstone impacts on the Niantic winter flounder collapse? (MPS-82-48)

Response: *The comments suggest that the NRC staff showed bias in the selection of people interviewed in the review process. NRC staff reviewed and considered comments submitted by a wide variety of stakeholders, including comments submitted by fishermen at the public meetings held on May 8, 2004. The staff also consulted with experts from CTDEP (including Vic Crecco), NOAA Fisheries, University of Connecticut, USEPA, and the applicant. A report authored by Gibson (see reference below) was reviewed by NRC staff. This report was not cited in the SEIS because its conclusions about the impact of Millstone on the Niantic River winter flounder population segment were based on assumptions about the status of Niantic River winter flounder compared to regional trends. Recent regional stock and recruitment data have not substantiated these assumptions.*

Reference: Gibson, M.R. 1999. Estimation of the Reduction in Recruitment of Winter Flounder in the Niantic River Associated with Operations at Millstone Nuclear Power Station. Unpublished manuscript.

Comment: Although NRC staff spoke with Prof. Crivello of the University of Connecticut, who has studied Millstone entrainment, the staff does not explicitly identify Prof. Crivello as a paid consultant to Millstone's owners and operators each time his name appears in the SEIS.

Instead, you talked to a consultant. You called his work "independent," but the consultant, Mr. Crivello, actually was a consultant paid and hired by the utility. You don't say that in your report. (MPS-82-47)

Response: *Dr. Crivello is an associate professor in the Department of Physiology and Neurobiology, and the Department of Marine Sciences at the University of Connecticut. He has expertise in aquatic biology, aquaculture, aquatic toxicology, marine invertebrate and vertebrate genetics, DNA technology, and the use of polymorphic DNA markers for marine invertebrates and vertebrates in analysis of population structures. Crivello has authored more than 20 articles in peer-reviewed scientific journals. Crivello's work is attributed to Dominion the first time it is referenced in Section 4.1.1 of the Draft SEIS. Text in section 4.1.1 was modified to explicitly identify Crivello as a paid consultant of Dominion.*

Comment: A Connecticut Superior Court judge enjoined the restart of Millstone Unit 2 in 1999 because he was persuaded that the health and stability of the indigenous Niantic winter flounder stocks were endangered by operations of the Millstone intake structures through entrainment and impingement. Fish Unlimited v. Northeast Utilities.

In 2000, two commercial fishermen sued Northeast Utilities for tortiously causing the collapse of the formerly commercially viable Niantic winter flounder fishing stocks; their suit remains pending. (MPS-82-21)

Response: *The comment pertains to civil litigation beyond the purview of the NRC. The NRC evaluated entrainment in Section 4.1.1 of the SEIS. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: Let alone it's a environmental hazzard to Long Island Sounds living fish and creatures and water quality. Its killing Long Island Sound and the people living near it. (MPS-45-2)

Comment: The threat posed my [sic] Millstone's operation to Long Island's environment and quality of life are larger than the benefits to CT's energy costs. (MPS-60-4)

Comment: The plant has a negative environmental impact on our waterways and wildlife, in addition to the harmful health hazards posed to humans. (MPS-69-3)

Comment: Please use your common sense and protect both the public and the fragile LI Sound environment before you license Millstone to continue for another twenty years. (MPS-55-3)

Response: *The comments relate to Millstone's impact on aquatic resources. The comments are not specific. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.*

Comment: I reviewed the sections of the GEIS pertaining to entrainment and thought you folks did a very nice job, especially summarizing the available information and the debates/points of disagreement on models and analysis. (MPS-29-1)

Response: *The comment relates to the analysis of entrainment from Millstone's operation. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

Comment: The GEIS identifies the issue of scouring caused by discharged cooling water as a Category 1 issue. As a "Category 1" issue, the NRC staff will not review it on a Millstone site-specific basis in the absence of "new and significant information."

Yet, scouring caused by discharged cooling water was identified by a technician in the Millstone Environmental Laboratory as an irreversible environmental impact during a recent public presentation on Dominion's environmental impacts presented at the Three Rivers Community College. (MPS-82-45)

Response: *Scouring impacts are categorized in Section 4.1 of the SEIS. Some scouring has likely occurred in the vicinity of the station outfall in an area that is orders of magnitude smaller than Jordan Cove and Long Island Sound. The impact of scouring is most pronounced upon station startup; over time, an equilibrium is established between flow rate and bottom disturbance. Since Millstone has operated for over 20 years, no significant impact is expected during future operations. The staff characterized these impacts as SMALL in the GEIS. The staff did not identify any significant new information during its preparation of this SEIS. Therefore, the staff concludes that there are no impacts related to this issue beyond those discussed in the GEIS. The comment provides no new and significant information; therefore, the comment was not evaluated further. There was no revision to the text of the SEIS.*

6. Comments Concerning Terrestrial Resources

Comment: Section 2.1.7 Power Transmission System Page 2-15, Line 2 Draft GEIS Supplement 22 Statement All personnel applying herbicides are required to process a valid applicator's license. Dominion Comment - It is suggested that the word "process" be changed to "possess," so that the sentence reads: "All personnel applying herbicides are required to possess a valid applicators license." (MPS-47-9)

Comment: Section 2.2.6.1 Site Terrestrial Resources Page 2-36, line 10 Draft GEIS Supplement 22 Statement - ...173 fledglings have been produced over this period. Dominion Comment - As of the present time, the number of fledglings produced at Millstone stands at 186. (MPS-47-29)

Comment: Section 2.2.6.1 Site Terrestrial Resources Page 2-36, line 14 Draft GEIS Supplement 22 Statement - There are 18 species listed by FWS or the state of Connecticut as being known to occur on the site. Dominion Comment - Dominion believes this sentence refers to the 18 species listed in Table 2-3. Some of those species have been observed on the site or along the transmission lines, and some have not been observed, but may occur. It is suggested that the sentence be changed to: "There are 18 species listed by FWS or the State of Connecticut that have either been observed on the site or have the potential to occur in the area or along transmission lines." (MPS-47-30)

Comment: Section 2.2.6.1 Site Terrestrial Resources Table 2-3 Draft GEIS Supplement 22 Statement - This table lists terrestrial species known to occur or that potentially occur at Millstone or along the transmission lines. Dominion Comment - Dominion notes the following: As of June 2004, the Cooper's hawk is no longer listed by the State of Connecticut. The piping plover is listed as "threatened" by the State of Connecticut. Dominion is unable to find any citation by the State of Connecticut that lists the New England cottontail as either threatened or endangered. The seabeach sandwort is listed by the State of Connecticut as a "special concern" species. (MPS-47-31)

Comment: Section 4.6.2 Terrestrial Species Page 4-52, Lines 33-34 Draft GEIS Supplement 22 Statement - Both the bald eagle (*Haliaeetus leucocephalus*) and the piping plover (*Charadrius melodus*) are known to occasionally use the Millstone site. Dominion Comment - To Dominion's knowledge, the piping plover has not been observed on the Millstone site. Dominion believes the intent may have been to name the roseate tern, which has been observed on the site. It is suggested that the sentence be changed to: "Both the bald eagle (*Haliaeetus leucocephalus*) and the roseate tern (*Sterna dougallii*) are known to occasionally use the Millstone site." (MPS-47-51)

Response: *The NRC staff reviewed these comments by Dominion and accepted them. Sections 2.1.7, 2.2.61, and 4.6.2 of the text of the SEIS were modified.*

7. Comments Concerning Air Quality

Comment: Section 2.2.4 Air Quality Page 2-20, Lines 20-22 Draft GEIS Supplement 22 Statement - Air emissions from these sources are subject to Connecticut General Statutes section 22a-174-33 of the Regulations of Connecticut State Agencies (Connecticut Legislature 2003). Dominion Comment - In addition to section 22a-174-33 (which regulates Title V air permits), air emissions from site sources are subject to other regulations. It is suggested that this sentence read: "Air emissions from these sources are subject to Connecticut General Statutes, various sections of the Regulations of Connecticut State Agencies, Title 22a-174, 'Abatement of Air Pollution,' and various federal regulations." (MPS-47-15)

Response: *The NRC staff reviewed this comment by Dominion and accepted it. Section 2.2.4 was modified.*

8. Comments Concerning Socioeconomics

Comment: The SEIS considers the economic contribution to the community through payment of Dominion's workforce; however, the SEIS does not separate out the economic investment made in maintaining a workforce to monitor Unit 1, a nuclear power plant undergoing decommissioning, and its repository of spent nuclear fuel. Nor does the SEIS consider the prospect of a continuing workforce required to maintain Units 2 and 3 in the event each or both units is/are decommissioned or prematurely shut down before or during the renewal period. (MPS-82-62)

Response: *The comment is related to potential socioeconomic impacts associated with Unit 1 and with decommissioning of Units 2 and 3. Activities associated with Unit 1 are outside the scope of the SEIS analysis. As discussed in Chapter 7 of this SEIS, environmental impacts from the activities associated with the decommissioning of any reactor before or at the end of an initial or renewed license are evaluated in the "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," NUREG-0586, Supplement 1. The incremental environmental impacts associated with decommissioning activities resulting from continued plant operation during the renewal term are evaluated in the "Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS)," NUREG-1437, Volumes 1 and 2. These impacts have been characterized as SMALL. Chapter 8, section 8.1 of this SEIS evaluates the immediate impacts that occur between plant shutdown and the beginning of decommissioning as part of the No-Action Alternative. The impacts to socioeconomics are characterized as SMALL to MODERATE. The comment provides no new and significant information, therefore, the comment was not evaluated further. There was no revision made to the text of the SEIS.*

Comment: ... we do have some concerns about the fact that there would be a tremendous loss of tax revenues if these plants were to close. (MPS-21-1)

Comment: As far as the town goes, Millstone currently represents about 51 percent of the grand list. And there we're looking at property taxes. So effectively if the plant weren't there, the tax rate would be doubled, projecting forward to 2015. It's about the 34 percent of the grand list. (MPS-21-2)

Response: *The comments are related to socioeconomic impacts (tax increases) if Units 2 and 3 were to close. Chapter 8, section 8.1 of this SEIS evaluates the immediate impacts that occur between plant shutdown and the beginning of decommissioning as part of the No-Action Alternative. The impacts to socioeconomics are characterized as SMALL to MODERATE due*

to loss of jobs and reduction of the tax base. The comments provide no new and significant information; therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.

Comment: But you are not -- didn't seem to be addressing the constant flow of waste going to Barnwell and their impacting an African-American community of low income and constantly building up and causing a great deal of trouble and health harm there.

So it seems to me that the environmental impact statement doesn't raise that issue, and I wonder why. (MPS-5-3)

Comment: We don't know what to do with nuclear waste. I think it's unethical to generate hazardous waste in our community and transport it out for disposal.

It's unethical whether the community that is receiving the waste wants it or not, because the community that wants it is bound to be poor. They're in it for the money. They need the money. But what they get is contaminated groundwater and contaminated -- all that that means, all that the contamination of their community means.

And as for Nevada -- the State of Nevada having to receive it, put our foot in that shoe. We wouldn't accept the nuclear waste of another State or, worse, of the nation. (MPS-11-8)

Comment: I did look at this on the environmental impacts and the geographic distribution and having to do with environmental justice. And you claim that, again, you say it's small, the impact of environmental justice on the people that live around Millstone, but what it doesn't look at is the whole picture because in justice, environmental justice, is caused when the low-level waste is shipped to Barnwell, South Carolina and it's environmental justice when the uranium that's used to make the fuel is mined on Native American land and when the waste goes out to the Goshutes in Utah. That's environmental justice. And it does happen. It's not part of this report. (MPS-18-10)

Comment: Environmental Justice issues were incorrectly discarded by not considering that the low-level radioactive wastes are shipped routinely to places such as Barnwell, S. Carolina, an area that has a predominately poor and African-American population. (MPS-28-5)

Comment: It has also come to my attention that nuclear waste is shipped to Barnswell, South Carolina and has a negative health impact on the poor community. This information about the destination and impact of nuclear waste from Waterford should be included in the NRC's environmental impact agenda. (MPS-65-5)

Comment: It appears we have not dealt with the environmental justice issue of shipping nuclear waste to poor communities. (MPS-81-3)

Comment: The SEIS does not address the environmental justice issues involved in the transportation and storage of nuclear waste generate by the Millstone Nuclear Power Station, either during its 35 years of operations or in the future. Transportation through poor urban areas and storage of Millstone's nuclear waste in poor rural communities both implicate environmental justice concerns; neither aspect was addressed in the SEIS. (MPS-82-64)

Response: *The comments are related to impacts of transportation of spent fuel and waste as it may relate to minority and low-income populations. Environmental justice is a Federal policy under which each Federal agency identifies and addresses, as appropriate, disproportionately high and adverse human health or environmental impacts of its programs, policies, and activities on minority and low-income populations.*

The impacts of shipping spent fuel and waste were evaluated in the GEIS and the staff determined these impacts would be SMALL. In addition, impacts from transportation of spent fuel and waste from Millstone during the license renewal period were evaluated in the GEIS and the staff determined those impacts would be SMALL. Both of these issues are reviewed in Chapter 6 of this SEIS. The staff did not identify any new and significant information during preparation of this SEIS. Therefore, the staff concluded that there are no impacts of spent fuel and waste transportation associated with license renewal beyond those discussed in the GEIS. Specific impact evaluation of spent fuel and waste transportation on the public and on environmental justice populations are outside the scope of this SEIS. Rather, specific spent fuel and waste transportation impacts would be analyzed when a license application for transportation of spent fuel and/or nuclear waste is submitted to NRC. The comments provide no new and significant information, and therefore, the comments were not evaluated further. There was no revision to the text of the SEIS.

Comment: Section 2.1.1 External Appearance and Setting, Page 2-2, Line 18 Draft GEIS Supplement 22 Statement - ... All development at Millstone is situated south of this mostly below-grade rail line. Dominion Comment - After the word "Millstone," insert "except the training facility," such that the sentence reads: 'All development at Millstone, except the training facility, is situated south of this mostly below-grade rail line." (MPS-47-1)

Comment: Section 2.1.6 Plant Operation and Maintenance Page 2-12, line 37 Draft GEIS Supplement 22 Statement Dominion assumes that an additional 60 employees will be needed... Dominion Comment - Sentence should be changed to: "Dominion assumes that no more than 5 additional employees will be needed..." (MPS-47-8)

Comment: Section 2.2.8.1 Housing Page 2-44, line 1 Draft GEIS Supplement 22 Statement... *while another 200 live in Niantic and East Lime.* Dominion Comment - Change "Lime" to "Lyme." (MPS-47-32)

Comment: Section 2.2.8.2 Public Services Page 2-47, Lines 10-12 Draft GEIS Supplement 22 Statement - A new water supply line was constructed in 2000 to supply Millstone, and this line replaced the use of two shallow low-yield wells that had been used to irrigate ball fields and supply concession stands on the Millstone site licensed to Waterford. Dominion Comment - It is suggested that this paragraph be replaced with the following clarification: "A new water supply line was constructed in 2000 to supply a concession stand at the ball fields licensed by Millstone to Waterford. The stand had been supplied by a shallow low-yield well, which continues to be used to irrigate the ball fields on a seasonal basis." (MPS-47-33)

Comment: Section 2.2.8.5 Demography Page 2-55, Line 30 Draft GEIS Supplement 22 Statement - *Source: Dominion 20004a.* Dominion Comment - Delete a zero in the date of the citation. (MPS-47-34)

Comment: Section 2.2.8.5 Demography Page 2-56, Line 35 Draft GEIS Supplement 22 Statement - ... after September 11, 2000... Dominion Comment - Change "2000" to "2001." (MPS-47-35)

Comment: Section 2.2.9.1 Cultural Background Page 2-60, Line 25 Draft GEIS Supplement 22 Statement - ....Park overlooking the Thames River about 8km (5 mi) northwest of Millstone. Dominion Comment - Change "northwest" to "northeast." (MPS-47-36)

Comment: Section 2.2.9.1 Cultural Background Page 2-63, Line 16 Draft GEIS Supplement 22 Statement - Actual power generation began in 1975. Dominion Comment - Unit 1, which is not the subject of this report, began generating power in 1970. It is suggested that "at Unit 2" be inserted so sentence reads as follows: "Actual power generation at Unit 2 began in 1975." (MPS-47-37)

Comment: Section 4.4.2 Public Services: Public Utility Impacts During Operations Page 4-40, Lines 17-18 Draft GEIS Supplement 22 Statement - Millstone's 2000 to 2001 potable water usage averaged 1.257 X 10^6 L per day (3.320 X 10^6 gpd). Dominion Comment - Change "3.320 X 10^6 gpd" to "3.320 X 10^5 gpd." (MPS-47-50)

Comment: ... the population within a 10-mile radius of Millstone increases seasonally as a result of an influx of approximately 10,500 summer residents. The SEIS contains no figures of the seasonal influx of visitors to the eastern end of Long Island although it is within the 50-mile radius of Millstone. (MPS-82-14)

Response: *The comments concern socioeconomic issues. The NRC staff reviewed and accepted the suggestions for revisions to the SEIS. Sections 2.1.1, 2.1.6, 2.2.8.1, 2.2.8.5, and 4.4.2 have been revised to incorporate these comments.*

9. Comments Concerning Human Health

Radiation Exposure and Cancer

Comment: The Tumor Registry says that you all have the highest cancer rate in -- is in New London County. And within that, the top -- the six towns around it, around Millstone, have the highest of 12 different cancers. (MPS-1-3)

Comment: I was interested to hear the comment that this environmental impact statement draft addresses the issue of radiological impacts and cancer in the community. I have reviewed every page of this document, and I have found nothing here that seriously addresses or, in fact, even addresses the link that the scientific community has established between radiological emissions from nuclear power plants such as Millstone and cancer.

In fact, what I have seen in this report is an outright statement that no link has been established between the radiological emissions from Millstone, which we know are among the very highest in the entire country, and the high incidence of cancer which has been identified in this area. (MPS-2-1)

Comment: ... there was a document presented which was the affidavit of Dr. Ernest Sternglass, which went through chronologically, historically, the scientific links between radiological emissions from nuclear power plants such as Millstone, and, in fact, including Millstone particularly, and cancer, including very recent -- a very recent report appearing in The Journal of the American Medical Association linking dental X-ray exposure to pregnant women to early childbirth, premature labor, and potentially significant problems later. (MPS-2-2)

Comment: We presented to those proceedings an affidavit from Cynthia Besade – a resident of Waterford for many years, and a person knowledgeable as to aspects concerning former workers at the Millstone power plant, including her father who was one of seven pipefitters who all died of similar diseases, cancers, before their time.

Her affidavit also detailed examples of children dying of leukemia and other diseases in the community, friends, mothers of... (MPS-2-5)

Comment: There is a summary of draft report findings in the back of this room. I wrote down five. Impact to human health -- impacts to human health are of small significance. Impact to air

quality are of small significance. Impact of radioactive and non-radioactive waste management are of small significance. Impact of postulated accidents are of small significance.

Current measures to mitigate the environmental impacts of plant operations are adequate, and no additional mitigation measures are warranted. These are lies. These are willful, deceptive lies. (MPS-2-6)

Comment: There's been a complete disregard of all of the information that has been submitted about health effects.

When the NRC can say, "Impact to human health -- impacts to human health are of small significance," do they mean small people, just to children, so it doesn't matter? Or what do they mean by that? (MPS-2-7)

Comment: Before Nancy Burton was making the point that information from scientists in the radiation and public health project -- that was available at a -- a related hearing about this issue -- was not considered in your draft. (MPS-3-1)

Comment: Mr. Mangano's recent information is that local health declines when Millstone opens improves after closing, in which he reports that the cancer instance rate in New London County was 8 percent below the State in the '50s and '60s before Millstone opened.

After Millstone began operating in 1970, this rate has risen steadily until now it has reached a level 6 percent above the State rate. So that's going from 8 percent below to 6 percent above. So he -- Mangano says that of the over 1,300 New London residents diagnosed with cancer each year, nearly 200 can be considered in excess of what would be expected if earlier levels had been maintained. (MPS-3-2)

Comment: Mangano also reports that about -- infant mortality deaths of children one year and younger. In 1994 and '95 when Millstone was operating, there were 136 such deaths, unfortunately. When Millstone closed -- was closed, pretty much for all of '96 and '97, that rate dropped, and then the number dropped to 105. (MPS-3-3)

Comment: This makes it all very, very plain, the way he lays it out. '94/'95, Millstone was operating at 80 percent capacity, and there were 136 deaths, the rate of 7.41. '96/'97, it was only operating at 10 percent. The deaths dropped to 105, which is -- the rate dropped to 6.07, which is over an 18 percent drop.

Now, when they started up again in '98/'99, at first they operated during those years 50 percent. The rate was minus 3.1 compared to minus 18.1, so that's quite a difference. And then, in 2000

and 2001, when Millstone was operating at 90 percent, the rate actually went up 8.8 percent. So that's from minus 18.1 to plus 8.8. (MPS-3-4)

Comment: Also, what I was trying to talk about before -- Dr. Sternglass sent the NRC a declaration last August which wasn't included in their consideration of the evidence about human health and radioactive emissions, the possible effect on human health. (MPS-3-6)

Comment: ... what he goes on to say is that there is a causal relationship, which the NRC denies between Millstone's radioactive emissions over the years and negative health effects.

As he says, "It is my professional opinion that the radioactive releases from the Millstone Nuclear Power Station, since its startup in 1970, have caused and will continue to cause excess infant mortality, as Joe Mangano just showed us, low birth weight babies, leukemia, and cancer, as well as increased rates of both chronic and infectious diseases in the towns around Millstone as well as in New London County, and Connecticut as a whole." (MPS-3-7)

Comment: So I'm going to address now the things in the draft EIS that gave me problems, because at the last meeting I submitted a number of documents pointing to negative relation -- negative health effects from Millstone's radiation. And one of them was cancer incidence in Connecticut counties, 1995 through '99, from the Department of Public Health, Connecticut Tumor Registry, which indicated that during those -- that period, New London County had the highest rate, age-adjusted rate of incidence of cancers, in the State.

And as I also reported before, it had the second highest such rate for males, not to exclude us. It was basically in a statistical dead heat with Tolland County.

Now, in the draft environmental impact statement, it didn't report the fact that males were second highest. And as I stated at the hearing, that they were basically number one also. So we're showing the highest rates in the State, and this is the most current information from the Tumor Registry. Why is that?

I also reported that report went into specific kinds of cancers, and compared the rates between different counties in Connecticut. And for the number ones, the NRC report characterized them as several. (MPS-3-8)

Comment: ... that's how many number ones New London County had including breast cancer, cervical cancer, uterine cancer, other female genital cancers; liver cancer for males, bladder cancer for males and females, and colon and rectum for females, colon females, totaling 12.

There are six more number twos, five more number threes, seven number fours. (MPS-3-9)

Comment: And also, I presented a document called "The Radiation Compensation Act," an act of Congress in 1990 that compensated people who were downwind from nuclear testing in Nevada and Utah and Arizona, and as well as uranium miners who were -- basically said that these people were injured in the interest of U.S. national security, and they should be compensated.

And it specified specific kinds of cancers and what -- which establishes a causal relationship, once again, between low-level radiation and specific kinds of disease. In this case, there are too many of them that are on the list of -- where New London County in the Tumor Registry report was number 1 through 4.

For instance, liver cancer, which was the number 1 for males, breast cancer number 1, and multiple myeloma in which for females in the county was tied with Fairfield for number 1, and thyroid cancer number 3. (MPS-3-10)

Comment: I have a lot of trouble with all of the -- this entire Section 4.7, evaluation of potential new and significant information on the impacts of operations during the renewal.

I gave one example with a document about cancer rates from the Tumor Registry report. But it -- other information that I presented was not represented accurately, ... (MPS-3-14)

Comment: But the fact that Dr. Sternglass' declaration from last August was somehow not considered whatsoever, and the fact that the NRC consulted with Dominion, with Department of Health here, the Department of Environmental Protection, who basically all have the same position on this issue. They're talking to themselves, where nobody talked to Dr. Sternglass, nobody talked to Joseph Mangano, or anybody else in the Radiation and Public Health Project. (MPS-3-15)

Comment: We now know that the radiation that was released got into our water. We drank from wells. It became part of the soil that we grew our gardens in, and certainly it was in the air that we breathe, at times when they had scheduled releases of radioactive effluent, and then at other times that they had non-scheduled radioactive releases. (MPS-6-7)

Comment: To the extent that this exposure to radioactivity from Millstone was responsible for my father's death, and the deaths and illnesses of my friends and neighbors, these deaths and illnesses were avoidable. (MPS-6-8)

Comment: Environmental exposure to radiation, EMF, and cancer-causing agents. And we can dispute that from now 'til the cows come home. We do know that radiation is a cancer-

causing agent, and we can sit here and deny or we can sit here and face the problem and try to make some kind of an amenable situation for all. (MPS-10-3)

Comment: In addition, we are deeply concerned about the continuous release of radioactive isotopes that are emitted from these plants. These emissions have fallen on Connecticut's soil and water and have been emitted into the air for years.

The effects of radiation are cumulative. Since few studies have been done on the cancer rates around the plants, we only need to use our reasoning powers to understand that the radiation is harmful and that the degree of harm varies from individual to individual.

We do know that children and fetuses are extremely vulnerable to these long-lived and terrible poisons. (MPS-11-2)

Comment: It's 12 different cancers, the highest of which are around Millstone Nuclear Reactor because New London County has the highest cancer.

So I said to you, given these findings, I don't understand how you could say that there is no big link between cancer and Millstone. (MPS-15-1)

Comment: I would like to ask you, how did you analyze the data from the Tumor Registry and come up with what your conclusion is? You just stated that Waterford had one of the lower stats. Well, that stack is several hundred feet high. So whatever is coming out of that is getting into whatever prevailing winds are at that level and traveling.

How did you analyze those statistics and come up with the fact that you don't think that there is any correlation between your emissions of radiation and cancer in this community? (MPS-16-1)

Comment: This is my father, Joseph H. Besade. He worked vehemently to close Millstone, to stop the poison from emitting from the stack into our bodies, causing cancers of all sorts of variations, killing children at such a high rate it's hard to keep track of. (MPS-16-2)

Comment: Our friends, our family, my classmates, my friends, their parents, their children, so many families have been destroyed by this terrible disease that has taken hold of our community, disease that we can only associate with ionizing radiation. (MPS-16-3)

Comment: There is now information, recent information, that gives us the ability to say that there is a correlation between these cancers, these access cancers, especially the ones in children, that says that there is a causal relationship. (MPS-16-4)

Comment: Now, we ingested that shellfish and we ate that fish. And we ate the stuff that came from our garden. And now we know. And we drank the water from our well. And now we know that radiation found its way into the soil and into the air that we breathe and most certainly into the water as well. (MPS-16-5)

Comment: I'm wondering, what geographic area did you decide upon on this issue and why? I mean, you're saying Waterford. Millstone is close to a lot of communities. (MPS-17-1)

Comment: Haddam Neck shut down in 1996. And, besides which, it was only one reactor, and we had three operating here. So the study is totally irrelevant to Waterford and Millstone. (MPS-18-1)

Comment: There is new information, which I have today to submit. And it's from Joseph Mangano from the Radiation and Public Health Project. He sent me these graphs, which show all of the local health declines when Millstone opens, improves after closing. (MPS-18-5)

Comment: The highest cancer rate according to the Tumor Registry of Connecticut, which is our official Tumor Registry, the oldest and best in the country apparently, the highest rates are in New London County. And also then following that, the highest towns are right around Millstone Nuclear Reactor.

So I dispute the NRC's findings that there is no cancer link. (MPS-22-2)

Comment: And certainly the health issue is a second major omission.

At page 4-53 of this report, it states, astonishingly, "No evidence has been presented to report a causal relationship between increased cancer incidence and Millstone operations." That is simply not a true statement because the proceedings before tonight were replete with information and evidence linking Millstone with cancer. (MPS-23-3)

Comment: This evening, the NRC has received evidence that is irrefutable linking the emissions from Millstone, routine emissions, with pollution and contamination of the environment, which we see manifest in dozens and dozens and dozens and dozens of people in this community. (MPS-23-4)

Comment: I will dutifully present to the NRC a map of the different house locations on one street in Waterford. This is Waterford, Connecticut, supposedly doesn't have elevated cancer from Millstone. This is less than two miles down wind northeast from Millstone, at least seven incidences of cancer on that one street. (MPS-23-6)

Comment: Let alone it's a environmental hazzard to Long Island Sounds living fish and creatures and water quality. Its [sic] killing Long Island Sound and the people living near it. (MPS-45-3)

Comment: Mangano stated that cancer rates in the New London area, which used to be below the state average, have risen steadily during the period the Millstone nuclear reactors have been in operation, beginning in 1970.

"In the 1950s and 1960s, cancer incidence in New London County, where Millstone is located, was 8 per cent below the state rate," Mangano said. "After Millstone began operations in 1970, the state rate rose steadily until it reached a level of 6 per cent above the state rate in the late 1990s."
"New London County's current cancer rate is the highest of all counties in the state," Mangano said. (MPS-46-2)

Comment: "Millstone has the third-highest record of airborne radiation releases to the environment of all nuclear power plants operating in the United States according to its own reports," said Mangano.

The official Tumor Registry maintained by the state of Connecticut shows the region around Millstone has the highest incidence of cancers known to be triggered by certain of the radionuclides routinely released by Millstone, according to Mangano. (MPS-46-4)

Comment: In its draft EIS, the NRC concluded that the agency need not consider issues of human health as it relates to radiological emissions from nuclear power plants undergoing relicensing because an NRC guidance document released in 1996 discounted health effects from nuclear power plant radiological releases. (MPS-46-6)

Comment: The data strongly suggests - and indeed does so almost to a certainty - that Dominion Nuclear Connecticut, Inc. is operating and will continue to operate the Millstone Nuclear Power Station in violation of NRC regulations requiring limiting doses to the public of 15 millirems per year to any organ. (MPS-51-2)

Comment: Please use your common sense and protect both the public and the fragile LI Sound environment before you license Millstone to continue for another twenty years. (MPS-55-2)

Comment: The threat posed my Millstone's operation to Long Island's environment and quality of life are larger than the benefits to CT's energy costs. (MPS-60-3)

Comment: There are significant health concerns associated with this plant that merit immediate investigation. (MPS-62-2)

Comment: Long Island Sound is dying and the NRC and EPA seem to care very little for the welfare of the people who consume the fish and shellfish that have managed to survive this long. Our rates of cancer have drastically increased in recent years and someone needs to address the fact that Millstone can be a serious contributor to the food chain poison we consume and breath. (MPS-63-4)

Comment: I am a physician and am truly concerned about the health impact of the radioactive particles on the residents and workers int our area. (MPS-65-2)

Comment: The plant has a negative environmental impact on our waterways and wildlife, in addition to the harmful health hazards posed to humans. (MPS-69-2)

Comment: Millstone has had radiation releases into the local environment many times. (MPS-81-4)

Comment: At our press conference, we introduced Zachary M. Hartley, a 7-year-old boy born with a rare cancer in his jawbone. During critical months of her pregnancy, Zachary's mother swam regularly and unknowingly in the nuclear "mixing zone" which is known locally as the Hole-in-the-Wall Beach. We invited the entire NRC to attend the press conference and address questions to our expert, Dr. Helen Caldicott, world-renowned pediatrician, co-founder of Physicians for Social Responsibility and a leading authority on the health effects of low-level ionizing radiation such as is routinely emitted by Millstone. Zachary's medical records were available for NRC review. Not a single representative of the NRC appeared, not even one of the resident inspectors assigned to Millstone. Dr. Caldicott linked young Zachary's rare jawbone cancer to Millstone's radiological and toxic chemical emissions as being the likely causative agent. Dr. Caldicott acknowledged that, while there cannot be a 100-per-cent certainty that Millstone caused Zachary's medical condition, cesium-137 which Northeast Utilities found in a fish in the same nuclear "mixing zone" in 1997 – the year of Zachary's mother's pregnancy – and which contamination it admitted was discharged by Millstone, is known to be associated with cancer, including cancer of the bone. (MPS-82-8)

Comment: The SEIS fails to meaningfully consider the routine environmental impacts of Millstone's radiological releases, relying on the "conclusion" in the NRC's Generic Environmental Impact Statement that all the nation's nuclear power plants release radiation within levels permitted under the NRC's regulations and therefore may be expected to continue to do so in the future. These conclusions do not apply to Millstone. (MPS-82-11)

Comment: In conclusion, it is clear that the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decisionmakers would be beyond "unreasonable" – license renewal for Millstone is a license to kill. (MPS-82-15)

Comment: On December 16, 1997, Zachary M. Hartley was born with a rare jawbone cancer which required major life-threatening surgery. His mother swam regularly in the nuclear/chemical "mixing zone" otherwise known as the Hole-in-the-Wall Beach on the Niantic Bay shoreline during critical months of her pregnancy with Zachary.

In 1997, Northeast Utilities caught a fish contaminated with cesium-137, a deadly carcinogen, it admitted releasing into Niantic Bay, in the nuclear/chemical "mixing zone" which stretches from the Millstone discharge point to the Niantic Bay shoreline, a popular summer destination for families with young children. (MPS-82-19B)

Comment: On August 5, 2004, Cynthia M. Besade reported to the NRC in an affidavit her personal knowledge of some 67 cancers in persons known directly or indirectly to her, all living within or close to the five-mile radius surrounding Millstone, including childhood cancers and the case of a 17-year-old Waterford high school student diagnosed with ovarian cancer; from one street alone – Seabreeze Drive, north-northeast and less than two miles downwind of Millstone – seven (7) cases of cancer were reported. (MPS-82-27)

Comment: On August 5, 2004, Richard Heaton drove seven (7) hours from the University of Pennsylvania Medical Center to New London to participate in a press conference and proceeding before the NRC to share the facts of his daughter's rare thyroid cancer which developed following her exposure to Millstone effluents at age 10. (MPS-82-28)

Comment: In February 2005, the Coalition discovered that Zachary M. Hartley's rare jawbone cancer, believed caused by his mother's *in utero* exposure to Millstone radiological and chemical effluents in the nuclear/chemical "mixing zone" in 1997, was knowingly excluded from listing in the State of Connecticut's Tumor Registry because part of the orange-size cancerous tumor removed from Zachary's mouth in life-saving surgery was determined to be benign. (MPS-82-30)

Comment: On March 10, 2005, Dr. Helen Caldicott, world-renowned pediatrician, authority on the health effects of low-level ionizing radiation and co-founder of Physicians for Social Responsibility, declared the likelihood that 7-year-old Zachary M. Hartley's rare jawbone cancer was caused by his mother's exposure to Millstone's radiological and chemical effluents. (MPS-82-31)