Docket No. 50-346
License No. NPF-3
Serial No. 1457
Enclosure

APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NO. NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NO. 1

Attached are requested changes to the Davis-Besse Nuclear Power Station, Unit No. 1 Facility Operating License No. NPF-3. Also included are the Safety Evaluation and Significant Hazards Consideration.

The proposed changes (submitted under cover letter Serial No. 1457) concern:

Technical Specification 3/4.3.3.7, Chlorine Detection Systems; and Basis Section 3/4.3.3.7, Chlorine Detection Systems.

By: _____
D. C. Shelton, Vice President, Nuclear

Sworn and subscribed before me this 15th day of January, 1988.

_____
Notary Public, State of Ohio

My commission expires 5/15/91

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The following information is provided to support issuance of the requested changes to the Davis-Besse Nuclear Power Station, Unit No. 1 Operating License No. NPF-3, Appendix A, Technical Specifications.

A. Time Required to Implement: This change will be implemented immediately.

B. Reason for Change (DCR No. 87-0017): Delete Technical Specification and Basis Section 3/4.3.3.7, Chlorine Detection Systems, to reflect replacement of the gaseous chlorination system with a liquid sodium hypochlorite system.

C. Safety Evaluation: See attached Safety Evaluation (Attachment No. 1).

D. Significant Hazards Consideration: See attached Significant Hazards Consideration (Attachment No. 2).

SAFETY EVALUATION

DESCRIPTION

The purpose of this Safety Evaluation is to support a revision to the Davis-Besse Nuclear Power Station, Unit No. 1 Operating License, Appendix A, Technical Specifications. Specifically, this amendment proposes to delete, in its entirety, Technical Specification 3/4.3.3.7, including the Limiting Condition for Operation, Action Statement, and Surveillance Requirements and Bases Section 3/4.3.3.7, related to the Chlorine Detection Systems.

This request is being made due to the replacement of the gaseous chlorination system with a liquid sodium hypochlorite system. The gaseous chlorination system is being replaced because: 1) the existing system has been unreliable and has been a high maintenance item, and 2) the removal of chlorine from the site (railroad tank car and makeup water treatment system cylinders) will eliminate the hazards associated with chlorine release on site. The use of liquid sodium hypochlorite (NaOCl), a more benign substance than chlorine, achieves the same algae and slime control in water as does the application of gaseous chlorine.

The new NaOCl system will consist of two subsystems: 1) a subsystem for the circulating water pumps suction and the intake structure, and 2) a subsystem for the chlorine detention tanks in the makeup water treatment system. A 15 weight percent commercially supplied NaOCl solution will be utilized in the process.

The new system consists of two NaOCl storage tanks, piping, valves, and metering pumps. The storage tank for the circulating water subsystem will be located at the existing demineralized water storage tank location. The storage tank for the water treatment chlorination subsystem is located inside the chlorination building. Both tanks will be provided with dikes capable of containing 110% of tank capacity. The above ground piping will be covered with kickplates as necessary for personnel and equipment passage without damage to the piping. The piping is plastic-lined metal pipe.

A temporary NaOCl system, consisting of a NaOCl storage tank and skid mounted pumps, is presently being utilized until the new system can be implemented. The temporary storage tank is protected with a dike capable of containing 110% tank capacity. This temporary system if fully functional, and as such, the chlorine tank car has been removed from the site.

The NaOCL system does not pose a chlorine hazard to the control room operators. With no chlorine hazards present, the Chlorine Detection System should be deleted from the Technical Specifications. Deletion of this Technical Specification will provide for the elimination of plant personnel unnecessarily performing surveillance procedures with no reduction in the public health and safety.

SYSTEMS AND COMPONENTS AFFECTED

Control Room Ventilation System
Chlorine Detection System

SAFETY FUNCTIONS AFFECTED

The safety function of the Chlorine Detection System is to automatically initiate isolation of the control room Normal Ventilation System air intake dampers in the event of an accidental chlorine release. The control room Emergency Ventilation System is then started manually by the control room operators. The ability of control room operators to manually isolate the control room air intake dampers exists independently of the Chlorine Detection System.

EFFECTS ON SAFETY

Since the chlorine storage tank car and water treatment cylinders have been removed from site, the chlorine hazards analyzed under Updated Safety Analysis Report (USAR) Chapter 15 no longer exist.

By deleting the Chlorine Detection System Technical Specifications there will be no effect upon safety because an accidental chlorine release, that would require automatic isolation, will no longer exist. To illustrate this, the Bases for the Chlorine Detector Systems Technical Specification is presented below:

> 3/4.3.3.7 Chlorine Detection Systems - The OPERABILITY of the chlorine detection systems ensures that an accidental chlorine release will be detected promptly and the control room will be isolated automatically. The control room ventilation system will be started manually in the recirculation mode to provide the required protection. The chlorine detection systems required by this specification are consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operations Against an Accidental Chlorine Release," February, 1975.

Regulatory Guide 1.95 describes the specific design features and procedures that are acceptable to mitigate hazards to control room operators from an accidental chlorine release. These criteria are based on the limitation (provided in Regulatory Guide 1.78) that the chlorine concentration within the control room should not exceed 15 ppm by volume (45 mg/M^3) within two minutes after the operators are made aware of the presence of chlorine. Regulatory Guide 1.78 also states that chemicals

stored or situated at distances greater than five miles from the facility need not be considered because, if a release occurs at such a distance, atmospheric dispersion will dilute and disperse the incoming plume to such a degree that there would be sufficient time for the control room operators to take appropriate action.

Per actions required by NUREG-0737, Section III.D.3.4, Control Room Habitability Requirements, Davis-Besse performed a survey to determine the amount of hazardous material being transported, manufactured, or stored within five miles of the site and at greater distances if significant quantities existed. The survey also calculated the possible impact of any hazardous material upon control room habitability. The results of this survey were reported to the NRC (Serial No. 716) and accepted by the NRC (Log No. 1022).

Based on the survey there is no chlorine manufacturing facility close to Davis-Besse. The only chlorine sources, as identified in the survey, included transportation of chlorine tank cars to the station, and on-site and off-site storage as noted below:

Chemical	Quantity	Containers	Location
Chlorine	12	150 lb. cylinders	Water Treatment Building
	1	30 ton tank car	300 yd north of Turbine Building
	6	150 lb. cylinders	3 miles from site at Erie Industrial Park Water Treatment Facility
15 Weight Percent Hypochlorite Solution	12	13 gal. plastic Containers	Sewage and Water Treatment Building

EVALUATION OF ON-SITE CHLORINE SOURCES

The twelve 150 lb. cylinders and the 30 ton tank car have been removed from the site. The USAR Chapter 15, Section 15.4.8, accident analysis assumes a failure of either the 30 ton chlorine tank car or the supply piping from the tank. As this chlorine is no longer present the Chlorine Detection System is no longer necessary.

The hypochlorite solution in 13 gal. containers does not represent a threat to control room operators. This hypochlorite volume is insignificant.

The new NaOCl system contains approximately 7500 gals. of 15 weight percent hypochlorite solution. Light, heat, and metallic impurities in the hypochlorite solution can contribute to the slow release of chlorine gas from NaOCl (normally less than 0.001 lb. per second). This release rate is low enough that this quantity will disperse even under the most conservative atmospheric conditions based on the closest distance to the control room (approximately 380 feet) and therefore will not pose a hazard to the control room operators.

Contact with acid, ammonia, detergents, or low pH substances could be expected to release chlorine gas from NaOCl at a somewhat faster rate than the normal slow decay. As discussed below, these situations should not occur at the Davis-Besse site.

The permanent NaOCl system is designed to minimize the potential for the release of any NaOCl beyond the system boundaries. The storage tanks will have dikes installed around them to contain 110% of the tank volumes. The outside storage tank is flanked by the water treatment building to the south, the neutralizing tank to the east, the gate house and new demineralized water storage tank to the north, and the main power block buildings to the southwest, all of which afford the tank some physical protection. The outside piping is metal (plastic-lined) and either covered by kick plates (located at places of personnel and/or equipment passage) or run in a trench to protect against the possibility of rupture from physical contact. The temporary NaOCl system is also designed to minimize the potential for the release of any NaOCl beyond the system boundaries. The temporary storage tank has a dike installed around it to contain 110% of the tank volume. The hoses are routed inside PVC pipe (located at places of personnel and/or equipment passage) or roped off to protect against the possibility of rupture from physical contact. The chlorination room is designed such that any floor drains will be directed to either the water treatment building sump or the water treatment backwash sump. The water treatment building sump currently discharges to the water treatment backwash sump, which is subjected to large volumes of water.

Ammonia is stored on site in the ammonia feed tank in the turbine building. Detergent on site is used for laundry and decontamination and collected in the detergent waste drain tank or the detergent waste drain holdup tank in the auxiliary building. The location of these tanks would discount the possibility of NaOCl coming in contact with ammonia or detergent.

Acid is stored on site in the Boric Acid Addition Tanks in the auxiliary building, the Borated Water Storage Tank (BWST) near the auxiliary building, the cooling tower acid storage tanks near the cooling towers, and the pH control acid feed tank and the acid storage tank in the water treatment building area. Acid contact with NaOCl from the Boric Acid Addition Tanks, BWST, and cooling tower tanks would not be possible due to physical separation of these sources. Acid contact with NaOCl from

the pH control acid feed tank or the acid storage tank would require rupture of at least one of the acid system tanks combined with the rupture of NaOCl system tank. Even if this were to occur, physical separation and layout provide tortuous drainage paths between the systems and would prevent significant contact of acid and NaOCl.

Administrative controls have been put into effect to ensure chemical tank trucks are escorted on site and are sampled immediately prior to filling a tank to ensure the correct chemical is being put into the tank. These administrative controls will preclude the possibility of the chemical supplier erroneously filling the NaOCl tank with acid or filling an acid tank with NaOCl.

EVALUATION OF OFF-SITE CHLORINE SOURCES

Based on the survey it is concluded that chlorine is not shipped routinely near Davis-Besse. The only source of chlorine is located at Erie Industrial Park which is approximately three miles from the plant. The chlorine is stored in 150 lb. cylinders. An analysis of the maximum chlorine gas concentration at the control room air intake as a result of the release of Erie Industrial Park gas was done as a part of the survey (Toledo Edison letter, Serial No. 716). This analysis calculated a maximum chlorine concentration of 17.91 mg/M^3 (approximately 6 ppm) at the air intake. This is below the Regulatory Guide 1.78 limit of 45 mg/M^3 (15 ppm) within the control room. Further, the concentration of chlorine in the control room will be much less than the maximum concentration calculated at the control room air intake even if the control room is not isolated. This is mainly due to the fact that the average concentration in the plume is much lower than the maximum concentration. Moreover, the maximum concentration exists at the intake only for a short duration during the plume transit.

Regulatory Guide 1.95 does not require automatic control room isolation for chlorine containers having an inventory of 150 lbs. or less that are situated greater than 100 meters from the control room. In this case, manual isolation of the control room should be provided. The ability to manually isolate the Davis-Besse control room exists independent of the Chlorine Detecting System. Humans can normally smell chlorine at relatively low concentrations (1 to 3 ppm). Operators could then take actions as necessary. Because the conservatively calculated maximum concentration at the intake is well below the toxicity limit given in Regulatory Guide 1.95, chlorine detectors are no longer required to alert operators during a chlorine release accident at Erie Industrial Park. Further, it is noted that in the analysis presented in Toledo Edison letter, Serial No. 716, wind is assumed to blow directly towards the air intake during a chlorine release. In reality because the wind blows in this direction only for a limited duration during the course of a year, the probability of a chlorine release at Erie Industrial Park resulting in chlorine concentrations, at the Davis-Besse site, of the magnitude given in the analysis, is extremely small.

In summary, there are no sources of chlorine near Davis-Besse that would pose a threat to control room habitability requiring automatic isolation of the control room ventilation system by the Chlorine Detection System.

UNREVIEWED SAFETY QUESTION CONCLUSIONS

Per 10 CFR 50.59, the following considerations are addressed to determine whether an unreviewed safety question exists as a result of this action.

The proposed action would not increase the probability of occurrence of an accident previously evaluated in the USAR because the components postulated to fail for the chlorine release accident and the source of chlorine gas have been removed from the site (chlorine railroad tank car and associated piping) (10CFR50.59(a)(2)(i)).

The proposed action would not increase the consequences of an accident previously evaluated in the USAR because it is no longer possible to release the quantity of chlorine gas postulated in the USAR analysis. Further, it will not be possible to release a large enough quantity of chlorine gas with the NaOCl system that would be deemed harmful to the control room operators. Therefore, the automatic Chlorine Detection System will not be necessary to protect control room operators. The automatic isolation of control room is not required for a chlorine release at Erie Industrial Park. The maximum concentration outside the control room is well below the values specified in Regulatory Guides 1.78 and 1.95 for concentrations inside the control room. Regulatory Guide 1.95 allows manual isolation of the control room if the chlorine is stored more than 100 meters from the control room, and the container does not contain more than 150 lbs. As noted above, this is acceptable from a control room habitability standpoint (10CFR50.59(a)(2)(i)).

The proposed action will not increase the probability of a malfunction of equipment important to safety previously evaluated in the USAR, because the chlorine detectors are no longer needed for control room habitability due to the removal of chlorine hazards from the site and deleting the Chlorine Detection System does not directly affect any other equipment (10CFR50.59(a)(2)(i)).

The proposed action would not increase the consequences of a malfunction of equipment important to safety previously evaluated in the USAR, because the hazards for which the Chlorine Detection System was needed to protect against no longer exist (10CFR50.59(a)(2)(i)).

The proposed action would not create the possibility for an accident of a different type than any evaluated previously in the USAR, because there is no source of chlorine that would require automatic isolation of the control room. Further, it will not be possible to

release a large enough quantity of chlorine gas with the NaOCl system that would be deemed harmful to the control room operators. Therefore, the automatic Chlorine Detection System will not be necessary to protect control room operators. The automatic isolation of control room is not required for a chlorine release at Erie Industrial Park. The maximum concentration outside the control room is well below the values specified in Regulatory Guides 1.78 and 1.95 for concentrations inside the control room. Regulatory Guide 1.95 allows manual isolation of the control room if the chlorine is stored more than 100 meters from the control room, and the container does not contain more than 150 lbs. As noted, above, this is acceptable from a control room habitability standpoint (10CFR50.59(a)(2)(ii)).

The proposed action would not create the possibility for a malfunction of a different type than any evaluated previously in the USAR because this change will not introduce any event not bounded by the USAR analysis (10CFR50.59(a)(2)(ii)).

The proposed action would not reduce the margin of safety as defined in the Bases for any Technical Specification because the chlorine detectors are no longer needed for control room habitability due to the removal of chlorine hazards from the site and deleting the Chlorine Detection System does not directly affect any equipment. No other sources of chlorine exist that would require automatic isolation of the control room (10CFR50.59(a)(2)(iii)).

Based upon the preceding considerations, it is concluded that the deletion of Technical Specification 3/4.3.3.7 and the associated Bases Section 3/4.3.3.7 does not constitute an unreviewed safety question.

SIGNIFICANT HAZARDS CONSIDERATION

DESCRIPTION

The purpose of this License Amendment Request is to support a revision to the Davis-Besse Nuclear Power Station, Unit No. 1 Operating License, Appendix A, Technical Specifications. Specifically, this amendment proposes to delete, in its entirety, Technical Specification 3/4.3.3.7, including the Limiting Condition for Operation, Action Statement, and Surveillance Requirements and Bases Section 3/4.3.3.7, related to the Chlorine Detection Systems.

This request is being made due to the replacement of the gaseous chlorination system with a liquid sodium hypochlorite system. The gaseous chlorination system is being replaced because: 1) the existing system has been unreliable and has been a high maintenance item, and 2) the removal of chlorine from the site (railroad tank car and makeup water treatment system cylinders) will eliminate the hazards associated with chlorine release on site. The use of liquid sodium hypochlorite (NaOCl), a more benign substance than chlorine, achieves the same algae and slime control in water as does the application of gaseous chlorine.

The new NaOCl system will consist of two subsystems: 1) a subsystem for the circulating water pumps suction and the intake structure, and 2) a subsystem for the chlorine detention tanks in the makeup water treatment system. A 15 weight percent commercially supplied NaOCl solution will be utilized in the process.

The new system consists of two NaOCl storage tanks, piping, valves, and metering pumps. The storage tank for the circulating water subsystem will be located at the existing demineralized water storage tank location. The storage tank for the water treatment chlorination subsystem is located inside the chlorination building. Both tanks will be provided with dikes capable of containing 110% of tank capacity. The above ground piping will be covered with kickplates as necessary for personnel and equipment passage without damage to the piping. The piping is plastic-lined metal pipe.

A temporary NaOCl system, consisting of a NaOCl storage tank and skid mounted pumps, is presently being utilized until the new system can be implemented. The temporary storage tank is protected with a dike capable of containing 110% tank capacity. This temporary system if fully functional, and as such, the chlorine tank car has been removed from the site.

The NaOCL system does not pose a chlorine hazard to the control room operators. With no chlorine hazards present, the Chlorine Detection System should be deleted from the Technical Specifications. Deletion of this Technical Specification will provide for elimination of the unnecessary performance of surveillance procedures with no reduction in protection to the public health and safety.

SYSTEMS AND COMPONENTS AFFECTED

Control Room Ventilation System
Chlorine Detection System

SAFETY FUNCTIONS AFFECTED

The safety function of the Chlorine Detection System is to automatically initiate isolation of the control room normal ventilation system air intake dampers in the event of an accidental chlorine release. The control room Emergency Ventilation System is then started manually by the control room operators. The ability of control room operators to manually isolate the control room air intake dampers exists independently of the Chlorine Detection System.

EFFECTS ON SAFETY

Since the chlorine storage tank car and water treatment cylinders have been removed from site, the chlorine hazards analyzed under Updated Safety Analysis Report (USAR) Chapter 15 no longer exist.

By deleting the Chlorine Detection System Technical Specification there will be no effect upon safety because an accidental chlorine release, that would require automatic isolation, will no longer exist. To illustrate this, the Bases for the Chlorine Detector Systems Technical Specification is presented below:

> 3/4.3.3.7 Chlorine Detection Systems - The OPERABILITY of the chlorine detection systems ensures that an accidental chlorine release will be detected promptly and the control room will be isolated automatically. The control room ventilation system will be started manually in the recirculation mode to provide the required protection. The chlorine detection systems required by this specification are consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operations Against an Accidental Chlorine Release," February, 1975.

Regulatory Guide 1.95 describes the specific design features and procedures that are acceptable to mitigate hazards to control room operators from an accidental chlorine release. These criteria are based on the limitation (provided in Regulatory Guide 1.78,"Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Chemical Release," June 1974) that the chlorine concentration within the control room should not exceed 15 ppm by volume (45 mg/M^3) within two minutes after the operators are made aware of the presence of chlorine. Regulatory Guide 1.78 also states that chemicals stored or situated at

distances greater than five miles from the facility need not be considered because, if a release occurs at such a distance, atmospheric dispersion will dilute and disperse the incoming plume to such a degree that there would be sufficient time for the control room operators to take appropriate action.

Per actions required by NUREG-0737, Section III.D.3.4, Control Room Habitability Requirements, Davis-Besse performed a survey (as reported to NRC in Serial No. 716, dated May 28, 1981) to determine the amount of hazardous material being transported, manufactured, or stored within five miles of the site and at greater distances if significant quantities existed. The survey also calculated the possible impact of any hazardous material upon control room habitability. The results of this survey were accepted by the NRC (Log No. 1022, dated June 30, 1982).

Based on the survey there is no chlorine manufacturing facility close to Davis-Besse. The only chlorine sources, as identified in the survey, included transportation of chlorine tank cars to the station, and on-site and off-site storage as noted below:

Chemical	Quantity	Containers	Location
Chlorine	12	150 lb. cylinders	Water Treatment Building
	1	30 ton tank car	300 yd north of Turbine Building
	6	150 lb. cylinders	3 miles from site at Erie Industrial Park Water Treatment Facility
15 Weight Percent Hypochlorite Solution	12	13 gal. plastic Containers	Sewage and Water Treatment Building

EVALUATION OF ON-SITE CHLORINE SOURCES

The twelve 150 lb. cylinders and the 30 ton tank car have been removed from the site. The USAR Chapter 15, Section 15.4.8, accident analysis assumes a failure of either the 30 ton chlorine tank car or the supply piping from the tank. As this chlorine is no longer present the Chlorine Detection System is no longer necessary.

The hypochlorite solution in 13 gallon containers does not represent a threat to control room operators. This hypochlorite volume is insignificant.

The new NaOCl system contains approximately 7500 gals. of 15 weight percent hypochlorite solution. Light, heat, and metallic impurities in the hypochlorite solution can contribute to the slow release of chlorine gas from NaOCl (normally less than 0.001 lb. per second). This release rate is low enough that this quantity will disperse even under the most conservative atmospheric conditions based on the closest distance to the control room (approximately 380 feet) and therefore will not pose a hazard to the control room operators.

Contact with acid, ammonia, detergents, or low pH substances could be expected to release chlorine gas from NaOCl at a somewhat faster rate than the normal slow decay. As discussed below, these situations should not occur at the Davis-Besse site.

The permanent NaOCl system is designed to minimize the potential for the release of any NaOCl beyond the system boundaries. The storage tanks will have dikes installed around them to contain 110% of the tank volumes. The outside storage tank is flanked by the water treatment building to the south, the neutralizing tank to the east, the gate house and new demineralized water storage tank to the north, and the main power block buildings to the southwest, all of which afford the tank some physical protection. The outside piping is metal (plastic-lined) and either covered by kick plates (located at places of personnel and/or equipment passage) or run in a trench to protect against the possibility of rupture from physical contact. The temporary NaOCl system is also designed to minimize the potential for the release of any NaOCl beyond the system boundaries. The temporary storage tank has a dike installed around it to contain 110% of the tank volume. The hoses are routed inside PVC pipe (located at places of personnel and/or equipment passage) or roped off to protect against the possibility of rupture from physical contact. The chlorination room is designed such that any floor drains will be directed to either the water treatment building sump or the water treatment backwash sump. The water treatment building sump currently discharges to the water treatment backwash sump, which is subjected to large volumes of water.

Ammonia is stored on site in the ammonia feed tank in the turbine building. Detergent on site is used for laundry and decontamination and collected in the detergent waste drain tank or the detergent waste drain holdup tank in the auxiliary building. The location of these tanks would discount the possibility of NaOCl coming in contact with ammonia or detergent.

Acid is stored on site in the Boric Acid Addition Tanks in the auxiliary building, the Borated Water Storage Tank (BWST) near the auxiliary building, the cooling tower acid storage tanks near the cooling towers, and the pH control acid feed tank and the acid storage tank in the water treatment building area. Acid contact with NaOCl from the Boric Acid Addition Tanks, BWST, and cooling tower tanks would not be possible due to physical separation of these sources. Acid contact with NaOCl from

the pH control acid feed tank or the acid storage tank would require rupture of at least one of the acid system tanks combined with the rupture of NaOCl system tank. Even if this were to occur, physical separation and layout provide tortuous drainage paths between the systems and would prevent significant contact of acid and NaOCl.

Administrative controls have been put into effect to ensure chemical tank trucks are escorted on site and are sampled immediately prior to filling a tank to ensure the correct chemical is being put into the tank. These administrative controls will preclude the possibility of the chemical supplier erroneously filling the NaOCl tank with acid or filling an acid tank with NaOCl.

EVALUATION OF OFF-SITE CHLORINE SOURCES

Based on the survey it is concluded that chlorine is not shipped routinely near Davis-Besse. The only source of chlorine is located at Erie Industrial Park which is approximately three miles from the plant. The chlorine is stored in 150 lb. cylinders. An analysis of the maximum chlorine gas concentration at the control room air intake as a result of the release of Erie Industrial Park gas was done as a part of the survey (Toledo Edison letter, Serial No. 716). This analysis calculated a maximum chlorine concentration of 17.91 mg/M^3 (approximately 6 ppm) at the air intake. This is below the Regulatory Guide 1.78 limit of 45 mg/M^3 (15 ppm) within the control room. Further, the concentration of chlorine in the control room will be much less than the maximum concentration calculated at the control room air intake even if the control room is not isolated. This is mainly due to the fact tha the average concentration in the plume is much lower than the maximum concentration. Moreover, the maximum concentration exists at the intake only for a short duration during the plume transit.

Regulatory Guide 1.95 does not require automatic control room isolation for chlorine containers having an inventory of 150 lbs. or less that are situated greater than 100 meters from the control room. In this case, manual isolation of the control room should be provided. The ability to manually isolate the Davis-Besse control room exists independent of the Chlorine Detecting System. Humans can normally smell chlorine at relatively low concentrations (1 to 3 ppm). Operators could then take actions as necessary. Because the conservatively calculated maximum concentration at the intake is well below the toxicity limit given in Regulatory Guide 1.95, chlorine detectors are no longer required to alert operators during a chlorine release accident at Erie Industrial Park. Further, it is noted that in the analysis presented in Toledo Edison letter, Serial No. 716, wind is assumed to blow directly towards the air intake during a chlorine release. In reality because the wind blows in this direction only for a limited duration during the course of a year, the probability of a chlorine release at Erie Industrial Park resulting in chlorine concentrations, at the Davis-Besse site, of the magnitude given in the analysis, is extremely small.

In summary, there are no sources of chlorine near Davis-Besse that would pose a threat to control room habitability requiring automatic isolation of the control room ventilation system by the chlorine detection system.

SIGNIFICANT HAZARDS CONSIDERATION

The proposed changes do not involve a significant hazards consideration because the operation of the Davis-Besse Nuclear Power Station, Unit No. 1, in accordance with these changes would:

Not involve a significant increase in the probability or consequences of an accident previously evaluated because there are no longer any sources of chlorine near Davis-Besse that would pose a threat to control room habitability thus requiring automatic isolation of the control room ventilation system via the Chlorine Detection System. In addition, with the new NaOCl system, it is not possible to release the quantity of chlorine gas that would be deemed harmful to the control room operators. Therefore, the automatic Chlorine Detection System is not necessary to protect the control room operators (10CFR50.92(c)(1)).

Not create the possibility of a new or different kind of accident from any accident previously evaluated because with the new NaOCL system, it is not possible to release the quantity of chlorine gas that would be deemed harmful to the control room operators. Also, there are no longer any sources of chlorine near Davis-Besse that would pose a threat to control room habitability thus requiring automatic isolation of the control room ventilation system via the Chlorine Detection System (10CFR50.92(c)(2)).

Not involve a significant reduction in a margin of safety because the Chlorine Detection System, and the Chlorine Detection Systems Technical Specifications, are no longer needed because there are no longer any sources of chlorine near Davis-Besse that would pose a threat to control room habitability thus requiring automatic isolation of the control room ventilation system via the Chlorine Detection System (10CFR50.92(c)(3)).

CONCLUSION

On the basis of the above, Toledo Edison has determined that the amendment request does not involve a significant hazards consideration.