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No. : QA 08-253
To : U.S. Nuclear Regulatory Commission
Reference : Document Control Desk
Washington, DC 20555-0001
Subject : Response to US NRC Inspection Report

Reference : US NRC Letter dated July 18, 2008 and emailed July 21, 2008, US NRC
Inspection Report No. 99901373/2008-201

Dear Sir/Madam ;

In response to US NRC letter dated July 18, 2008 (Reference 1), we submit corrective
action status with specific action taken and plan for each Violation and Nonconformance as
follows :

A. Reply to Notice of Violation

Identification No.	Doosan CAR No.	Schedule for Completion
Violation# 99901373/2008-201-01	CAR_080092	Completed

- (1) Doosan had issued Corrective Action Report to analyze root cause as required by QA Program and US NRC Inspection Report. The Violation had been occurred due to the lack of understanding the latest requirements of 10 CFR Part 21.
- (2) The procedure managing Defects and Failure to Comply of 10 CFR Part 21 had been revised to incorporate the Notice of Violation. The requirement of 'Evaluating deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards within 60 days of discovery' was added on paragraph 7.2 of the 10 CFR Part 21 implementing procedure PQAP-1602. The requirement of 'notifying the responsible officer within 5 days when it is determined that a defect that could cause a substantial safety hazard exists' was added on paragraph 7.6.2 of the 10 CFR Part 21 implementing procedure PQAP-1602. And the requirement of 'providing written notification to the Commission within 30 days of the initial notification' was added on paragraph 7.6.2.3 of the 10 CFR Part 21 implementing procedure PQAP-1602.
- (3) In order to prevent recurrence, all related personnel with regard to this matter had been trained to understand the revision contents. During US NRC Inspection, the intensive discussion to resolve issues was made with the NRC Inspectors how to incorporate the regulatory position into the procedure. The US NRC Inspection Team Leader satisfied with the revised procedure, revision 5, May 29, 2008 without further comments.

B. Reply to Notice of Nonconformance

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-01 (CGI Survey)	CAR-080094	October 30, 2008

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the requirements of US NRC's Position specified in NRC Inspection Report. Up to US NRC Inspection, Doosan Quality Procedures for Dedication of CGI had been established in accordance with 10 CFR 21 as well as EPRI Guide NP-5652 so that the dedication is assured by identifying the critical characteristics of the item and verifying their acceptability by inspections and tests after delivery, supplemented as necessary by one or more of 1) commercial grade surveys, 2) product witness at the manufacturer's facility and 3) analysis of historical records for acceptable performance. However, Doosan was not aware of that CGI Survey be performed for verifying identification and traceability of the heat and lot of the products when sampling inspection and test are employed. In addition to Doosan procedures, Doosan will perform CGI Survey for the vendors who supply commercial grade items when the Inspections and Tests are based on sampling method.
- (2) In order to prevent recurrence, the vendor evaluation procedure will be revised to reflect the Doosan Quality Level 'CGI' to take place the CGI vendor on the Approved Vendor's List. All related personnel with regard to this matter will be trained to understand the revision contents.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-01 (CGI Dedication Procedure)	CAR-080098	October 30, 2008

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the definition specified in the latest 10 CFR Part 21.
- (2) In order to prevent recurrence, the procedure will be revised to incorporate the latest definitions of 10 CFR 21 as required by NRC Inspection Report. All related personnel with regard to this matter will be trained to understand the revision contents.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-02	CAR-080096	October 30, 2008

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the requirements of US NRC's Position specified in NRC Inspection Report. Up to US NRC Inspection, Doosan QA Programs has been established in accordance with ASME Section III as required by the contract for United States project. According to ASME Section III NCA-3561, the Certificate Holders whose scope includes supply or manufacture of materials, need not be surveyed nor audited for work or material covered by the scope of their certificate. For that very reason, Doosan was not aware of that one or more of 1) review of the performance history, 2) review of the quality assurance record and 3) quality audit and survey be performed prior to award of contract, regardless of holding ASME Certificates. In this point of view, all ASME Certificate Holders will be facing with same situation so that Doosan suggest US NRC must make clear what exact requirements be applied for them. In other word, the Certificate Holder always shall apply NQA-1-1994 via

ASME III NCA-4000 and they shall not directly go into NQA-1-1994 requirements so that ASME III NCA-3561 always override the vendor evaluation requirements specified in 3.1, 7S-1, NQA-1-1994. Nevertheless, Doosan will perform the evaluation of the vendor who holds ASME Certificates prior to award of contract.

- (2) In order to prevent recurrence, the Doosan vendor evaluation procedure will be revised to reflect the evaluation methods such as review of the performance history, review of the quality assurance record and quality audit and survey which are specified in ASME NQA-1-1994, 7S-1, 3.1. All related personnel with regard to this matter will be trained to understand the revision contents.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-03	CAR-080095	October 30, 2008

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the requirements of Regulatory Guide 1.28. Up to US NRC Inspection, Doosan QA Programs has been established in accordance with ASME Section III as required by the contract for United States project. In addition to ASME III, Doosan also have to apply Regulatory Guide 1.28 which requires annual evaluation of the vendor. Doosan will also perform annual evaluation of the vendors who hold ASME Certificates except when no order awarded during evaluation period and order for simple and standard items such as tubular products, bars, bolts, nozzles, fittings which will be defined in the vendor evaluation procedure.
- (2) In order to prevent recurrence, the Doosan vendor evaluation procedure will be revised to reflect the annual evaluation for the vendors who hold ASME Certificates. The evaluation shall be documented and shall take into account, where applicable, 1) review of supplier furnished documents and records such as certificates of conformance, nonconformances, and corrective actions, 2) results of previous source verifications, audits, and receiving inspections and 3) results of audit from other sources such as customer, ASME, NRC audits. All related personnel with regard to this matter will be trained to understand the revision contents.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-04	CAR-080097	October 30, 2008

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of sufficient procedural requirements. Up to US NRC Inspection, there were errors in the approved vendor information such as evaluation date, expiration date etc. But, as it was reviewed and explained to the NRC inspectors during the inspection, Doosan reviewed all the information of the vendors and corrected all the errors, and there was no vendor that the errors could affect to their approval status.
- (2) In order to prevent recurrence, Doosan vendor evaluation procedure will be revised to reflect the definition of 1) approval date, 2) annual evaluation date, and 3) expiration date. The approval date defines the date printed by authorized personnel shown on the vendor evaluation report and/or vendor audit report, annual evaluation date defines the date printed by authorized personnel shown on the annual evaluation report, and expiration date defines 3 years after the approval date. All the related personnel with regard to this matter will be trained to understand the revised requirements.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-05	CAR-080052	Completed

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the requirements of the procedure managing Defects and Failure to Comply of 10 CFR Part 21 so that four(4) NCRs were not evaluated the applicability of 10 CFR 21. These NCRs were related with welding defect and dispositioned by welding engineers. The personnel did not well understand the requirements of the procedure. As per CAR-080052, 10 CFR 21 applicability had been evaluated for four(4) NCRs and the result had been recorded on the original hard copy of each NCR.
- (2) In order to prevent recurrence, the Doosan nonconformance control procedure had been revised to add 10 CFR 21 applicability determination blank on nonconformance disposition form. And all related personnel with regard to this matter had been trained to understand the revision contents.

Identification No.	Doosan CAR No.	Schedule for Completion
Nonconformance#99901373/2008-201-06	CAR-080053	Completed

- (1) Doosan had issued Corrective Action Report to analyze root cause, corrective action to prevent recurrence as required by QA Program and US NRC Inspection Report. The Nonconformance had been occurred due to the lack of understanding the requirements of the procedure managing Defects and Failure to Comply of 10 CFR Part 21 so that ten(10) CARs were not evaluated the applicability of 10 CFR 21. Doosan was not aware that CAR also be determined 10 CFR 21 applicability however, the generic impact relative to other products, services, procedures, process or systems was evaluated for each CAR during the root cause analysis and corrective action. As per CAR-080053, 10 CFR 21 applicability had been evaluated for ten(10) CARs and the result had been recorded on the original hard copy of each NCR.
- (2) In order to prevent recurrence, the Doosan corrective action control procedure had been established to meet the requirements of 10 CFR 21. All related personnel with regard to this matter had been trained to understand the new procedure.

Very Truly Yours,



 S. K. Kim
 QA General Manager
 Doosan Heavy Industries &
 Construction Co., Ltd.

CC : The Chief, Quality and Vendor Branch 1, U.S. Nuclear Regulatory Commission