

July 17, 2006

Mr. Gary Van Middlesworth
Vice-President
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER NOTIFICATION OF AN NRC TRIENNIAL
FIRE PROTECTION BASELINE INSPECTION 05000331/2006014(DRS)

Dear Mr. Van Middlesworth:

On September 11, 2006, the U.S. Nuclear Regulatory Commission (NRC) will begin a triennial fire protection baseline inspection at the Duane Arnold Energy Center. This inspection will be performed in accordance with the NRC baseline Inspection Procedure 71111.05TTP.

The schedule for the inspection is as follows:

- Information gathering visit - August 23 - 25, 2006
- On-site inspection activity - September 11 - 15, 2006, and September 25 - 29, 2006

The purpose of the information gathering visit is: (1) to obtain information and documentation needed to support the inspection; (2) to become familiar with the Duane Arnold Energy Center fire protection program, fire protection features, post-fire safe shutdown capabilities and plant layout; and (3) to arrange administrative details such as office space, availability of knowledgeable office personnel and to ensure unescorted site access privileges.

Experience has shown that the baseline fire protection inspections are extremely resource intensive both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both organizations, we have enclosed a request for documents needed for the inspection. These documents have been divided into four groups. The first group lists information necessary to aid the inspection team in choosing specific focus areas for the inspection. It is requested that this information be provided to Mr. Dariusz Szwarc via mail or electronically, (dxs4@nrc.gov) no later than August 14, 2006. The second group lists information necessary to ensure that the inspection team is adequately prepared for the inspection. This information should be available on-site no later than August 23, 2006. The third group of requested documents are those items that the inspection team will review, or need access to, during the inspection. Please have this information available by the first day of the on-site portion of the inspection (September 11, 2006). The fourth group lists information necessary to aid the inspection team in tracking issues identified as a result of the inspection.

It is requested that this information be provided to the lead inspector as the information is generated during the inspection. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the on-site portions of the inspection.

The lead inspector for this inspection is Mr. Ronald A. Langstaff. We understand that our regulatory contact for this inspection is Ms. Laura Swenzinski of your organization, and that our technical contact is Mr. Gary Ellis, also of your organization. If there are any questions about the inspection or the material requested, please contact the lead inspector at (630) 829-9747 or via e-mail at ral4@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA by R.A. Langstaff Acting For/

Julio F. Lara, Chief
Engineering Branch 3
Division of Reactor Safety

Docket No. 50-331
License No. DPR-49

Enclosure: Fire Protection Inspection Document Request

cc w/encl: J. Stall, Senior Vice President, Nuclear and Chief
Nuclear Officer
R. Helfrich, Senior Attorney
M. Ross, Managing Attorney
W. Webster, Vice President, Nuclear Operations
M. Warner, Vice President, Nuclear Operations Support
R. Kundalkar, Vice President, Nuclear Engineering
J. Bjorseth, Site Director
D. Curtland, Plant Manager
S. Catron, Manager, Regulatory Affairs
Chairman, Linn County Board of Supervisors
D. McGhee, State Liaison Officer

It is requested that this information be provided to the lead inspector as the information is generated during the inspection. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the on-site portions of the inspection.

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Julio F. Lara, Chief
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Division of Reactor Safety

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**FIRE PROTECTION INSPECTION DOCUMENT REQUEST
INITIAL REQUEST**

Inspection Report: 05000331/2006014(DRS)

Inspection Dates: August 23 - 25, 2006, *Information Gathering Visit*
September 11 - 15, 2006, *On-site Inspection Activity*
September 25 - 29, 2006, *On-site Inspection Activity*

Inspection Procedures: IP 71111.05TTP, "Fire Protection-NFPA 805 Transition Period"
IP 71152, "Identification and Resolution of Problems"

Inspectors:

Ronald A. Langstaff, Lead Inspector
630-829-9747
ral4@nrc.gov

Carl R. Moore,
630-829-9732
crm4@nrc.gov

Darrell L. Schrum,
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Dariusz Szwarc,
630-829-9515
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A. *Information Requested Prior to the Information Gathering Visit*

The following information is requested by August 14, 2006. If you have any questions regarding this information, please call the lead inspector as soon as possible. All information may be sent electronically (to Mr. Dariusz Szwarc, e-mail address dxs4@nrc.gov) or provided on compact disc (the preferred method). If compact discs are provided, four sets (one for each inspector) are requested.

- (1) The reactor plant's Individual Plant Examination for External Events (IPEEE) for fire, results of any post-IPEEE reviews for fire, and listings of actions taken and/or plant modifications conducted in response to IPEEE information for fire. Alternatively, probabilistic risk analyses for fire and associated information, if it exists and is more recent than the IPEEE.
- (2) A list of fire areas requiring alternative shutdown capability, i.e., those areas for which 10 CFR Part 50, Appendix R, Section III.G requirements are satisfied under Section III.G.3, or where both safe shutdown trains can be affected.

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**B. Information Requested During the Information Gathering Visit
(August 23 - 25, 2006)**

This information is requested to be available in one set of hard-copy documents (where possible) on-site during the information gathering visit. In addition, if the requested information is available electronically, it is requested that the information be provided on three sets of compact discs (searchable, if possible).

(1) Licensing Information

- (a) The facility license, including the fire protection license condition;
- (b) All Nuclear Regulatory Commission (NRC) Safety Evaluation Reports (SERs) applicable to fire protection (specifically including those SERs referenced by the plant fire protection license condition) and all other associated licensing correspondence applicable to fire protection;
- (c) The fire protection program and applicable portions of the Updated Safety Analysis Report, as referenced by the fire protection license condition;
- (d) Exemptions from 10 CFR 50.48 and 10 CFR Part 50, Appendix R, and associated licensing correspondence;
- (e) For pre-1979 plants (i.e., "Appendix R" plants), a listing all 10 CFR Part 50, Appendix R, sections and paragraphs that are applicable to the facility under 10 CFR 50.48(b)(1);
- (f) For pre-1979 plants, all licensing correspondence associated with those sections of CFR Part 50, Appendix R, which are not applicable to the plant under 10 CFR 50.48(b)(1). Specifically, the licensing correspondence associated with those fire protection features proposed or implemented by the licensee that have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCS-9.5-1 reflected in NRC fire protection safety evaluation reports issued before February 19, 1981 (10 CFR 50.48(b)(1)(i)); or those fire protection features which were accepted by the NRC staff in comprehensive fire protection safety evaluation reports issued before Appendix A to BTP APCS 9.5-1 was published in August 1976, (10 CFR 50.48(b)(1)(ii));
- (g) For post-1979 plants, all licensing correspondence associated with the comparison to Standard Review Plan (NUREG-0800), Section 9.5.1 or equivalent for licensing purposes; and
- (h) For those plants intending to transition to NFPA 805, all correspondence to and responses from the NRC relating to the planned transition.

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(2) Fire Protection Program

- (a) If not already provided under request II(1)(c) above, fire protection program documents including fire hazards analyses and post-fire safe shutdown analyses;
- (b) A listing of changes made to the fire protection program (including associated adverse to safe shutdown analyses);
- (c) For pre-1979 plants, a listing of the protection methodologies identified under 10 CFR Part 50, Appendix R, Section III.G used to achieve compliance for selected fire zones/areas (to be determined during information gathering visit). That is, please specify whether 3-hour rated fire barriers (Section III.G.2.a), 20-foot separation along with detection and suppression (Section III.G.2.b), 1-hour rated fire barriers with detection and suppression (Section III.G.2.c), or alternative shutdown capability (Section III.G.3) is used for each selected fire zone/area;
- (d) A list of Generic Letter 86-10 evaluations (i.e., a list of adverse to safe shutdown evaluations);
- (e) A list of applicable codes and standards related to the design of plant fire protection features. The list should include National Fire Protection Association (NFPA) code versions committed to (i.e., the NFPA codes of record);
- (f) A list of plant deviations from code commitments and associated evaluations; and
- (g) Facility layout drawings which identify plant fire area delineation, areas protected by automatic fire suppression and detection, and the locations of fire protection equipment.

(3) Facility Information

- (a) Piping and instrumentation (flow) diagrams showing the components used to achieve and maintain hot standby and cold shutdown for fires outside the control room and those components used for those areas requiring alternative shutdown capability;
- (b) Facility layout and equipment drawings which identify the physical facility locations of hot standby and cold shutdown equipment for selected fire zones/areas (to be determined during information gathering visit);
- (c) One-line schematic drawings of the electrical distribution system for 4160 Volts - alternating current (Vac) down to 480 Vac;

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- (d) One-line schematic drawings of the electrical distribution system for 250 Volts - direct current (Vdc) and 125 Vdc systems as applicable; and
 - (e) Safe shutdown cable routing database (requested electronically such as on compact disc), if available.
- (4) Operations Response for Fire Protection
- (a) Pre-fire plans for selected fire zones/areas (to be determined during information gathering visit); and
 - (b) Plant operating procedures which would be used and describe shutdown for a postulated fire in selected fire zones/areas (to be determined during information gathering visit).
- (5) Corrective Actions
- (a) Listing of open and closed fire protection condition reports (i.e., problem identification forms and their resolution reports) since the date of the last triennial fire protection inspection; and
 - (b) Listing of fire impairments since the date of the last triennial fire protection inspection.
- (6) General Information
- (a) A listing of abbreviations and/or designators for plant systems;
 - (b) Organization charts of site personnel down to the level of fire protection staff personnel; and
 - (c) A phone list for on-site licensee personnel.
- (7) On-Site Discussions

In addition, during the information gathering visit, it is requested that licensee staff be available for the following:

- (a) Informal discussion on plant procedures operators would use in the event of fire and under what conditions would the plant be shutdown using alternative shutdown methodology;
- (b) Informal discussion on the plant's safe shutdown cable routing database and the plant-wide cable routing database, as applicable; and
- (c) A tour of alternative shutdown and risk significant fire areas.

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C. *Information Requested to be Available on First Day of Inspection*
(September 11, 2006)

This information is requested to be available in one set of hard-copy documents (where possible) on-site during the information gathering visit. In addition, if the requested information is available electronically, it is requested that the information be provided on three sets of compact discs (searchable, if possible).

(1) Procedures

- (a) List of the fire protection program implementing procedures (e.g., administrative controls, surveillance testing, fire brigade);
- (b) List of maintenance and surveillance testing procedures for alternative shutdown capability and fire barriers, detectors, pumps and suppression systems;
- (c) List of maintenance procedures which routinely verify fuse breaker coordination in accordance with the post-fire safe shutdown coordination analysis;
- (d) List of procedures and/or instructions that control the configuration of the reactor plant's fire protection program, features, and post-fire safe shutdown methodology and system design; and
- (e) List of procedures and/or instructions that govern the implementation of plant modifications, maintenance, and special operations, and their impact on fire protection.

(2) Design and Equipment Information

- (a) Coordination calculations and/or justifications that verify fuse/breaker coordination for selected fire zones/areas (to be determined during information gathering visit) that are fed off of the same electrical buses as components in the protected safe shutdown train;
- (b) Copies of significant fire protection and post-fire safe shutdown related design change package descriptions (including their associated 10 CFR Part 50.59 evaluations) and Generic Letter (GL) 86-10 (or adverse to safe shutdown) evaluations;
- (c) Gaseous suppression system pre-operational testing, if applicable, for selected fire zones/areas (to be determined during information gathering visit);

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- (d) Hydraulic calculations and supporting test data which demonstrate operability for water suppression systems, if applicable, for selected fire zones/areas (to be determined during information gathering visit);
 - (e) Alternating current (ac) coordination calculations for 4160 Vac down to 480 Vac electrical systems; and
 - (f) Vendor manuals and information for fire protection equipment (such as detection, suppression systems, fire pumps), applicable to selected fire zones/areas (to be determined during information gathering visit). It is acceptable to make vendor manuals available to the inspectors in lieu of providing a copy.
- (3) Assessment and Corrective Actions
- (a) The three most recent fire protection Quality Assurance (QA) audits and/or fire protection self-assessments; and
 - (b) Corrective action documents (e.g., condition reports, including status of corrective actions) generated as a result of the three most recent fire protection Quality Assurance (QA) audits and/or fire protection self-assessments.

D. Information Requested to Be Provided Throughout the Inspection

- (1) Copies of any corrective action documents generated as a result of the team's questions or queries during this inspection; and
- (2) Copies of the list of questions submitted by the team members and the status/resolution of the information requested (provide daily during the inspection to each team member).