INSPECTION PROCEDURE 35029

PRE-COMBINED LICENSE (COL) QUALITY ASSURANCE (QA) INSPECTION OF SITE LIMITED WORK AUTHORIZATION (LWA) -1 & 2 ACTIVITIES

PROGRAM APPLICABILITY: 2502, 2504

35029-01 INSPECTION OBJECTIVE

01.01 Ensure that the potential applicant's site construction QA measures, authorized by 10 CFR 50.10(e)(1) for an LWA-1, are equivalent to the early site permit (ESP) QA measures.

01.02 Ensure that the QA program described in the application for a COL is consistent with the activities authorized by 50.10(e)(3) for an LWA-2.

35029-02 INSPECTION REQUIREMENTS

02.01 Inspection of LWA-1 QA Program Implementation During Site Activities. If an ESP contains a site redress plan, the holder of the permit, or the potential applicant for a combined license who references the permit, may perform the activities at the site allowed by 10 CFR 50.10(e)(1) without first obtaining the separate authorization required by that section.

Inspection of LWA-1 QA program implementation should include the following:

a. Review of the proposed plans and schedules for site preparation activities.

   (1) Review the schedule for activities such as site testing and evaluation, and/or the excavation for facility structures, etc., and which could result in the discovery of unexpected or unusual site conditions which should be considered during the review of the COL application.

   (2) Review the scheduled work for activities with probable or potential impact on construction of non-safety related, risk-significant structures, systems and components (SSCs) which might have inspections, tests, analyses, and acceptance criteria (ITAAC) associated with their completion.

b. QA Program. Verify that the potential applicant's LWA-1 activities are being monitored under a QA program that at least meets the guidance for the ESP.

c. Site Testing and Evaluation: Review the following:

(1) Verify that the QA manual identifyies the position or organization responsible for performing related QA activities.

(2) Verify that procedures are or were available for performing:

a) Soil sample collection and retention

b) Data collection and independent review

c) Responsible contractor or consultant evaluation of test results and related conclusions

d) Potential applicant examination or evaluation of contractors or consultants test records and conclusions.

(3) Where activities listed by (2)(a)-(d) above are in process, verify use of procedures.

(4) Verify implementation of the site testing program relating to onsite records for:

a) Qualifications of individuals performing and supervising site testing activities and of those performing the review of test results.

b) Availability of records and samples relating to (2)(a)-(d) above.

d. Site Preparation and Excavation

(1) Confirm identification of responsible QA position or organization as assigned by the QA manual

(2) Verify that procedures exist for:

a) Identification and evaluation of site conditions by the contractor and the potential applicant.

b) Potential applicant surveillance related to assuring the identification and evaluation of site conditions.

c) Preparation, filing, retention of records

d) Establishment of qualifications of individuals performing evaluations of site conditions.

(3) Where activities listed by (2)(a)-(c) are in progress, verify by observation the general use of each procedure established for that specific activity.

(4) Verify the implementation of the procedures relating to onsite records by examining a representative sample of records relating to identification and resolution of site conditions.

02.02 Inspection of LWA-2 QA Program Implementation. The purpose of this requirement is to assess how well the responsible organization is implementing the procedures and instructions of the LWA-2 QA manual. This inspection is performed shortly after authorized construction activities have been initiated. Complete the onsite inspection requirements listed below.

a. Administration and QA Program

(1) Verify that the QA organization is aware of the scope of construction activities permitted by the LWA-2.

(2) Verify that individuals having onsite responsibilities defined in the QA manual are available, as appropriate, to adequately carry out authorized activities relating to the following functions.

a) Design (site initiated)

b) Procurement (site initiated)

c) Document control (drawings, specifications and related QA manual documents)

d) Material receiving

e) Inspection

f) Testing

g) Evaluation and disposition of identified QA deficiencies.

h) QA records

i) Auditing

(3) With respect to the functions of auditing, inspecting and testing, select one individual responsible for performance of each such activity and verify that their qualifications are consistent with QA manual requirements in this regard.

(4) Verify that QA manual instructions relating to authorized construction activities have been made readily available to each group or individual who performs the functions listed in (2)(a)-(i) above.

(5) For activities permitted by the LWA-2, verify that the organization performing the functions of material receiving, inspection, testing, and auditing are cognizant of which structures, components, materials, etc., relating to the authorized construction are subject to the controls of the QA program.

b. Site Testing and Evaluation

(1) Verify QA manual identification of the position or organization responsible for performing related QA activities.

(2) Verify that procedures are or were available for performance of:

a) Soil sample collection and retention

b) Data collection and independent review

c) Responsible contractor or consultant evaluation of test results and related conclusions

d) Potential applicant examination or evaluation of contractors or consultants test records and conclusions.

(3) Where activities listed by (2)(a)-(d) above are in process, verify use of procedures relating to two of the ongoing activities.

(4) Verify implementation of the site testing program relating to onsite records for:

a) Qualifications of individuals performing and supervising site testing activities and of those performing the review of test results.

b) Availability of records and samples relating to (2)(a)-(d) above.

c. Site Preparation and Excavation

(1) Confirm identification of responsible QA position or organization as assigned by the QA manual

(2) Verify that procedures exist for:

a) Identification and evaluation of site conditions by the contractor and the potential applicant.

b) Potential applicant surveillance related to assuring the identification and evaluation of site conditions.

c) Preparation, filing, retention of records.

d) Establishment of qualifications of individuals performing evaluations of site conditions.

(3) Where activities listed by (2)(a)-(c) are in progress verify by general observation the general use of each procedure established for that specific activity.

(4) Verify the implementation of the procedures relating to onsite records by examining a representative sample of records relating to identification and resolution of site conditions.

d. Foundations

(1) Confirm identification of responsible QA position or organization as assigned by the QA manual.

(2) Verify that procedures exist for:

a) Materials selection and verification

b) Controlling concrete mix and transportation

c) Placement of rebar, embedments, and concrete

d) Inspection and testing in place

e) Preparation, review and retention of records

(3) Where activities listed by (2)(a)-(e) above are in progress verify by observation the general use of each procedure established for that activity.

(4) Verify the implementation of the program relating to onsite records by selecting and examining two records relating to each activity in (2)(a)-(d) above.

35029-03 INSPECTION GUIDANCE

General Guidance

The holder of an ESP, may conduct the following activities:

1. Preparation of the site for construction of the facility (including such activities as clearing, grading, construction of temporary access roads and borrow areas);

2. Installation of temporary construction support facilities (including such items as warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and construction support buildings);

3. Excavation for facility structures;

4. Construction of service facilities (including such facilities as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, transmission lines, and sanitary sewerage treatment facilities); and

5. The construction of structures, systems and components which do not prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

Specific Guidance

03.01 Inspection of LWA-1 QA Program Implementation During Site Activities.

a. Inspection Planning: When an ESP will be referenced in an application for a combined license, it is important that the lead region be aware of activities involving the property described in the ESP.

(1) Activities such as clearing, grading, construction of temporary access roads and borrow areas, as well as site testing and evaluation, and/or the excavation for facility structures, etc., could result in the discovery of unexpected or unusual site conditions which could have an impact on the evaluation of the site suitability.

(2) Along with the potential applicant's plans for site preparation activities, the inspectors should determine if any preparation activities have occurred since the issuance of the ESP, and review the results of those site activities.

While not likely, the wording of § 50.10(e)(1)(v) would allow construction of SSCs which are not safety-related, but because of risk-significance could have ITAAC associated with their completion.

b. QA Program. The potential applicant's ESP QA measures should at the very least meet the guidance in Review Standard (RS) 002, Section 17.1.1, "Early Site Permit Quality Assurance Controls."

03.01c-d No specific guidance.

03.02 Inspection of LWA-2 QA Program Implementation. The Director of Nuclear Reactor Regulation may authorize the installation of structural foundations, including any necessary subsurface preparation, for SSCs which prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

a. Administration and QA Program. Review the LWA and any associated documentation to be aware of any work important to safety that was authorized. Use the information to evaluate the potential applicant's understanding of what activities would be under the LWA-2 administrative and QA program.

b. Site Testing and Evaluation. Review the guidance and references from IP 45051, "Geotechnical/Foundation Activities Procedure Review."

c. Site Preparation and Excavation. The identification and evaluation of unusual or unexpected site conditions during any exploration or excavation activities should be of primary importance. The potential applicant should have a program in place for work stoppage, quarantine of the area, and NRC and/or licensing board notification.

d. Foundations. Review the LWA-2 and the approved design to determine if the authorized foundation work has any specific ITAAC associated with it or if the foundation work will provide primary support for a structure or component with ITAAC. For foundations that may impact an ITAAC, document in accordance with the guidance for ITAAC-related inspection results.

35029-04 RESOURCE ESTIMATE

This inspection procedure supports the review of a COL application per the guidance of Section 17.1.1 of Review Standard 002 for LWA-1 activities and Section 17.1-3 of NUREG-0800 for LWA-2 activities. Inspections of LWA-1 activities may be conducted independently by regional inspectors and the number of site visits required would be dictated by the potential applicant's level of site preparation work. Inspections of LWA-2 activities may be conducted independently by regional inspectors, but review of unusual site conditions identified during excavations should include resources from an appropriate NRR technical branch.

The resource estimate for LWA-1 inspections is approximately 40 to 120 hours of direct inspection effort. For LWA-2 activities, the inspection resource estimate should be approximately 80 to 200 hours of direct inspection effort.

35029-05 REFERENCES

Inspection Procedure 45051, "Geotechnical/Foundation Activities Procedure Review"

NUREG-0800, Section 17.1-3, "Quality Assurance Program"

Review Standard (RS) 002, Section 17.1.1, "Early Site Permit Quality Assurance Controls"

END