



Part VI: Proposed license conditions

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1 PURPOSE

The purpose of this part is to provide the proposed license conditions to be imposed on Oklo Power, LLC (Oklo Power) for the Aurora at the Idaho National Laboratory and to provide the associated inspections, analyses, tests, and acceptance criteria (ITAAC).

2 ITAAC

This combined license application identifies ITAAC. The proposed ITAAC are included in Appendix A: Proposed inspections, tests, analyses, and acceptance criteria,” of this part.

Proposed license condition: The proposed ITAAC identified in Appendix A: Proposed inspections, tests, analyses, and acceptance criteria,” of this part are hereby incorporated into this combined license. After the NRC Commission makes the finding required by 10 CFR 52.103(g), the ITAAC do not constitute regulatory requirements. Specific ITAAC that are subject to a hearing by the Atomic Energy Act, Section 103(a), expire after final NRC Commission action in such a proceeding.

3 BYPRODUCT, SOURCE AND SPECIAL NUCLEAR MATERIAL

3.1 Use of special nuclear material as reactor fuel

Proposed license condition: Pursuant to 10 CFR Part 70 Oklo Power shall be able to use special nuclear material as reactor fuel, after the NRC Commission has made its 10 CFR 52.103(g) finding, with limitations on amounts required for reactor operation, as described in Part II, “Final safety analysis report,” to this combined license.

3.2 Material for startup and calibration

Proposed license condition: Oklo Power shall be able to receive, possess, and use, at any time, any byproduct or source material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation, and radiation monitoring equipment calibration, and as fission detectors in amounts, as required, pursuant to 10 CFR Part 30 and 10 CFR Part 40.

Proposed license condition: Oklo Power shall be able to receive, possess, and use, at any time, any byproduct or source material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive equipment, pursuant to 10 CFR Part 30 and 10 CFR Part 40.

4 INSURANCE

4.1 Proof of insurance

Section 50.54(w) to 10 CFR requires that NRC licensees take reasonable steps to obtain insurance. However, this combined license application does not include any information relating to insurance.

Proposed license condition: Oklo Power shall take reasonable steps to obtain insurance available at reasonable costs and on reasonable terms from private sources or to demonstrate to the satisfaction of the NRC that it possesses an equivalent amount of protection covering the Oklo Power's obligation. Oklo Power shall provide proof of insurance via an official letter to the NRC before fuel load.

5 OPERATIONAL PROGRAM IMPLEMENTATION

Part II, Chapter 15, “Operational plans,” identifies several operational programs required by the regulations and their proposed implementation milestones. Several operational programs do not have implementation requirements in the regulations. For those operational programs, license conditions are proposed.

No license conditions are proposed for operational program implementation prior to site preparation.

5.1 Receipt of materials

Onsite receipt of materials covered by these license conditions are byproduct and source materials, excluding exempt quantities as described in 10 CFR 30.18, “Exempt quantities.”

Proposed license condition: The portions needed to support the receipt of byproduct and source materials onsite of the Radiation Protection Program shall be implemented prior to initial receipt of byproduct and source materials (excluding exempt quantities as described in 10 CFR 30.18).

5.2 Three months prior to construction

Construction is defined in 10 CFR 51.4, “Definitions,” and includes driving of piles, subsurface preparation, placement of backfill, concrete, or permanent retaining walls within an excavation, installation of foundations, or in-place assembly, erection, fabrication, or testing, which are for the following items for the Aurora:

- Structures, systems, and components (SSCs) whose failure could prevent safety-related SSCs from fulfilling their safety-related function
- SSCs necessary to comply with 10 CFR Part 73, “Physical protection of plants and materials”
- SSCs necessary to comply with 10 CFR Part 50.48, “Fire protection”
- SSCs necessary to comply with 10 CFR Part 50.47, “Emergency plans,” and 10 CFR Part 50, Appendix E, “Emergency planning and preparedness for production and utilization facilities”

Proposed license condition: The Fitness-for-Duty Program shall be implemented at least 3 months prior to the start construction, as defined in 10 CFR 51.4.

5.3 Three months prior to preoperational testing

Proposed license condition: The Training Program shall be implemented at least 3 months prior to the start of the first test conducted for the Initial Test Program as described in Chapter 14, “Preoperational testing and initial operations,” of Part II, “Final safety analysis report,” to this combined license.

5.4 Preoperational testing

The Initial Test Program is described in Chapter 14, “Preoperational testing and initial operations,” of Part II, and is composed of two major phases: (1) preoperational testing, and (2) the startup plan.

Proposed license condition: The preoperational phase of the Initial Test Program, as described in Chapter 14, “Preoperational testing and initial operations,” of Part II, “Final safety analysis report,” to this combined license, shall be implemented prior to the first preoperational test conducted.

5.5 Receipt of fuel

The Fire Protection Program, Physical Security Plan, and Radiation Protection Program are described in Chapter 21, “Fire Protection Program description,” Chapter 18, “Security plans,” and Chapter 20, “Radiation Protection Program description,” respectively, of Part II.

Proposed license condition: The Fire Protection Program shall be implemented prior to receipt of fuel.

Proposed license condition: The Physical Security Plan shall be implemented prior to receipt of fuel.

Proposed license condition: The Radiation Protection Program shall be implemented prior to receipt of fuel.

5.6 Fuel load

Proposed license condition: The startup plan phase of the Initial Test Program, as described in Chapter 14, “Preoperational testing and initial operations,” of Part II, “Final safety analysis report,” to this combined license, shall be implemented prior to the first startup plan test.

6 EMERGENCY PLAN

6.1 Letters of Agreement

This combined license application does not contain Letters of Agreement because they will not be executed before issuance of this combined license. Instead the combined license application includes an Emergency Plan that describes that agreements that will be put in place as per the Site Use Permit between Oklo Inc. and Department of Energy, Office of Nuclear Energy, issued September 26, 2019. These Letters of Agreement may include contracted organizations to assure firefighting, security, and any other needed capabilities.

Proposed license condition: Oklo Power shall execute Letters of Agreement as required by the Emergency Plan, which is submitted under Part VII, “Enclosures,” to this combined license. The Letters of Agreement will identify the specific agreements in support of the Emergency Plan. The Emergency Operating Procedures will be updated to include these Letters of Agreement, after they have been executed.

7 FIRE PROTECTION PROGRAM

7.1 Changes

SECY 05-0197, “Review of operational programs in a combined license application and generic emergency planning inspections, tests, analyses, and acceptance criteria,” issued October 2005, describes two license conditions to be included for fire protection programs for combined licenses. The implementation milestone for the Fire Protection Program is discussed in Chapter 5. Therefore, this chapter focuses on the other license condition from SECY 05-0197, which addresses changes to fire protection programs.

Proposed license conditions: Oklo Power may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

8 INITIAL TEST PROGRAM

8.1 Changes

Proposed license conditions: Any changes made to the Initial Test Program, which is described in Chapter 14 of Part II of this combined license, shall be reported in accordance with 10 CFR 50.59, “Changes, tests, experiments,” within 1 month of the change.

APPENDIX A: PROPOSED INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

A.1 Introduction

A.1.0 Purpose

Section 52.80, “Contents of applications; additional technical information,” to 10 CFR requires applicants for a combined license to submit ITAAC and specifies:

The proposed inspections, tests, and analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, the facility has been constructed and will be operated in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations.

The ITAAC for this combined operating license are included herein.

A.1.1 Summary of ITAAC

The ITAAC consist of the following parts:

- System design ITAAC
- Emergency plan ITAAC
- Physical security ITAAC
- Radiation protection ITAAC
- Site-specific ITAAC

Completion of the ITAAC is a proposed condition of the combined license to be satisfied prior to fuel load.

A.1.2 Structure and implementation of ITAAC

The ITAAC are provided in tabular form, with the following entries:

- Design commitment
- Inspections, tests, analyses (ITA)
- Acceptance criteria

Each design commitment has an associated ITA requirement, and a specific acceptance criterion. An ITA may be performed by Oklo Power, or by its authorized vendors, contractors, or consultants. Furthermore, an ITA may be performed by more than a single individual or group,

may be implemented through discrete activities separated by time, and may be performed at any time prior to fuel load (including before issuance of the combined license for those ITAAC that do not necessarily pertain to as-installed equipment).

Some acceptance criteria include the words “A report exists and concludes that...” When these words are used, it indicates that the ITAAC for that design commitment will be met when it is confirmed that appropriate documentation exists, and that the documentation shows that the design commitment is met.

Many of the ITAAC require the completion and documentation of a specific set of preoperational tests (POTs). The POTs are described in Chapter 14, “Preoperational testing and initial operations,” of Part II. As described in Chapter 14, the POTs are tests that are directly required either by the design bases (from Chapter 2, “Design and analysis of structures, systems and components,” of Part II) or by a specific plan or program. Each ITAAC that requires completion of preoperational testing specifies which subset of POTs must be completed and documented, and collectively these ITAAC encompass the entire set of POTs for the Aurora.

A.2 System design ITAAC

Identifier	ITAAC.SD.01
design commitment	All preoperational tests (POTs) from Part II, Chapter 14, "Preoperational testing and initial operations," for the systems listed below have been completed, and the completion has been appropriately documented: Reactor system (RXS) Control drum system (CDS) Shutdown rod system (SRS) Reactor enclosure system (RES) Instrumentation and control system (ICS) Building and auxiliary systems (BAS)
inspections, tests, analyses	Analysis summarizing a combination of tests, inspections, and analyses.
acceptance criteria	A summary report exists and concludes that all POTs for the RXS, CDS, SRS, RES, ICS, and BAS have passed. The summary report includes a test evaluation report for each POT, documenting the test as described in Part II, Chapter 14.

Identifier	ITAAC.SD.02
design commitment	A fire safe state analysis has been completed on the final Aurora design and shows the final design to meet the acceptance criteria as defined in the fire safe state analysis report.
Inspections, tests, analyses	Analysis of the final Aurora design.
Acceptance criteria	A report exists and concludes that the final Aurora design meets the acceptance criteria as defined in the fire safe state analysis report.

A.3 Emergency plan ITAAC

Identifier	ITAAC.EP.01
design commitment	All preoperational tests (POTs) for the emergency plan (EP) from Part II, Chapter 14, "Preoperational testing and initial operations," have been completed, and the completion has been appropriately documented.
Inspections, tests, analyses	Analysis summarizing a combination of tests, inspections and analyses.
Acceptance criteria	A summary report exists and concludes that all POTs for the EP have passed. The summary report includes a test evaluation report for each POT, documenting the test as described in Part II, Chapter 14.

A.4 Physical security ITAAC

Identifier	ITAAC.PS.01
design commitment	All preoperational tests (POTs) for physical security (PS) from Part II, Chapter 14, "Preoperational testing and initial operations," have been completed, and the completion has been appropriately documented.
inspections, tests, analyses	Analysis summarizing a combination of tests, inspections, and analyses.
acceptance criteria	A summary report exists and concludes that all POTs for PS have passed. The summary report includes a test evaluation report for each POT, documenting the test as described in Part II, Chapter 14.

A.5 Radiation protection ITAAC

Identifier	ITAAC.RP.01
design commitment	All preoperational tests (POTs) for radiation protection (RP) from Part II, Chapter 14, "Preoperational testing and initial operations," have been completed, and the completion has been appropriately documented.
inspections, tests, analyses	Analysis summarizing a combination of tests, inspections, and analyses.
acceptance criteria	A summary report exists and concludes that all POTs for the RP have passed. The summary report includes a test evaluation report for each POT, documenting the test as described in Part II, Chapter 14.

A.6 Site-specific ITAAC

Identifier	ITAAC.SS.01.A
design commitment	The area directly surrounding the powerhouse has been cleared in accordance with National Fire Protection Association (NFPA) 1114.
inspections, tests, analyses	Inspection of the cleared area surrounding the building.
acceptance criteria	The area is cleared in accordance with NFPA 1114.
Identifier	ITAAC.SS.02.A
design commitment	The area surrounding the site has been evaluated for explosive hazards, and any hazards identified have been evaluated to determine whether their resulting pressure would exceed the blast capacity of the reactor.
inspections, tests, analyses	Analysis of the site for potential explosive hazards and further analysis of any potential hazards identified.
acceptance criteria	A report exists, identifies relevant explosive hazards at the site, and concludes that each identified explosive hazard would not result in pressures that exceed the blast capacity of the reactor.