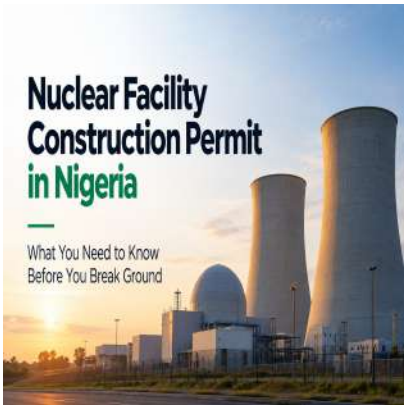


Nuclear Facility Construction Permit in Nigeria: (A Comprehensive Guide)

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Description

If you are planning to construct a nuclear facility, research reactor, radioactive waste facility, gamma irradiation facility or another facility involving nuclear or radioactive materials in Nigeria, this article will help you understand the regulatory process before you commit serious money to construction.

You will learn:

- Which authority regulates the project.
- Why construction cannot simply start because you have acquired land and obtained planning approvals.
- The difference between **siting, design/construction, commissioning and operation authorisations**.
- The documents and technical information the regulator will expect.
- What inspections and regulatory assessments are involved.
- The practical mistakes that delay nuclear projects in Nigeria.
- How to approach the NNRA without creating unnecessary regulatory problems.

And let me say this from the beginning.

A nuclear facility is not an ordinary construction project.

You cannot approach it like you are building a warehouse, factory, filling station or office complex.

The regulatory process starts long before the contractor enters the site.

1. First, Who Regulates Nuclear Facilities in Nigeria?

The principal regulatory body is the **Nigerian Nuclear Regulatory Authority (NNRA)**.

The NNRA was established under the **Nuclear Safety and Radiation Protection Act No. 19 of 1995**.

Its mandate covers nuclear safety and radiological protection in Nigeria.

It registers, licenses, inspects and enforces compliance in activities involving nuclear energy, radioactive materials and ionizing radiation.

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This is important.

Because I have seen many projects in Nigeria where the promoters focus heavily on incorporation, land, tax, environmental approvals and construction.

Then somebody remembers the regulator much later.

That is the wrong approach for a nuclear project.

The NNRA should be considered from the beginning.

2. What Exactly Is a Nuclear Facility Construction Permit?

In practical terms, the authorisation for construction is the regulatory permission required before undertaking regulated construction activities associated with a nuclear facility.

But there is an important point here.

You should not look at the process as one single permit.

For a serious nuclear project, regulatory approval is better understood as a chain of authorisations and regulatory decisions.

Depending on the nature of the facility, you may be dealing with:

Stage	Regulatory Focus
1	Site evaluation/siting
2	Design
3	Construction
4	Commissioning
5	Operation
6	Decommissioning
7	Radioactive waste management
8	Nuclear security and physical protection

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The exact authorisation applicable will depend on the facility and activity.

This is why I advise clients not to simply ask:

> “How much is the nuclear license?”

That question is too broad.

The better question is:

> **“What regulatory authorisations apply to this particular facility and at what stage?”**

That is where proper regulatory consulting begins.

3. Nigeria Now Has a More Developed Nuclear Regulatory Framework

This is an area where things are changing.

Nigeria is no longer operating only with the old general framework.

The NNRA has developed additional regulations dealing specifically with nuclear facilities and activities.

Among the current regulatory resources published by the NNRA are the:

- Nigerian Design and Construction of Nuclear Power Plants Regulations, 2023;
- Nigerian Transportation of Radioactive Material Regulations, 2023;
- Nigerian Basic Ionizing Radiation Regulations, 2023; and
- Nigerian Radioactive Waste and Spent Nuclear Fuel Management Regulations, 2023.

There are also regulations covering areas such as:

- nuclear power plant siting;
- research reactors;
- physical protection of nuclear materials and facilities;
- nuclear safeguards;
- uranium exploration, mining and processing; and
- radioactive waste management.

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So, if someone tells you that the process is simply:

“Apply to NNRA, pay the money and collect your license,”

I would advise you to be very careful.

It is much more technical than that.

4. The First Mistake: Starting Construction Too Early

This is probably one of the biggest practical mistakes promoters can make.

A company acquires land.

It brings in foreign technical partners.

It engages a contractor.

Architectural drawings are prepared.

Money starts moving.

Then somebody asks:

“Have we obtained the NNRA approval for this facility?”

That question should have been asked much earlier.

The NNRA’s own authorisation procedure involves:

1. Notification;
2. Application;
3. Submission of supporting documents and information;
4. Payment of applicable fees;
5. Assessment of the application;
6. Inspection;
7. Inspection report;
8. Review of the inspection report; and
9. Issuance or denial of the relevant authorisation.

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So this is not a situation where you should build first and regularise later.

Do not spend billions of naira building a facility that the regulator may require you to modify.

That is a very expensive mistake.

5. What Does the NNRA Look At?

The regulator is not merely interested in the physical building.

The regulator is interested in **safety**.

That means the assessment can extend to the facility’s:

- design;
- construction arrangements;

- safety systems;
- radiation protection arrangements;
- emergency preparedness;
- security arrangements;
- radioactive material management;
- waste management;
- personnel competence;
- operating organisation;
- quality management;
- technical procedures; and
- other matters relevant to nuclear and radiation safety.

The NNRA's Nuclear Safety and Security Department, for example, reviews and assesses applications and submissions relating to nuclear facilities and performs regulatory oversight of reactor facilities.

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This is why a nuclear facility application is not something I would advise a client to prepare like an ordinary government license application.

6. Site Selection Is a Serious Regulatory Matter

Let me emphasise this.

Land ownership is not the same thing as regulatory suitability.

You may own the land.

You may have a registered title.

You may have planning documentation.

That does not automatically mean the site is suitable for a nuclear facility.

Nigeria has specific regulatory material dealing with the licensing of sites for nuclear power plants.

The NNRA has published the **Nigerian Safety Regulations for Licensing of Sites for Nuclear Power Plants, 2021**.

Site considerations for a nuclear facility can involve matters such as:

- population and surrounding communities;
- environmental conditions;
- natural hazards;
- emergency planning;
- security;
- infrastructure;
- access;
- water and other essential services;
- proximity to sensitive locations; and
- other site-specific safety considerations.

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Therefore, before a client spends heavily on acquiring land, I would want the regulatory position properly examined.

Buy the wrong land and you may spend years trying to solve a problem that should have been avoided at the beginning.

7. Design Approval Is Not Construction Approval

This distinction is very important.

A project may have an engineering design.

It may have international consultants.

It may even have a foreign technology provider.

None of those facts automatically mean the Nigerian regulatory requirements have been satisfied.

For nuclear power projects, the NNRA has specific regulations dealing with **design and construction**.

The regulations are intended to establish requirements for the structures, systems, components and organisational processes important to nuclear safety.

So your design must be approached with the Nigerian regulatory framework in mind.

Not just the foreign standard used by your foreign contractor.

8. The Documentation Is Where Many Projects Get Stuck

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In my experience with regulatory work, the biggest problem is often not the payment of the government fee.

It is documentation.

You may have:

- foreign technical reports;
- engineering drawings;
- safety documentation;
- environmental studies;
- corporate documents;
- land documents;
- technical specifications;
- equipment information;
- personnel qualifications;
- emergency plans;
- security plans;
- radioactive waste arrangements; and
- other supporting documents.

But the question is:

Have they been properly organised for the Nigerian regulatory process?

That is the difference.

A regulator should not have to chase your project documents around.

The application should tell a coherent story.

9. Typical Regulatory Documentation

The precise requirements will depend on the type of nuclear facility.

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However, a serious application should be expected to involve documentation around areas such as:

Area	Examples
Corporate	Certificate of Incorporation, ownership and organisational information
Site	Site ownership, site studies and location information
Design	Engineering design and technical specifications
Safety	Safety assessment and safety-related documentation
Radiation	Radiation protection programme
Security	Physical protection and security arrangements
Emergency	Emergency preparedness and response arrangements
Personnel	Qualifications, competence and responsibilities
Quality	Quality management and quality assurance arrangements
Waste	Radioactive waste management arrangements
Construction	Construction programme and quality controls
Commissioning	Testing, verification and commissioning arrangements
Operations	Proposed operating organisation and procedures

Do not treat this table as a substitute for the NNRA’s facility-specific requirements.

The actual documentation must be determined from the type and risk profile of the proposed facility.

10. The Safety Case Is Extremely Important

For a nuclear facility, you cannot simply say:

> “The facility will be safe.”

You have to demonstrate it.

This is where the technical safety documentation becomes critical.

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The regulator needs sufficient information to understand the facility, the hazards, the safety systems and the measures proposed to prevent or mitigate accidents and protect workers, the public and the environment.

For radioactive waste facilities, for example, the NNRA’s 2023 regulations specifically require construction to be in accordance with the design described in the **safety case** and approved by the NNRA.

That tells you something important.

The safety case is not just a document for the shelf.

It can directly affect what is constructed.

11. Inspection Is Part of the Process

Another mistake I see is treating inspection as an afterthought.

It is not.

The NNRA’s published authorisation procedure expressly includes:

Application → Assessment → Inspection → Inspection Report → Review → Authorisation.

So your facility must be ready for regulatory scrutiny.

And your documentation must agree with what the inspectors find.

If your application says one thing and the facility shows something else, you have created a regulatory problem.

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12. Construction Does Not Mean You Can Start Operating

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This is another important distinction.

Construction authorisation is not an operating license.

You cannot assume that once construction is complete, the facility can simply start operating.

Commissioning is a separate stage.

The regulatory framework recognises commissioning as the process through which systems and components that have been constructed are made operational and verified against the design and required performance criteria.

For radioactive waste facilities, for example, commissioning may involve stages including:

- completion of construction and inspection;
- installation and testing of equipment; and
- demonstration of performance during non-active and active commissioning.

The NNRA reviews and approves the relevant commissioning stages.

So the project should be planned from day one with commissioning in mind.

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13. What About Government Fees?

This is where I advise clients to be careful.

There is no sensible one-size-fits-all answer to:

> “How much does a nuclear facility construction permit cost?”

The fee depends on the type of facility and the applicable authorisation.

The NNRA publishes authorization fee schedules covering different nuclear and radiation practices.

For example, the NNRA’s published fee schedule for certain nuclear research reactor activities lists:

Authorization	Published Fee
Siting License	₦5,000,000
Design and Construction License	₦5,000,000
Commissioning License	₦2,000,000
Operation License	₦1,000,000 per biennium
Decommissioning License	₦5,000,000

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These figures relate specifically to the category stated in that NNRA fee schedule. They should **not** be automatically applied to every nuclear facility.

The same principle applies to radiation facilities.

For example, the published NNRA schedule lists a **Siting, Design & Construction License or Modification** for gamma irradiation facilities at ₦5,000,000, with separate commissioning and operation fees.

So before quoting a client, identify the facility first.

Then identify the applicable regulatory category.

Then confirm the current fee.

That is the professional way to do it.

14. Do Not Forget the Other Regulatory Approvals

Another practical point.

NNRA approval does not necessarily mean every other approval required for the project has disappeared.

Depending on the project, there may be other regulatory considerations involving:

- environmental approvals;
- physical planning;
- land;
- fire and emergency services;
- engineering professionals;
- electricity regulation;
- occupational health and safety;
- importation of specialised equipment;
- transportation of radioactive materials;
- radioactive waste management;
- security;
- customs;
- immigration and expatriate personnel; and
- other sector-specific requirements.

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The project should therefore be handled as a **regulatory matrix**, not as one isolated license.

15. The Practical Nigerian Problem

Let me bring this down to earth.

The law may say one thing.

The technical team may understand another thing.

The project owner may have a completely different expectation.

And the contractor may simply want to start work.

This is where a competent regulatory consultant earns his fee.

Our job is not simply to fill forms.

Our job is to understand the project.

Then map the project against the regulatory requirements.

Then identify the approvals.

Then identify the documents.

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Then identify the technical gaps.

Then coordinate the application.

Then follow up professionally with the regulator.

And when the regulator raises an issue, you should understand what the issue means.

Not just forward the regulator's email to the client and say:

> "Please see below."

That is not regulatory consulting.

16. What I Would Advise a Client Planning a Nuclear Facility

If you come to me today and tell me:

> "We want to construct a nuclear facility in Nigeria."

I would not immediately ask you for your application fee.

I would first ask:

1. What exactly are you constructing?

Is it:

- a power reactor?
- research reactor?
- gamma irradiation facility?
- radioactive waste facility?
- nuclear fuel-related facility?
- NORM-related facility?
- another radiation or nuclear installation?

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2. Where is the proposed facility?

I would want to understand the site.

3. What technology are you using?

Is the technology Nigerian?

Foreign?

Who is the technology provider?

4. Who is responsible for the design?

5. Who is responsible for construction?

6. Who will operate the facility?

7. What radioactive or nuclear materials will be involved?

8. What is the proposed capacity?

9. What is the waste management strategy?

10. What safety and security arrangements are proposed?

Once these questions are answered, the regulatory pathway becomes much clearer.

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17. A Better Way to Approach the Project

I normally recommend the following approach.

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Step	Action
1	Understand the proposed facility
2	Conduct preliminary regulatory assessment
3	Identify applicable NNRA regulations
4	Review proposed site
5	Identify required regulatory authorisations
6	Prepare regulatory compliance matrix
7	Compile technical and corporate documentation
8	Engage appropriate technical specialists
9	Prepare and submit application
10	Respond to NNRA assessment queries
11	Prepare for inspection
12	Address inspection findings
13	Obtain applicable authorisation
14	Proceed to the next regulatory stage

This approach saves money.

More importantly, it reduces surprises.

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18. One More Thing: Security Is Not Optional

When dealing with nuclear facilities, safety is only part of the conversation.

Security matters.

The NNRA has a dedicated Nuclear Security function responsible for issues including the physical protection of nuclear and radioactive materials and associated facilities.

Nigeria also has specific regulations dealing with the physical protection of nuclear materials and nuclear facilities.

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So your project should not wait until the end to think about security.

Security should be built into the project from the beginning.

19. What Can Delay a Nuclear Facility Application?

In practical terms, I would watch out for these:

Problem	Possible Consequence
Wrong site	Major redesign or relocation
Incomplete technical documentation	Regulatory queries and delays
Poor safety documentation	Further assessment required
Unclear ownership structure	Questions about responsible operator
Unqualified personnel	Compliance concerns
Poor radiation protection programme	Regulatory concerns
Inadequate emergency arrangements	Further requirements
Weak security arrangements	Serious regulatory concerns
Foreign documents not properly contextualised	Additional clarification

Problem	Possible Consequence
Starting construction too early	Expensive corrective action
Treating NNRA as an afterthought	Project delays

The lesson is simple.

Regulatory planning should happen before construction planning becomes irreversible.

20. Final Advice From a Regulatory Practitioner

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After years of working around Nigerian regulatory institutions, I have learnt one thing.

Most regulatory problems are cheaper to prevent than to cure.

The nuclear sector is even more sensitive.

You are dealing with activities capable of affecting workers, communities, the environment and, depending on the facility, the wider public.

That is why the regulatory process is deliberately more rigorous.

The NNRA's mandate is to protect life, health, property and the environment from the harmful effects of ionizing radiation and to ensure the safe and secure use of nuclear technology.

Therefore, if you are planning a nuclear facility in Nigeria, do not start with:

"How much is the license?"

Start with:

"What exactly is the regulatory pathway for our facility?"

That question can save you millions.

It can also save you years.

And in a project involving nuclear technology, **years can translate into billions of naira.**

Frequently Asked Questions

1. Who issues nuclear facility construction authorisation in Nigeria?

The **Nigerian Nuclear Regulatory Authority (NNRA)** is the principal regulator responsible for nuclear safety and radiological protection in Nigeria.

2. Can I construct first and obtain the NNRA approval later?

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That is not an approach I would recommend.

The regulatory process involves application, assessment, inspection and regulatory review. The facility should therefore be planned around the applicable authorisations from the beginning.

3. Is a construction license the same as an operating license?

No.

Construction and operation are different regulatory stages. Commissioning also sits between construction and operation for facilities where it applies.

4. Does owning the land mean I can build the facility?

No.

Land ownership does not automatically establish that the site is acceptable for a nuclear facility.

Site suitability is a regulatory issue.

5. How much is the NNRA construction license?

There is no single fee applicable to every nuclear facility.

The fee depends on the type of facility and applicable authorization category.

The NNRA publishes authorization fee schedules for different practices.

6. Do I need technical consultants?

For a serious nuclear project, expect substantial technical input.

Legal and regulatory consultants, nuclear safety specialists, engineers, radiation protection professionals and other specialists may all have roles depending on the project.

7. Will the NNRA inspect the facility?

Inspection forms part of the NNRA's published authorization procedure.

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8. Can a foreign company construct a nuclear facility in Nigeria?

A foreign company may participate in a project, but participation does not remove Nigerian regulatory requirements.

The Nigerian regulatory framework still has to be complied with.

9. Does the project require radioactive waste management arrangements?

Where radioactive waste is generated, this becomes a critical regulatory issue.

Nigeria now has specific **Radioactive Waste and Spent Nuclear Fuel Management Regulations, 2023**.

10. When should I engage a regulatory consultant?

Before you acquire the site, before you finalise the design and certainly before construction starts.

That is when regulatory advice has the greatest value.

Conclusion

A nuclear facility is not just an engineering project.

It is a **regulatory project, a safety project, an environmental project, a security project and a major investment project.**

The biggest mistake is to see the NNRA approval as another government license to be obtained somewhere along the way.

It is not.

The regulatory framework should be built into the project from the beginning.

If you are planning a nuclear, radioactive waste, research reactor, gamma irradiation or other nuclear/radiation-related facility in Nigeria, the right starting point is a regulatory assessment of the proposed project.

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Get the pathway right.

Get the documentation right.

Get the technical team right.

Get the regulator involved at the right stage.

And do not wait until millions have already been spent before asking whether the project is regulatorily ready to proceed.

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