**2023 Alabama Broadband Accessibility Fund Frequently Asked Questions**

1. **What is the typical timeframe for the ABAF grant program?**

ADECA generally will accept ABAF applications within a 60-90 day window that it will establish.

Applicants must first submit a letter of intent by the deadline set in the Grant Application Guide. That deadline will generally be within 30 days of the ABAF application workshop. The letter of intent shall include the applicant’s contact information and the applicant’s proposed project area in a shapefile format. The applicant’s shapefile must use a polygon format to represent the proposed project area. Other formats such as lines or points will not be accepted. The applicant must also ensure that the polygon format covers the rooftop locations of all addresses in the proposed project area. A sample letter of intent is in the Grant Application Guide posted on the ADECA website, which can be found at <https://adeca.alabama.gov/grant-application-and-implementation/>.

Applicants that submit a letter of intent can submit an application until the deadline provided in the Grant Application Guide. Any application received after the deadline will not be considered. Applications for eligible projects shall be evaluated according to a scoring system developed by ADECA in accordance with the Alabama Broadband Accessibility Act, with grant awards published as soon as possible, but no more than 60 days after expiration of the filing window. For more information related to the ABAF and other ADECA broadband programs, please see ADECA’s Alabama Digital Expansion Division website at [https://adeca.alabama.gov/ broadband/](https://adeca.alabama.gov/%20broadband/).

1. **Why is a letter of intent required?**

An applicant’s letter of intent will notify ADECA of the applicant’s intent to file an ABAF application during the upcoming grant cycle, provide a preview of the proposed area(s) for funding, and provide an opportunity for incumbent Internet Service Providers (ISPs) and other ABAF applicants to review and correspond about the proposed area(s).

1. **Will letters of intent be posted online after the submission window closes to allow for review?**

Yes, letters of intent will be posted on the ADECA website as soon as possible after the close of the letter of intent submission window.

ADECA will send a notice that the letters of intent are available on the website. The notices will be sent to all subscribers of its email notification service. To sign up for the email notification service, please go to <https://adeca.alabama.gov/broadband-alabama-mailing-list/>. ADECA makes the letters of intent publicly available to promote coordination between applicants and with existing ISPs regarding potentially overlapping service areas. Applicants and other ISPs are strongly encouraged to contact applicants regarding their letters of intent within 30 days of the posting of the letters on the ADECA website. A sample document to help facilitate communication between ISPs and ABAF applicants is provided in the Grant Application Guide posted on the ADECA website at <https://adeca.alabama.gov/grant-application-and-implementation/>.

1. **Can an applicant revise the project area description from its letter of intent when it submits its application?**

Yes, applicants may submit a final application with minor changes to reduce the project area described in the letter of intent. Applicants must clearly identify any changes from the letter of intent in their final application map and narrative.

1. **How should applicants identify eligible project areas in the letter of intent and the application? Is it possible to get a shapefile of specific layers of the Alabama Broadband Map?**

Generally, applicants may establish that the proposed project is in an unserved area and in a rural area by using the Alabama Broadband Map. Please see the map at https://broadband.alabama. gov/broadband-maps/.

Applicants are *strongly encouraged* to conduct a field review or confirm the served/unserved status of an area through additional means beyond the map.

Please contact broadband.fund@adeca.alabama.gov to request a shapefile based on the Alabama Broadband Map or to ask further questions about the mapping process.

1. **What are the requirements for a project area to be eligible for funding?**

In order to be eligible for funding, an area normally must be located in a rural, unserved area.

* **Rural Area:** Any area within Alabama not included within the boundaries of any incorporated city or town having a population in excess of 25,000 inhabitants, according to the last federal census.
* **Unserved Area:** Any rural area in which there is not at least one provider of terrestrial broadband service that is either: (1) offering a connection to the Internet meeting the minimum service threshold (100/20 Mbps); or (2) required under the terms of another state or federal grant to provide a connection to the Internet at speeds meeting the minimum service threshold within the same or similar timeframe of projects of similar complexity or scale awarded during each grant cycle.

**Note:** *Terrestrial broadband service includes wireline or fixed wireless service and does not include cellular or satellite service*.

Please see the Grant Application Guide and Grant Application for additional information and requirements for documentation to demonstrate the eligibility of a proposed service area, including an area associated with a middle mile project or a specific hospital, health care facility, public school, public safety, or economic development site in a rural area that **does not** meet the definition of an unserved area but otherwise meets the requirements for an eligible project.

1. **Are there any other project types that may be eligible?**

Please see the Grant Application Guide and Grant Application for specific processes that allow ABAF applicants to request funding for middle mile projects and projects that involve providing broadband service to a specific hospital, health care facility, public school, public safety, or economic development site in a rural area that **does not** meet the definition of an unserved area but otherwise meets the requirements for an eligible project.

* For example, an applicant can propose to serve a hospital that requires 1/1 Gbps speeds to provide telemedicine services, but the current local ISP can only offer 100/20 Mbps speeds to the hospital. An application for such funding would include a letter by the hospital explaining the need for greater broadband speeds and documentation that it has attempted to gain greater speeds from the current local ISP.
* For example, an applicant could propose a middle mile project that does not provide broadband service to end users or to end user devices in a rural area that is served by an ISP offering 100/20 Mbps speeds, if it demonstrates through engineering studies, support from local communities, or other documentation that such project is necessary to improve broadband access, capacity, or resiliency.
1. **Will areas covered by the FCC’s Connect American Fund (CAF), Rural Digital Opportunity Fund (RDOF), or other state and federal funding programs be considered ineligible for ABAF?**

Generally, areas that already have state and federal funding sources for projects that will result in service meeting the minimum service threshold will be ineligible for ABAF funding. However, an area with CAF, RDOF, or other state or federal funding may still be eligible for ABAF funding if the provider is not required under the terms of another state or federal grant to provide the area with a connection to the Internet at speeds meeting the minimum service threshold within the same or similar timeframe of projects of similar complexity or scale awarded during each grant cycle.

1. **What if an area that qualified as unserved at the time an application was submitted becomes served prior to the grant agreement being executed?**

In addition to reviewing the Alabama Broadband Map, applicants are strongly encouraged to conduct field reviews to determine if there is current construction or other indications of new service in an area that would potentially change the classification of an area. If ADECA becomes aware that a previously unserved area becomes served prior to the execution of the grant agreement, the project will no longer be eligible for ABAF funding.

1. **What are the minimum service standards and other requirements for the funded projects?**

An applicant must certify that all customers served as a result of the funded project will have access to an internet connection and at least one service offering capable of transmitting broadband signals at or above 100/100 Mbps. The applicant also must include a preliminary technical evaluation of the capabilities of the project certified by a licensed Professional Engineer.

Please refer to the Grant Application Guide and Grant Application for further information regarding other required elements for an application.

1. **Who is eligible to receive funding under this program?**

Eligible applicants are entities that are cooperatives, corporations, limited liability companies, partnerships, other private business entities, or units of government that **currently** provide broadband service.

An entity is not eligible for an ABAF grant unless the entity has submitted, within the one-year period preceding the awarding of the grant, the entity’s broadband service availability information to Alabama’s broadband mapping program and agrees to continue to participate in the mapping program throughout the entire project period.

1. **Will applicants that are certified by the ADECA Office of Minority Business Enterprise or that are Disadvantaged Business Enterprises receive any credit or additional points?**

Yes, ADECA will award 10 points in each of the following situations:

* The applicant provides documentation that it has been certified by the ADECA Office of Minority Business Enterprise or otherwise as a Disadvantaged Business Enterprise. Note that documentation of certification does not include self-certification as provided in SAM.gov.
* The applicant provides documentation that it plans to use vendors and subcontractors that have been certified by the Office of Minority Business Enterprise or that are Disadvantaged Business Enterprises. Please be advised that, if an applicant chooses to claim consideration under this criterion, a quarterly report will be required. Vendor and subcontractor self-certification of Minority, Female Owned, or Disadvantaged Business Enterprise status will not be accepted. Vendor/contractor certifications must be submitted to ADECA.

Please review the Grant Application Guide and Grant Application for further information on the consideration of Minority Business Enterprises and Disadvantaged Business Enterprises, and other information about the ABAF application rating process.

1. **Will applicants be required to provide their own funds for these projects? Are there other requirements for the mix of funding sources to support each project?**

Yes, individual grant awards may not exceed the lesser of 80 percent of the project costs or $5,000,000. Any award under the ABAF, when combined with other forms of state or federal support or assistance dedicated to the project, other than interest bearing loans, may not exceed 90 percent of the total project costs. Loans, such as those from the USDA, are not considered a source of “federal funds” for the purpose of this grant program. The applicant is responsible for securing funding for all project expenses beyond the grant award. At least 20 percent of the project funds must be paid for with funds other than the ABAF grant.

**Note:** *This is a reimbursement program. Funds will not be disbursed until work is completed and all program requirements have been met, including all reporting and project closeout obligations.*

1. **Can a local entity contribute funding to these projects?**

Yes, local entities that are not applicants may, but are not required to, contribute financial resources to these projects. To document a local entity’s funding, an application must include a resolution from the local entity committing specific funding amounts to the project. The local entity and/or the applicant should specify if the local entity’s match will rely on local, state, or federal funding sources.

Separate from committed funding from local entities, applicants may also describe demonstrated community support for a project by including letters that are specific to the applicant’s project and other types of documented support from the local community and may also separately commit to additional community support projects. Additional points may be given based on the demonstrated community support.

Please review the Grant Application Guide and Grant Application for further information on this subject, including a sample local entity resolution regarding the commitment of funding and examples of community support projects that may qualify for additional points.

1. **May an applicant submit an application for more than one project?**

Yes, an applicant may submit an application and receive funding for more than one project. Proposed service areas for each project do not need to be contiguous and may be combined as a single project. If an applicant submits multiple projects, each project must have its own letter of intent, application, and budget, and must stand alone in the described benefits and services proposed for the project area. Each project must comply with all ABAF program requirements.

1. **Will this grant reimburse projects that are currently underway?**

No, any activities that take place before the effective date of the grant agreement are ineligible for reimbursement. Additionally, while applicants may use this funding to expand or complement an existing project, each funded project must “stand alone.” To receive reimbursement, applicants must ensure that each project complies with all applicable ABAF criteria without reference to any other project and the funded project will be complete and in compliance with closeout requirements at the end of the grant period without reliance on any other project.

1. **How long does a recipient have to complete a project?**

ABAF-funded projects normally must be completed within two years of the grant award. Applicants who demonstrate project complexity may request more than two years to complete the project. Recipients that demonstrate that the project is progressing may request an extension for up to one year for project delays beyond the recipient’s control. ADECA must approve any extension request before it becomes effective and ADECA may rescind grants for projects not showing progress.

If a recipient fails to complete a project within the two-year deadline, or within an extended deadline, ADECA may revoke the grant in its entirety and rededicate the funds to a new recipient.

1. **What are the reporting and closeout requirements? When does a recipient receive funding?**

Recipients who are funded in program year 2022 or later will be required to report progressive completion on a quarterly basis until closeout. The recipient will be required to conduct testing and prepare a final project closeout report. **Recipients will be responsible for obtaining the equipment, software, or any other applications necessary to conduct the required testing to validate speeds, latency, and other requirements identified in the Grant Application and grant agreement**. Recipients should closely review the Program Guide to ensure compliance with the quarterly and final reporting requirements. ADECA will provide grant funding as a reimbursement to the recipient within 30 days of successful completion of the project closeout requirements.

1. **Will the recipient’s normal procurement procedures be sufficient, or will public procedures be required?**

Recipients that are non-government entities are not required to follow or comply with Alabama Bid and Alabama Public Works Laws. However, recipients that are subject to the Alabama Bid and Public Works Laws, such as governmental entities, are expected to be familiar with their procurement obligations and procedures under these laws that apply to the projects funded by this program. Similarly, recipients are expected to be familiar with the mix of funding for their projects and, if a project is relying on federal funding, to be familiar and comply with any federal procurement requirements.

1. **Will recipients be required to follow environmental requirements and procedures?**

Compliance with federal, state, and local requirements for permitting, reporting, environmental review, or other approvals may be required. Applicants must familiarize themselves and comply with these requirements. If federal funds are used, federal regulations may apply to the entire project, including those related to environmental approvals.

1. **Can a middle-mile project be submitted without a last-mile project that serves end users?**

To receive ABAF funding, a middle-mile project application generally must have a companion last-mile project that is approved for funding. A middle-mile project is one that does not provide broadband service to end users or to end-user devices. Generally, a middle-mile application must demonstrate that the proposed project will connect other service providers eligible for ABAF grants with broadband infrastructure further upstream in order to enable the providers to offer broadband service to end users. Middle-mile projects may be in unserved areas or rural areas that do not meet the definition of unserved areas if the applicant demonstrates, by specific evidence, the need for greater broadband speeds, access, capacity, resiliency, or service which is not being offered by an existing provider.

Applicants are encouraged to further review the Grant Application Guide and contact ADECA for technical assistance with any middle-mile project proposals.

1. **For the shapefile that is required in the letter of intent, does the applicant need to identify the addresses to be served or is only the polygon required?**

The shapefile only needs to show the polygon of the proposed project area.

1. **Can you define what is meant by a polygon?**

For any mapping technical assistance, please contact the Alabama Digital Expansion Division by e-mail by writing to broadband.fund@adeca.alabama.gov.

1. **Could you explain how the “average pole attachment rate” is considered or weighed for an application?**

In accordance with state law, the application asks whether the applicant assesses charges for attaching to its poles. If the answer is yes, the applicant must provide the applicant’s average pole attachment rates charged to an unaffiliated entity. This requirement does not apply to an applicant that is a utility, as defined under Ala. Code § 37-4-1(7)a. The pole attachment rate information is considered as part of the project description section of the application.

1. **If an entity is a new provider, but has not turned up subscriber service as of the opening of the application period, is it still eligible to apply for the ABAF? What if an entity has a service and track record in other states?**

**An entity that is not a current broadband service provider in any state or territory is not eligible for funding for the 2023 ABAF grant cycle**. If an entity currently provides broadband service outside of Alabama, the entity may be eligible for funding in the 2023 ABAF grant cycle. Such an entity must both (1) submit a certification that it currently does not provide broadband service in Alabama as part of the state’s mapping program and (2) provide documentation identifying its current broadband service areas and service performance outside of Alabama.

1. **Can a list and contact information for all ISPs and applicants be provided?**

Letters of intent that are posted on the ADECA website will include the ISPs’ contact information.

1. **If a provider contacts another provider to inform them that they will have a project launching, or a project has already started, how does ADECA handle the situation if the provider who is applying for funds continues to move forward?**

If an area is served or becomes served before the execution of the grant agreement, then the area is ineligible for funding. If a project has already been started by a provider and will not be finished by the time the grant agreement is executed, then the area could be eligible for funding.

1. **If an RDOF-awarded project will not reach the 100 Mbps/20 Mbps minimum service threshold, can an ISP apply for state funds for the RDOF-awarded area?**

Possibly, please contact the Alabama Digital Expansion Division by e-mail by writing to broadband.fund@adeca.alabama.gov.

1. **What is the total amount of the grant funding available?**

Approximately $25 million is available for funding through the ABAF in 2023.

1. **Is the letter of intent required?**

A letter of intent is required in order to be eligible for funding through the ABAF.

1. **Is there a list of the rating criteria available?**

The current rating criteria is available at <https://adeca.alabama.gov/grant-application-and-implementation/>.

1. **Will there be a challenge/protest process?**

No, with the availability of the Alabama Broadband Map and the requirement that applicants provide a letter of intent, there will be no challenge/protest process.

1. **Will ADECA look at RDOF areas to contact the provider who was awarded RDOF funds if the area is being applied for by another provider through the ABAF?**

Yes, ADECA will contact a provider who was awarded RDOF funds if an ABAF application has been submitted for the awarded area.

1. **Can applicants provide address-level data of a proposed grant area prior to the letter of intent deadline and get feedback from ADECA on eligible areas?**

ADECA can provide technical assistance in completing the letter of intent or application, but it will not assist in writing the letter of intent or application.

1. **How often is the Alabama Broadband Map updated?**

The Alabama Broadband Map is updated on at least an annual basis.

1. **Are ABAF funds related to American Rescue Plan Act (ARPA) or Infrastructure Investment and Jobs Act (IIJA) funds?**

No, the 2023 ABAF funds are state funds and are not related to federal ARPA or IIJA funds, which support other broadband programs.

1. **Will the applications be posted on the ADECA website along with the letters of intent?**

ADECA will post the letters of intent.

1. **Will applications be allowed to be amended if part of the project area is in a served or otherwise ineligible area?**

Yes, ADECA will allow applicants an opportunity to amend or rescind applications containing project areas that are determined to be ineligible. ADECA will contact the applicant as necessary regarding any necessary revisions and reserves the right to terminate the amendment process in response to repeated deficient applications.

1. **If an applicant submits a letter of intent and then decides not to apply for that area, is that allowable?**

Yes, an applicant is permitted to rescind a letter of intent that has been submitted and not apply for the proposed area.

1. **Is it acceptable for an applicant to provide one resolution for match if each application and match amount is listed individually in that one resolution?**

Yes, as long as the resolution is from the same entity, the applicant may submit that resolution with each application so long as it lists the project and match amounts individually.

1. **The Grant Application “strongly encourages” a field review. What does a field review entail and what does ADECA expect successful applicants to provide?**

A field review entails determining if there is current construction or other indications of new service in an area that would potentially change the classification of an area. If ADECA becomes aware that a previously unserved area becomes served prior to the execution of a grant agreement, the project will no longer be eligible for funding.

1. **What does ADECA view as sufficient supporting documentation to receive the maximum amount of allotted points for the “extension of existing infrastructure” criterion referenced in the Grant Application?**

Evidence showing that the proposed project will be an extension of existing infrastructure may include documentation or other verifiable information showing that infrastructure is already in place and/or adjacent to the proposed project area. Such existing infrastructure may belong to the applicant or be accessible to the applicant under a network lease, sharing, or other access arrangement. Publicly-available information concerning current infrastructure in place, such as information submitted to the FCC, could also be used to show that the proposed project is an extension of existing infrastructure.

1. **What types of facilities qualify as community anchors?**

Community anchors are typically considered to be libraries, schools, police and fire stations, hospitals, and other similar places. Please contact the Alabama Digital Expansion Division at broadband.fund@adeca.alabama.gov to set up a technical assistance call for specific questions about community anchors.

1. **Does the certification from a licensed Professional Engineer have to be made by an engineer specifically licensed in Alabama?**

In the Grant Application, it says “a preliminary technical evaluation of the project certified by a licensed Professional Engineer.” Please contact the Alabama Digital Expansion Division at broadband.fund@adeca.alabama.gov to set up a technical assistance call for specific questions regarding the Professional Engineer certification requirement.

1. **What will the licensed Professional Engineer be attesting to when certifying a preliminary technical evaluation?**

The engineer will be certifying the preliminary technical evaluation that must include the elements listed in the Grant Application, including information regarding proposed project infrastructure, cost estimates, schedules, network maps, and easement/permitting requirements.

1. **Do operating expenses include connection costs to the final premises (i.e. additional fiber routed from any route to the actual location)?**

Generally, construction and construction-related costs for broadband infrastructure are not operating expenses, but rather capital expenditures. Capital expenditures may include expenditures to acquire capital assets or expenditures to make additions, improvements, modifications, replacements, rearrangements, reinstallations, renovations, or alterations to capital assets that materially increase their value or useful life. If you have any additional questions regarding operating expenses and capital expenditures, please contact us for a technical assistance call.

1. **Will the Davis-Bacon Act apply to the ABAF funds?**

No, the Davis-Bacon Act generally will apply to federal grant funding, not state grant funding like the ABAF. The Davis-Bacon Act may apply if federal funding sources (e.g., ARPA) are used to support a project. Recipients are expected to be familiar with the mix of funding for their projects and, if a project is relying on federal funding, to be familiar and comply with any federal requirements.

1. **If a project area includes both incorporated and unincorporated areas, does an applicant need to break out the percentage of incorporated and unincorporated areas?**

No, when ADECA receives the shapefile, it will determine the percentages of incorporated and unincorporated areas for a project.

1. **Since the Alabama Broadband Map will not be updated until December 2022, does the current map reflect grants that were recently awarded?**

Yes.

1. **What are the due dates for the new Nondisclosure Agreements for the state’s mapping program to be signed?**

Current ISPs will receive a letter that will include information concerning the new Nondisclosure Agreements for the state’s mapping program and the submission due dates.

1. **When submitting mapping information, will the ISP be providing their service area in a census block, if service is available at an address, the speed of service at an address, and addresses where service is available but the address is not a current customer?**

Yes, ISPs will be providing their service area in a census block, including if service is available at an address and, if so, the speed of service at that address. ISPs also can claim any address where service is currently available even if that address is not a current customer.

1. **If an applicant was to secure $100,000 in outside funding, would the state match be limited to $100,000 (for a total government subsidy of $200,000), or would the state match the $100,000 and fund the balance of a subsidy request up to 50% of the project cost or the $5,000,000 cap; whichever is less?**

The state does not provide matching funds. The state provides a grant and the awardee provides the match to the state grant in accordance with the Alabama Broadband Accessibility Fund (ABAF) program rules. For the ABAF, the match rules are that the maximum state grant amount for any project may not exceed the lesser of eighty percent of the project costs or $5 million. Additionally, any award of state funds, when combined with other forms of state or federal support or assistance dedicated to the project, other than interest-bearing loans, may not exceed 90 percent of the total project costs.

1. **If an applicant had a $15,000,000 project and was to secure a $5,000,000 contribution from a community, would the state match that with $5,000,000 such that the total amount of government subsidy is $10,000,000, or would the state only match $2,500,000 bringing the total government subsidy to 50% of the project?**

The maximum state grant amount for any project may not exceed the lesser of eighty percent of the project costs or $5 million. Additionally, any award of state funds, when combined with other forms of state or federal support or assistance dedicated to the project, other than interest-bearing loans, may not exceed 90 percent of the total project costs.

1. **Will the state fund a project that is at or under $5,000,000 (with no other government funding) at 100% subsidy if requested by the applicant or only at a 50% subsidy?**

The maximum state grant amount for any project may not exceed the lesser of eighty percent of the project costs or $5 million.

1. **If an applicant has a project area that they want to go after and are not sure if they want to submit it as one project or two, can the applicant submit one letter of intent showing all the area and then submit two grant applications breaking the area down into two parts?**

Yes, you can reduce a project area from a letter of intent and you can split it up as well. Just make sure everything is completely contained within the original letter of intent boundaries. One letter of intent is sufficient, even if you decide to split it.

1. **In the 2023 ABAF Rating Criteria, section C: Hospitals, if an applicant is bringing additional fiber into an area, even if the hospital in the area is already served, would the applicant be able to indicate that it would be an enhancement as it could possibly serve as a redundant fiber backup in case of emergencies?**

ABAF project scoring will depend on the specific facts and support presented in an application. However, if an applicant can make a reasonable argument that it is providing a material enhancement, then ADECA would be able to award points.

1. **In the 2023 ABAF Rating Criteria, section A: MBE/DBE vendors, is it possible to get a known list of vendors? Also, does it matter if an applicant uses an MBE/DBE vendor for a piece of the project vs. the whole projects? For example, if an applicant has a design or a walkout done by an MBE/DBE vendor, but the construction is done by a non-MBE/DBE vendor, can an applicant still show that they are using an MBE/DBE vendor and get awarded points?**

ABAF project scoring will depend on the specific facts and support presented in an application. The Alabama Department of Transportation’s Disadvantaged Business Enterprise Program (DBE) list can be found at <https://www.dot.state.al.us/programs/DBE.html> and ADECA’s Office of Minority Business Enterprise (MBE) list can be found at <https://adeca.alabama.gov/ombe/>. ADECA has not established a percentage threshold for the points; however, the applicant would be meeting ADECA’s requirements if an applicant is able to document the use of MBE/DBE contractor(s) and/or vendor(s).

1. **In the 2023 ABAF Rating Criteria, section B: Other Funding Sources, is there an additional points allocation if a local municipality provides funds? If so, is there a range of funds that needs to be provided?**

ABAF project scoring will depend on the specific facts and support presented in an application. However, cash match from a local government can be worth points under community support. ADECA has not set a minimum amount, but if the local match is coming from other state or federal funds, those funds in combination with ABAF dollars cannot exceed 90% of the total project cost.

1. **Can a single application be submitted so that it covers multiple letters of intent that were originally submitted?**

Yes, as long as the project area boundary in the application is completely contained within the project area boundaries of the submitted letters of intent.

1. **How does ADECA score affordable pricing options and/or participation in the Affordable Connectivity Program (ACP)?**

Due to the investment of public funds, a commitment to affordability and participation in the Affordable Connectivity Program (ACP) are important to the implementation of ADECA’s program goals. As such, affordable pricing options and participation in the ACP program are considered in the ABAF application rating process.