

127 FERC ¶ 61,105
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Sudeen G. Kelly, Marc Spitzer,
and Philip D. Moeller.

Freeport LNG Development, L.P.

Docket Nos. CP03-75-003,
CP03-75-004,
CP05-361-001 and
CP05-361-000

ORDER AMENDING SECTION 3 AUTHORIZATIONS

(Issued May 6, 2009)

1. On November 19 and December 9, 2008, Freeport LNG Development, L.P. (Freeport LNG) filed applications to amend the authorizations issued pursuant to section 3(a) of the Natural Gas Act (NGA) on June 18, 2004,¹ August 17, 2005,² and September 26, 2006,³ to construct and operate a liquefied natural gas (LNG) import terminal on Quintana Island, Brazoria County, Texas, and associated pipeline facilities. In the November 19 application, Freeport LNG proposes to operate the existing LNG terminal facility for the additional purpose of exporting foreign-source LNG on a short-term basis. The December 9 application seeks authorization to construct and operate a boil-off gas liquefaction system and an LNG truck delivery system to provide alternative sources of LNG. For the following reasons, the Commission will amend the authorizations as requested.

¹ *Freeport LNG Development, L.P.*, 107 FERC ¶ 61,278, *reh'g and clarification granted*, 108 FERC ¶ 61,253 (2004) (June 18, 2004 Order).

² *Freeport LNG Development, L.P.*, 112 FERC ¶ 61,194 (2005) (August 17, 2005 Order).

³ *Freeport LNG Development, L.P.*, 116 FERC ¶ 61,290 (2006) (September 26, 2006 Order).

I. Background and Proposals

2. The June 18, 2004 Order authorized Freeport LNG to site, construct, and operate Phase I of the Freeport LNG Project, consisting of a single-berth unloading dock, two LNG storage tanks, vaporization facilities, and an associated 9.6-mile long, 36-inch diameter, send-out pipeline extending from the LNG terminal to the Stratton Ridge meter station in Brazoria County. Phase I of the Freeport LNG Project was authorized to transport up to 1.5 Bcf per day (Bcf/d) of regasified LNG to the Texas intrastate market.⁴ Subsequently, in the August 17, 2005 Order, the Commission authorized Freeport LNG to increase the diameter of the project's send-out pipeline from 36 to 42 inches in order to improve deliverability at the Stratton Ridge delivery point in anticipation of future market demand.

3. The September 26, 2006 Order authorized Freeport LNG to construct and operate Phase II of the Freeport LNG Project. Phase II consists of a second LNG ship berth and unloading facilities, a vaporization facility, and a third LNG storage tank. The expansion increased the LNG terminal's send-out capacity from 1.5 Bcf/d to 4.0 Bcf/d.⁵

A. The November 19 Application

4. Freeport LNG states that increasing worldwide demand for LNG and relatively low market prices for natural gas in the United States have resulted in slower than anticipated deliveries of LNG to the United States. Since it is unclear when a constant supply of foreign-sourced LNG will begin to arrive at the Freeport LNG facility,⁶

⁴ On January 15, 2008, the Office of Fuel Energy of the Department of Energy (DOE/FE) granted Freeport LNG blanket authorization to import up to 30 Bcf of LNG from various international sources for a two-year term beginning March 1, 2008. On July 1, 2008, the Commission authorized Freeport LNG to commence import service on the Freeport Phase I facilities.

⁵ On December 29, 2008, Freeport LNG was authorized to commence construction of the Freeport Phase II facilities.

⁶ To date, Freeport LNG states that only two LNG shipments have arrived at its LNG terminal. The first arrived on April 15, 2008, and the second on May 9, 2008. These shipments were used for the cool down and commissioning of the new gas handling facilities.

Freeport LNG states that the ability to export foreign-sourced LNG would enable it to sell to non-U.S. markets those volumes not required for cryogenic facility maintenance.⁷

5. Freeport LNG requests authorization under section 3 of the NGA to export from the United States to international destinations up to 24 Bcf of previously-imported LNG for a two-year period on its own behalf or as an agent for others. Freeport LNG explains that its proposed exporting of LNG would involve unloading LNG from incoming ships, storing the LNG in the terminal's onshore storage tanks, and then loading the LNG into other ships for international delivery when market conditions are favorable.

6. In order to engage in export activities, Freeport LNG proposes to convert one of its existing unloading arms on the Phase I unloading dock to serve as a loading line to transfer export-bound LNG from the terminal's storage tanks to awaiting ships. The conversion involves replacement of a check valve with a short spool and the upgrade of a control valve. The equipment modification will be confined to the Phase I berthing dock and will not require any construction workspace beyond the operational footprint of the Phase I terminal.

B. The December 9 Application

7. Freeport LNG contends that in order to maintain its LNG storage tanks in a constant cryogenic state, there must be sufficient LNG in each tank to keep the in-tank pumps submerged. Given the uncertainty associated with the timing of receipt of foreign-sourced LNG, Freeport LNG states that it has become necessary to pursue an alternative means to ensure that its LNG storage tanks contain a sufficient level of LNG without relying on imported LNG. Freeport LNG states that during routine terminal operations, ambient heat input into the LNG storage tanks and piping causes small amounts of LNG to evaporate. The vaporizing LNG (referred to as boil-off gas) increases storage tank pressure until a point is reached where it must be transferred elsewhere, flared, or re-liquefied. Under normal operating conditions, boil-off gas would be compressed and combined with the main volume of regasified LNG that enters Freeport LNG's send-out pipeline for delivery to downstream points. However, in order to ensure an adequate supply of LNG to maintain its tanks, Freeport LNG requests authorization: (1) to add a boil-off gas liquefaction system that would be integrated into

⁷ On August 1, 2008, Freeport LNG filed in Docket No. 08-70-LNG an application with the DOE/FE for blanket authorization to export up to 24 Bcf of previously-imported foreign-sourced LNG for a two-year term from its Quintana Island facilities. The requested authorization is currently pending.

the existing Phase I facilities at the Quintana Island terminal and (2) allowing the receipt of LNG by truck.

8. Specifically, Freeport LNG proposes to install facilities that would enable it to liquefy approximately 5 MMcf/d of boil-off gas and return it to the LNG storage tanks in order to keep the tanks in the necessary cryogenic state. The boil-off liquefaction system would consist of one boil-off gas liquefaction heat exchanger, one boil-off gas liquefaction expander-compressor, two boil-off gas compression lube oil filters, three boil-off gas refrigeration compressor units (approximately 1,380 horsepower each), and aboveground piping for natural gas and LNG. The boil-off gas liquefaction system would also require the installation of pressure and temperature controllers and associated electrical, control, lighting instrumentation, and communication systems.

9. In addition, Freeport LNG proposes to make minor facility modifications in order to undertake LNG truck unloading activities in the event that the boil-off gas liquefaction facilities are not available.⁸ Construction of the truck unloading facilities would include the installation of a single 4-inch diameter inlet connection and valves on one of the existing LNG transfer lines to the storage tanks and use of a 25 horsepower portable electric pump, as needed. Freeport LNG will use these facilities to transfer the LNG from the trucks to the existing tanks. Freeport LNG anticipates that it would receive truck deliveries of 66,000 gallons of LNG each day that delivery of LNG by truck is required. Freeport LNG states that equipment installation for the boil-off gas liquefaction and the truck unloading facilities would not require any construction workspace beyond the operational footprint of the Phase I terminal.

II. Notice and Interventions

10. Notice of Freeport LNG's November 19, 2008 application was published in the *Federal Register* on December 8, 2008 (73 Fed. Reg. 74,484). Jerry Masters filed a timely, unopposed motion to intervene. Timely, unopposed motions to intervene are granted pursuant to Rule 214(c) of the Commission's Rules of Practice and Procedure.⁹

11. Notice of Freeport LNG's December 9, 2008 application was published in the *Federal Register* on December 23, 2008 (73 Fed. Reg. 78,780). There were no timely motions to intervene, protests, or notices of intervention to the December 9 application.

⁸ LNG would be trucked from an existing commercial LNG supplier, Clean Energy Fuels Corporation, located 40 miles north of Houston.

⁹ 18 C.F.R. § 385.214(c) (2008).

12. Wallace Neeley filed a request to intervene out-of-time and protest to the November 19 application. Harold Doty, Wallace Neeley, Greg Upton, W.J. Morrison, and the Town of Quintana filed motions to intervene out-of-time to the December 9 application. The parties filing untimely motions to intervene have demonstrated an interest in this proceeding and have shown good cause for intervening out-of-time. Further, the untimely motions will not delay, disrupt, or otherwise prejudice this proceeding. Thus, we will grant the untimely motions to intervene.

13. The motions to intervene out-of-time included protests to the proposed receipt of LNG truck. On February 25, 2009, Freeport LNG filed an answer to the protests. Although the Commission's Rules of Practice and Procedure do not permit answers to protests,¹⁰ we may for good cause waive this provision. In this instance, we find good cause to accept the answer because it provides information that assists us in our decision-making.

III. Discussion

14. Since the proposed facility enhancements would be used to export foreign-sourced LNG and to maintain adequate levels of LNG in the storage facilities, the construction and operation of the facilities require approval by the Commission under section 3 of the NGA.¹¹

15. Section 3 of the NGA provides that the Commission "shall issue such order on application" if it finds that the proposal "will not be inconsistent with the public interest." Our earlier orders concluded that the Freeport LNG Project will provide needed supplies of natural gas to customers in Texas. The proposals to make modifications in facilities to permit export of LNG and provide alternative supplies of LNG in order to maintain adequate levels of LNG in storage will greatly enhance the terminal's operational

¹⁰ 18 C.F.R. § 385.213(a)(2) (2008).

¹¹ The regulatory functions of section 3 of the NGA were transferred to the Secretary of Energy in 1977 pursuant to section 301(b) of the Department of Energy Organization Act (Pub. L. No. 95-91, 42 U.S.C. § 7101 *et seq*). In reference to regulating the imports or exports of natural gas, the Secretary subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the construction of new domestic facilities, the place of entry for imports or exit for exports. DOE Delegation Order No. 00-004.00, 67 Fed. Reg. 8,946 (2002). Section 311 of the Energy Policy Act of 2005 amended section 3 of the NGA to clarify the Commission's exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal.

flexibility. The ability to export foreign-sourced LNG will provide Freeport LNG with greater latitude to acquire LNG for maintenance and operation of its facilities during those periods when LNG deliveries for ultimate domestic use may not otherwise be adequate to maintain the terminal in a state of readiness to serve U.S. markets. Similarly, modification of the LNG terminal to enable Freeport LNG to liquefy boil-off gas and to receive LNG by trucking will enhance Freeport LNG's ability to maintain safe and continuous cryogenic terminal operations without altering the basic purpose or character of the existing LNG terminal facility. The proposals will not have an impact on any landowners since all of the construction is taking place within Freeport LNG's existing terminal site. Thus, we find that, subject to the conditions imposed in this order, Freeport LNG's proposal is not inconsistent with the public interest.

IV. Environmental Review

16. On January 12, 2009, we issued a *Notice of Intent to Prepare an Environmental Assessment* for the proposed Freeport LNG Export and Boil-Off Gas Liquefaction and Truck Delivery Facilities Projects and Request for Comments on Environmental Issues (NOI). We received six letters in response to the NOI, including one from the Alabama-Coushatta Tribe of Texas expressing concerns with impact to religious, cultural, or historical assets of the Tribe. The remaining five comment letters were from individuals who raised issues including: impacts on public safety; wetlands, vegetation and wildlife, threatened and endangered species; and concerns that the proposed trucking of LNG to the terminal would affect air quality, create noise, damage roads, and discourage tourism.

17. Our staff prepared an environmental assessment (EA) for Freeport LNG's proposal that was issued for public comment and placed into the public record on March 13, 2009. The EA addresses geology, soils, water resources, wetlands, fisheries, wildlife, vegetation, land use, cultural resources, air quality, noise, safety, and alternatives. The EA also addresses all of the substantive comments that were received in response to the NOI. We received comment letters on the EA from Mr. Doty, Mr. Neeley, and Mr. Morrison. All three commenters submitted concerns similar to the comments received on the NOI with regard to the use of commercial trucks to deliver LNG to the Freeport LNG Terminal on Quintana Island. In addition, Mr. Neeley suggested delivering LNG by barge as an alternative to trucking LNG onto Quintana Island, which was an issue not addressed in the EA.

18. In their comment letters, Mr. Doty and Mr. Neeley questioned whether Freeport LNG properly notified the residents of Quintana Island of the trucking project. While Mr. Doty was notified by Freeport LNG of the project, Mr. Neeley contends he did not receive notice of the project from Freeport LNG.

19. Our regulations require the applicant to make a good faith effort to notify all landowners within 0.5 mile of proposed LNG facilities or projects affecting the facility.¹² It is possible that some residents within 0.5 mile of the project, *e.g.*, Mr. Neeley, did not receive a direct mailing from Freeport LNG. Our regulations, however, also require notification by publication in a newspaper of general circulation. While Mr. Neely may not have received a letter from Freeport LNG notifying him of the project, he did submit comments on the project during the scoping period and was placed on our staff's environmental mailing list and sent a copy of the EA when it was issued. Based on articles in the local newspaper and the filed comments, we believe that the citizens of Quintana Island were aware of Freeport LNG's proposal prior to the issuance of the EA and had adequate opportunity to comment on the projects.

20. Mr. Doty's comment letter included concerns about possible impacts on wetlands, vegetation, and wildlife, as well as air emissions from the trucking of LNG. In section 2.4, the EA indicates that the trucks would travel on existing paved roads, but noted that the increase of traffic on the roads may increase the number of animals that are injured or killed while crossing roads. However, we believe that the increase in animals injured or killed on the roads would not be significant. The EA also concludes that there would be no significant impact on vegetation at the terminal because most areas in the terminal are previously disturbed and gravel covered. No wetlands would be disturbed by the trucking operation.

21. The potential emissions from the trucking facility, including trucks carrying the LNG, were described in section 2.9.1 of the EA. The emissions figures in the EA are based on six trucks per day making deliveries to the terminal for up to 90 days per year. However, the truck delivery is planned to be used as an option only if the boil-off gas system is not operational and no ship loads of LNG are available. There would be no significant impact on air quality from the emissions from the trucks. The construction and operation emissions from all three projects (boil-off gas, trucking of LNG, and LNG export) are well below the air quality general conformity threshold.

22. Both Mr. Doty and Mr. Neeley express concern about noise from the LNG trucks. As described in section 2.9.2 of the EA, when the trucks are outside of the LNG facility property, they would travel on county, state, or federal roads, generating noise similar to other trucks traveling along those roads. As stated in the EA, there is no state or federal regulation limiting noise levels due to vehicle travel along those roads. Due to the constantly moving nature of vehicle travel, noise levels generated when LNG trucks pass by residences or noise-sensitive areas would be short in duration (lasting minutes at the most) and would be infrequent. Therefore, the EA concludes that noise impacts due to

¹² 18 C.F.R. § 157.6(d)(2)(iii) (2008).

LNG truck traffic are not anticipated to be significant. We concur with the EA's conclusion.

23. In his comments on the EA, Mr. Neeley also expresses concern about the existing damage to County Road 723 from previous Freeport LNG projects and future damage from the LNG trucks. As discussed in the EA, for the original construction of the LNG terminal, Brazoria County issued a Heavy Load Permit for the transportation of materials to the site. As part of the permitting process, Freeport LNG was required to pay Brazoria County for all damages caused by construction activities. Brazoria County has not identified any damages attributable to the Freeport Phase I Project. A similar Heavy Load Permit would be required for use of this road by LNG trucks.

24. Mr. Neeley indicates that Freeport LNG agreed to repair or replace a culvert on County Road 723 which has partially collapsed, but that the culvert has yet to be repaired. Freeport LNG states that it has provided funding to Brazoria County to assist in the replacement of this culvert with a bridge, and that Brazoria County plans on constructing the bridge in the fall of 2009, after hurricane season.

25. Mr. Neeley also states that the large bridge over the Intracoastal Waterway which connects Quintana Island to the mainland (FM 1495) is separating. Mr. Neeley indicates that this damage may have been caused by truck traffic and heavy equipment associated with the Freeport Phase I Project. He believes that the LNG trucks would increase the damage to the bridge.

26. In its April 16, 2009 answer to comments, Freeport LNG indicates that FM 1495 is regulated by the Texas Department of Transportation (Texas DOT), and that the Texas DOT has inspected the bridge, taken steps to address and repair the gaps, and determined that the bridge is safe. If Freeport LNG uses the trucking option, we note that Brazoria County and/or the Texas DOT may stipulate additional measures in their permitting processes to further mitigate for damage to the bridge and county roads.

27. Mr. Doty, Mr. Neeley, and Mr. Morrison submitted comments expressing concern about the potential of a truck accident blocking the only evacuation route (road and bridge) from the island. Section 2.10.4.1 of the EA evaluated the project-related impact on public safety and determined that more than 35 years of safe LNG truck transportation supports the conclusion that the trucking of LNG to the Freeport LNG facility would not result in a significant risk to the public. However, to address a potential LNG truck accident at any location along the truck route on Quintana Island, we will require Freeport LNG to update its Emergency Response Plan (which includes evacuation or sheltering plans) prior to initial site preparation (environmental condition 12).

28. Mr. Neeley also suggests delivering LNG to the terminal by barge to avoid driving LNG trucks on Quintana Island. There are currently no LNG barges operating in the United States. Given the length of time it would take to obtain and place into service

LNG transport barges, we find that Freeport LNG would not be able to meet its objective of obtaining LNG by July 2009 to keep its tanks at the proper temperature.

29. Based on the discussion in the EA, we conclude that if constructed and operated in accordance with Freeport LNG's applications and supplements filed on January 14 and 22; February 4, 11, and 20; March 3, and April 16, 2009, and in accordance with the environmental conditions in the Appendix to this order, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment.

30. Any state or local permit issued with respect to the facilities authorized herein under NGA section 3 must be consistent with the conditions in this order. We encourage cooperation between Freeport LNG and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.¹³

31. Freeport LNG shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Freeport LNG. Freeport LNG shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.

32. The Commission on its own motion received and made a part of the record in this proceeding all evidence, including the applications and exhibits thereto, submitted in support of the authorizations sought herein, and upon consideration of the record,

The Commission orders:

(A) Freeport LNG's proposed amendments, as more fully described in this order and the petition, are approved, subject to the environmental conditions stated in the Appendix to this order.

(B) In all other respects, the 2004, 2005, and 2006 orders shall remain in full force and effect.

¹³ See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293; *National Fuel Gas Supply v. Public Service Comm'n*, 894 F.2d 571 (2nd Cir. 1990); *Iroquois Gas Transmission System, L.P., et al.*, 52 FERC ¶ 61,091 (1990) and 59 FERC ¶ 61,094 (1992).

(C) Freeport LNG shall notify the Commission's environmental staff by telephone, e-mail, or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Freeport LNG. Freeport LNG shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

(D) Motions to intervene out-of-time filed by Harold Doty, Wallace Neeley, Greg Upton, W.J. Morrison, and the Town of Quintana are granted.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix**Environmental Conditions**

This authorization is subject to the following environmental conditions:

1. Freeport LNG shall follow the construction procedures and mitigation measures described in its application(s) and supplement filings (including responses to staff data requests) and as identified in the EA unless modified by this order. Freeport LNG must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) before using that modification.
2. The Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property and the environment during construction and operation of the project. This authority shall include:
 - a. stop-work authority and authority to cease operation; and
 - b. the design and implementation of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of this order.
3. **Within 60 days of the acceptance of this authorization and before construction begins**, Freeport LNG shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Freeport LNG must file revisions to the plan as schedule changes. The plan shall:
 - a. identify how Freeport LNG will implement the construction procedures and mitigation measures, if any, described in its application (including responses to staff data requests), identified in the EA, and required by this order;
 - b. describe the training and instructions regarding environmental compliance that Freeport LNG will give to all personnel involved with construction; and
 - c. provide a Gantt or PERT chart (or similar project scheduling diagram) and dates for start and completion of the project.
4. Freeport LNG shall not begin construction of the Freeport LNG Export and Boil-Off Gas/Truck Projects until it files with the Secretary correspondence from the

Texas Railroad Commission confirming that no additional permits are required for compliance or that the Projects are consistent with the Coastal Zone Management Act.

The following measures shall apply to the Freeport LNG design and construction details for the proposed modifications. Information pertaining to these specific recommendations should be filed with the Secretary for review and approval by the Director of OEP either: prior to initial site preparation; prior to construction of final design; prior to commissioning; or prior to commencement of service as indicated by each specific condition. Specific engineering, vulnerability, or detailed design information meeting the criteria specified in Order No. 683 (Docket No. RM06-24-000), including security information, should be submitted as critical energy infrastructure information pursuant to 18 C.F.R. § 388.112. See Critical Energy Infrastructure Information, Order No. 683, 71 Fed. Reg. 58,273 (October 3, 2006). FERC Stats. & Regs. ¶ 31,228 (2006). Information pertaining to items such as: offsite emergency response; procedures for public notification and evacuation; and construction and operating reporting requirements would be subject to public disclosure. This information should be submitted a minimum of 30 days before approval to proceed is required.

5. Complete plan drawings and a list of the hazard detection equipment shall be filed **prior to initial site preparation**. The list shall include the instrument tag number, type and location, alarm locations, and shutdown functions of the proposed hazard detection equipment. Plan drawings shall clearly show the location of all detection equipment.
6. Complete plan drawings and a list of the fixed and wheeled dry-chemical, fire extinguishing, and other hazard control equipment shall be filed **prior to initial site preparation**. The list shall include the equipment tag number, type, size, equipment covered, and automatic and manual remote signals initiating discharge of the units. Plan drawings shall clearly show the planned location of all fixed and wheeled extinguishers.
7. Facility plans showing the proposed location of, and area covered by, each monitor, hydrant, deluge system, hose, and sprinkler, as well as piping and instrumentation diagrams, of the fire water system shall be filed **prior to initial site preparation**.
8. The **final design** of the fixed and wheeled dry-chemical, fire extinguishing hazard control equipment shall identify manufacturer and model.

9. The **final design** shall include a Hazard and Operability review of the completed design. A copy of the review and a list of the recommendations and results shall be filed.
10. Documentation and information shall be provided **during final design** regarding the statements made by Freeport LNG in filings on January 14, January 22, and February 4, 2009, which indicate that certain features would be included or considered in the final design. The final design shall specifically address response number 7 in the January 14 filing; response numbers 15, 16, 31, 34, and 35 in the January 22 filing; and response numbers 25, 26, 30 and Attachment 1 in the February 4 filing using management of change procedures.
11. Progress on construction of the project shall be reported in **monthly** reports filed with the Secretary. Details shall include a summary of activities, projected schedule for completion, problems encountered and remedial actions taken. Problems of significant magnitude shall be reported to the Commission **within 24 hours**.
12. Freeport LNG shall update its Emergency Response Plan to address a potential LNG truck accident at any location along the truck route on Quintana Island and to coordinate procedures with state, county, and local emergency planning groups, fire departments, state and local law enforcement, and appropriate federal agencies. The updates to the Emergency Response Plan shall be prepared in consultation with appropriate agencies and filed with the Secretary for review and written approval by the Director of OEP **prior to initial site preparation**.