POSSIBLE AREAS FOR STANDARDS DEVELOPMENT:

- Gas Quality
  - FERC Policy Statement (see attached)
  - Request R03035 (see attached)
  - Request R06008 (see attached)
- E-Tariff Changes
- Best Practices
GAS QUALITY -- FERC POLICY STATEMENT

The Federal Energy Regulatory Commission today adopted a generic policy statement on natural gas quality and interchangeability that delineates five principles the Commission will use as it continues to address disputes over gas quality and interchangeability on a case-by-case basis. At the same time, the Commission denied a petition for a rulemaking on the issue.

“This policy statement should limit disputes over gas quality and interchangeability, which have been on the increase due to economic decisions about processing gas and the nation’s increasing need to develop liquefied natural gas import capacity,” said Commission Chairman Joseph T. Kelliher. “The good level of consensus reached by industry on these issues helped put the Commission in the position where it could act today.”

Natural gas is principally methane, but its exact composition will differ depending on its geological point of origin. In addition to methane, natural gas can contain liquid hydrocarbons and non-hydrocarbon compounds affecting the quality of the gas, which can have an impact on pipeline operations and the gas-burning equipment of end-use customers. Given these variations in gas quality, interchangeability becomes an issue when a substitute gas replaces the gas normally burned by an end-use customer.

“The Commission has seen interest in natural gas quality and interchangeability issues escalate for several years, and these issues have come before the Commission in complaints, proposed tariff provisions and certificate proceedings,” the Commission noted in the policy statement.

“Although each case involves unique circumstances, collectively these cases reveal a growing tension between the desire of natural gas pipelines and distributors to ensure the quality of gas entering their facilities, and the desire of producers and shippers to have their product transported without onerous or unduly discriminatory processing requirements,” the Commission said in the policy statement.

“Another recurring theme is the desire of end-use customers to receive gas that will not harm their gas-fueled equipment nor cause inefficient operations,” the Commission noted in the policy statement.

Chairman Kelliher observed: “Our policy statement reflects two clear goals. First, we must meet the essential needs of consumers by accommodating the greatest economic mix of gas supply with minimum barriers to new supply sources. Second, we must assure the safe and reliable operation of interstate natural gas pipelines. Our approach must be consistent with both of these policy goals.”

The policy statement relies on extensive input from the Natural Gas Council, representatives of end-users, appliance manufacturers, turbine manufacturers, local distribution companies, process gas users, gas processors, natural gas producers and pipelines, Commission technical conferences, various industry reports and comments filed for Commission consideration.
The following five principles are delineated in the policy statement:

1. Only natural gas quality and interchangeability specifications contained in a Commission-approved gas tariff can be enforced;

2. Pipeline tariff provisions on gas quality and interchangeability need to be flexible to allow pipelines to balance safety and reliability concerns with the importance of maximizing supply, as well as recognizing the evolving nature of the science of underlying gas quality and interchangeability specifications;

3. Pipelines and their customers should develop gas quality and interchangeability specifications based on technical requirements;

4. In negotiating technically based solutions, pipelines and their customers are strongly encouraged to use the Natural Gas Council Plus (NGC+) interim guidelines filed with the Commission February 28, 2005, as a common reference point for resolving gas quality and interchangeability issues; and

5. To the extent pipelines and their customers cannot resolve disputes over gas quality and interchangeability, those disputes can be brought before the Commission on a case-by-case basis to be resolved based on a record of fact and technical review.

The Commission noted that several different indices have been developed to characterize the quality and interchangeability of different natural gases, with each having limits to the predictive value of its application. “The importance of measuring interchangeability, regardless of the index used, is that it provides a predictive correlation between the specific measurable physical characteristics of natural gas and burner tip performance,” the Commission said.

In a separate order today, the Commission denied a petition for a rulemaking addressing natural gas quality and interchangeability, filed by the Natural Gas Supply Association (NGSA) on May 16, 2005. Comments received in response to NGSA’s filing “provided little support” for the rulemaking petition, the Commission noted.

“The Commission has evaluated the substantial comments received in this docket, including comments on the technical conferences, the reports and the NGSA Petition,” the Commission said. “On balance, the Commission finds that adoption of a prescriptive rule is not appropriate at this time. Rather, the Commission has decided that the best approach at the present time is to proceed case-by-case, with the Commission’s action in dealing with gas quality and interchangeability issues informed by a statement of policy on these issues.”
R03035
North American Energy Standards Board
Request for Initiation of a NAESB Business Practice Standard, Model Business Practice or Electronic Transaction
or
Enhancement of an Existing NAESB Business Practice Standard, Model Business Practice or Electronic Transaction

Date of Request: December 11, 2003

1. Submitting Entity & Address:
   Florida Power & Light Company
   700 University Boulevard, EMT/ JB
   Juno Beach, FL 33058

2. Contact Person, Phone #, Fax #, Electronic Mailing Address:
   Name : Dona Gussow
   Title : Contracts Coordinator
   Phone : 561-691-7886
   Cell : 561-301-8598
   Fax : 561-625-7567
   E mail : dgussow@fpl.com

3. Description of Proposed Standard or Enhancement:
   Establish standards relating to gas quality specifications and measurement, as follows:
   A. Establish web-based reports for tracking all physical and chemical properties of natural gas defined in pipeline tariffs, including timelines for reporting.
   B. Develop a uniform process, including the underlying assumptions and methodologies, for determining gas quality specifications from measured data.
   C. Examine the need to establish gas quality specification standards taking into consideration, (i) the specification needs of end users and providers of service to end users, and (ii) sources of supply (e.g. land-based, the Gulf, LNG). Draft such standards as appropriate.

4. Use of Proposed Standard or Enhancement (include how the standard will be used, documentation on the description of the proposed standard, any existing documentation of the proposed standard, and required communication protocols):
   Development of the gas quality specification standards would assist end users by providing a means to determine fuel quality (needed for optimizing operation of gas powered electric power generation equipment), facilitate emissions reporting to regulatory agencies, and facilitate electric power generation planning.

5. Description of Any Tangible or Intangible Benefits to the Use of the Proposed Standard or Enhancement:
   The proposed standards would make standardized gas quality information, including the derivation of gas quality specifications, available to the industry.
   A multi-quadrant task force (assuming multi-quadrant assignment by the quadrant Executive Committees) can be formed to review the issues resulting from participating gas and electric representatives having a full understanding of the costs vs. the benefits of standardizing gas quality specifications.
Given the realities in the marketplace and positive impact these standards would have on electricity generation, Florida Power & Light Company anticipates being actively involved on these issues.

6. Estimate of Incremental Specific Costs to Implement Proposed Standard or Enhancement:
   Cannot be ascertained at this time.

7. Description of Any Specific Legal or Other Considerations:
   Cannot be ascertained at this time. However, standards produced could result in the need to modify pipeline tariffs.

8. If This Proposed Standard or Enhancement Is Not Tested Yet, List Trading Partners Willing to Test Standard or Enhancement (Corporations and contacts):
   Not determined at this time.

9. If This Proposed Standard or Enhancement Is In Use, Who are the Trading Partners:
   Not Applicable.

10. Attachments (such as: further detailed proposals, transaction data descriptions, information flows, implementation guides, business process descriptions, examples of ASC ANSI X12 mapped transactions):
    A comparison table of current gas quality specification calculations is attached.
## DRAFT COMPARISON OF PIPELINE NATURAL GAS QUALITY SPECIFICATIONS

**[REVISED 12/15/03]**

<table>
<thead>
<tr>
<th>PIPELINE</th>
<th>HOW HV DETERMINED</th>
<th>HEAT VALUE (HV) [BTU/SCF]</th>
<th>WATER (H₂O) [lbs/million cf]</th>
<th>HYDROGEN SULFIDE (H₂S) [grains/100 cuft]</th>
<th>MERCAPTAN [grains/100 cuft]</th>
<th>TOTAL SULFUR (S) [grains/100 cuft]</th>
<th>OXYGEN (O) [% by volume]</th>
<th>NITROGEN (N) [% by volume]</th>
<th>CARBON DIOXIDE (CO₂) [% by volume]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Industry Practice</td>
<td>≥960</td>
<td>≤7</td>
<td>&lt;1</td>
<td>No Spec</td>
<td>≤20</td>
<td>No Spec</td>
<td>No Spec</td>
<td>No Spec</td>
</tr>
<tr>
<td>B</td>
<td>Standard Instrument</td>
<td>967-1200</td>
<td>≤7</td>
<td>≤¼ - Mainline</td>
<td>No Spec</td>
<td>≤20</td>
<td>≤1</td>
<td>≤3</td>
<td>≤2</td>
</tr>
<tr>
<td>C</td>
<td>Not Defined</td>
<td>≥978</td>
<td>≤7</td>
<td>≤1</td>
<td>No Spec</td>
<td>≤20</td>
<td>≤1</td>
<td>No Spec</td>
<td>No Spec</td>
</tr>
<tr>
<td>D</td>
<td>AGA Rpt#5 –or- Other</td>
<td>967-1100</td>
<td>≤7</td>
<td>≤1/4</td>
<td>No Spec</td>
<td>≤20</td>
<td>≤2 [NOTE 2.a]</td>
<td>≤4 + [NOTE 2.a]</td>
<td>≤3 + [NOTE 2.a]</td>
</tr>
<tr>
<td>E</td>
<td>Continuous Sampling AGA Rpts</td>
<td>≥967</td>
<td>≤7</td>
<td>≤0.25</td>
<td>≤0.75</td>
<td>≤5</td>
<td>[NOTE 2.b] Including all forms of sulfur</td>
<td>≤2 [NOTE 2.b]</td>
<td>≤2 + [NOTE 2.b]</td>
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<tr>
<td>F</td>
<td>GPA Std 2172</td>
<td>≤1000</td>
<td>≤7</td>
<td>≤1/4</td>
<td>No Spec</td>
<td>≤10</td>
<td>≤1/4</td>
<td>[NOTE 2.c]</td>
<td>[NOTE 2.c]</td>
</tr>
<tr>
<td>G</td>
<td>Continuous Sampling –or- Other</td>
<td>No Spec</td>
<td>≤7</td>
<td>≤0.25</td>
<td>No Spec</td>
<td>≤20</td>
<td>≤2</td>
<td>[NOTE 2.c]</td>
<td>2 + [NOTE 2.c]</td>
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## Gas Quality -- Request R03035 Attachment

<table>
<thead>
<tr>
<th>PIPELINE</th>
<th>HOW HV DETERMINED</th>
<th>HEAT VALUE (HV) [BTU/SCF]</th>
<th>WATER (H₂O) [lbs/million cf]</th>
<th>HYDROGEN SULFIDE (H₂S) [grains/100 cuft]</th>
<th>MERCAPTAN [grains/100 cuft]</th>
<th>TOTAL SULFUR (S) [grains/100 cuft]</th>
<th>OXYGEN (O) [% by volume]</th>
<th>NITROGEN (N) [% by volume]</th>
<th>CARBON DIOXIDE (CO₂) [% by volume]</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Standard Methods</td>
<td>1000-1075</td>
<td>≤7</td>
<td>≤1/4</td>
<td>No Spec</td>
<td>≤10</td>
<td>≤25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>AGA Rpt#3</td>
<td>950-1175</td>
<td>≤7</td>
<td>16 PPM</td>
<td>No Spec</td>
<td>320 PPM</td>
<td>≤2</td>
<td>≤3</td>
<td>≤3</td>
</tr>
<tr>
<td>J</td>
<td>Not Defined</td>
<td>≥950</td>
<td>≤4</td>
<td>≤1</td>
<td>No Spec</td>
<td>≤20</td>
<td>≤2</td>
<td>4 less % by volume of CO₂</td>
<td>≤3</td>
</tr>
<tr>
<td>K</td>
<td>Not Defined</td>
<td>≥950</td>
<td>≤7</td>
<td>≤1/4</td>
<td>≤1/4</td>
<td>≤1/2</td>
<td>10 PPM</td>
<td>≤3</td>
<td>≤2</td>
</tr>
<tr>
<td>L</td>
<td>Not Defined</td>
<td>≥950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Standard Instrument</td>
<td>≥970</td>
<td>≤7</td>
<td>≤1/4</td>
<td>≤1/4</td>
<td>≤5</td>
<td>≤2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Not Defined</td>
<td>≥950</td>
<td>≤7</td>
<td>≤10</td>
<td>No Spec</td>
<td>200 total</td>
<td>≤1</td>
<td>3 total (combined with CO₂)</td>
<td>3 total (combined with N)</td>
</tr>
<tr>
<td>O</td>
<td>Not Defined</td>
<td>≥967</td>
<td>No Spec</td>
<td>≤0.25</td>
<td>No Spec</td>
<td>≤20</td>
<td>No Spec</td>
<td>No Spec</td>
<td>No Spec</td>
</tr>
<tr>
<td>P</td>
<td>Not Defined</td>
<td>≥967</td>
<td>≤7</td>
<td>≤5 -or- 8PPM</td>
<td>No Spec</td>
<td>≤10</td>
<td>No Spec</td>
<td>4 less % by volume of CO₂</td>
<td>≤3</td>
</tr>
<tr>
<td>Q</td>
<td>Not Defined</td>
<td>≥967</td>
<td>≤7</td>
<td>≤1/4</td>
<td>No Spec</td>
<td>≤20</td>
<td>No Spec</td>
<td>4 less % by volume of CO₂</td>
<td>≤3</td>
</tr>
<tr>
<td>R</td>
<td>Not Defined</td>
<td>980-1100</td>
<td>≤7</td>
<td>≤3</td>
<td>No Spec</td>
<td>≤20</td>
<td>No Spec</td>
<td>No Spec</td>
<td>No Spec</td>
</tr>
</tbody>
</table>
### Wholesale Gas Possible Directions

**June 22, 2006**

**Gas Quality -- Request R03035 Attachment**

<table>
<thead>
<tr>
<th>PIPELINE</th>
<th>HOW HV DETERMINED</th>
<th>HEAT VALUE (HV) [BTU/SCF]</th>
<th>WATER (H2O) [lbs/million cf]</th>
<th>HYDROGEN SULFIDE (H2S) [grains/100 cuft]</th>
<th>MERCAPTAN [grains/100 cuft]</th>
<th>TOTAL SULFUR (S) [grains/100 cuft]</th>
<th>OXYGEN (O) [% by volume]</th>
<th>NITROGEN (N) [% by volume]</th>
<th>CARBON DIOXIDE (CO2) [% by volume]</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Not Defined</td>
<td>950-1100</td>
<td>≤7</td>
<td>≤1/4</td>
<td>1</td>
<td>≤5</td>
<td>≤.05</td>
<td>No Spec</td>
<td>≤2</td>
</tr>
</tbody>
</table>

**NOTES:**

- Total Sulfur Content Notes
  - **Total Sulfur Content Not Specified.**
  - **Total Sulfur Includes Mercaptan.**
  - **Total Sulfur Excludes Mercaptan.**
  - **Total Sulfur Includes H2S.**
  - **Total Sulfur Excludes H2S.**

- Nonhydrocarbon Gases Notes
  2.a Gas shall not contain more than 5% by volume of nonhydrocarbon gases including, but not limited to, carbon dioxide, nitrogen, oxygen.
  2.b Gas shall not contain more than 3% by volume of nonhydrocarbon gases including, but not limited to, carbon dioxide, nitrogen, oxygen, helium.
  2.c Gas shall not contain more than 3% by volume of carbon dioxide + nitrogen.
Request for Initiation of a NAESB Standard for Electronic Business Transactions
or
Enhancement of an Existing NAESB Standard for Electronic Business Transactions

GAS QUALITY -- REQUEST R06008

North American Energy Standards Board
Request for Initiation of a NAESB Standard for Electronic Business Transactions
or
Enhancement of an Existing NAESB Standard for Electronic Business Transactions

Date of Request: May 12, 2006

1. Submitting Entity & Address:
   National Fuel Gas Distribution Corporation
   6363 Main Street
   Williamsville, NY 14221

2. Contact Person, Phone #, Fax #, Electronic Mailing Address:
   Name: Michael Novak
   Title: Asst. General Manager
   Phone: (716) 857-7884
   Fax: (716) 857-7254
   E mail: novakm@natfuel.com

3. Description of Proposed Standard or Enhancement:
   While the implementation of NAESB WGQ Standard 4.3.90 (and other related standards) by most
   Transportation Service Providers (TSPs) has been commendable, some TSPs interpreted the standards language
   to limit the data to be provided to just those items specified within their tariffs. This was counter to the intention
   of the Executive Committee (EC) - that all available data at representative points be made available. For
   example, some TSPs post BTU values but none of the hydrocarbon components. The language of 4.3.90 can be
   read (but misinterpreted) to provide for such a result, therefore, modifications are proposed to reduce that
   ambiguous nature of the existing standards language. These proposed changes will still preserve another
   intention of the EC - that implementation of 4.3.90 would not require procurement of incremental gas quality
   equipment by the TSP.

   Additionally, the addition of Wobbe Number to the list of gas quality attributes reflects growing industry
   acceptance of Wobbe as a key measure of interchangeability [e.g. 1) NGC+ White Paper on Natural Gas
   Interchangeability and Non-Combustion End Use, 2) Initial Decision Docket Nos. RP04-249-001, April 11,
   2006]

   Standard:

   4.3.90 The Transportation Service Provider (TSP) should provide on its Informational Postings Web Site daily
   average gas quality information for prior gas day(s), to the extent available, for location(s) that are representative
   of mainline gas flow. The information available for the identified location(s) should be provided in a
   downloadable format. Information should be reported in units as specified in the tariff or general terms and
   conditions. In any event, compliance with gas quality requirements is in accordance with the TSP’s tariff or
   general terms and conditions.

   The following are examples of gas quality attributes that could should be included, to the extent measured,
   collected, readily calculated or otherwise available, in the posting for the applicable Gas Day(s) and location(s):
   • Heating Value
   • Wobbe Number
   • Hydrocarbon Components, % of C1 – Cnn, as used in determining Heating Value
• Specific Gravity
• Water
• Nitrogen
• Carbon Dioxide
• Oxygen
• Hydrogen
• Helium
• Total Sulfur
• Hydrogen Sulfide
• Carbonyl Sulfide
• Mercaptans
• Mercury and/or any other contaminants being measured
• Other pertinent gas quality information that is specified in the TSP’s tariff or the general terms and conditions.

For NAESB WGQ Standard 4.3.91, some Transportation Service Providers (TSPs) meet the letter of the standard by providing data but make access to the data unnecessarily difficult. For example, data from the required three month-period is available through download one day at a time (instead of the user requested period) or for a given day, for one point rather than for user selected points. The intent of the proposed modification to 4.3.91 is to put a minimum performance standard on the availability of data.

Standard:

4.3.91 Data provided pursuant to NAESB WGQ Standard No. 4.3.90 should be made available on the Transportation Service Provider’s Web Site for the most recent three-month period. At minimum, data for the most recent three-month period should be made available through a single user operation for:
  • For a single location representative of mainline gas flow, all Gas Day(s)
  • For a single Gas Day, all location(s) representative of mainline gas flow.

Beyond the initial three-month period, the historical data should be made available offline in accordance with regulatory requirements.

4. Use of Proposed Standard or Enhancement (include how the standard will be used, documentation on the description of the proposed standard, any existing documentation of the proposed standard, and required communication protocols):

The proposed changes are consistent with the current usage.

5. Description of Any Tangible or Intangible Benefits to the Use of the Proposed Standard or Enhancement:

Gas Quality and particularly Interchangeability are, in part, safety issues. Industry participants need access to all available data so that more informed business and regulatory decisions can be made.

6. Estimate of Incremental Specific Costs to Implement Proposed Standard or Enhancement:

There are some TSPs that already calculate and provide a Wobbe Number – these pipelines should see no incremental cost. For most TSPs, there will be nothing more than the incremental cost of computing and proving the Wobbe number (a function of available data: BTU (LHV) and Specific Gravity). For those TSPs that did not implement consistent with the intention of the EC, costs could be higher. In either case, because the data is available and will not require procurement of incremental gas quality equipment by the TSP, costs should be limited to software development and otherwise be negligible.
GAS QUALITY -- REQUEST R06008

7. Description of Any Specific Legal or Other Considerations:
   None known at this time.

8. If This Proposed Standard or Enhancement Is Not Tested Yet, List Trading Partners Willing to Test Standard or Enhancement (Corporations and contacts):

9. If This Proposed Standard or Enhancement Is In Use, Who are the Trading Partners:
   TSPs and Service Requestors utilizing the Standards as currently implemented.

10. Attachments (such as: further detailed proposals, transaction data descriptions, information flows, implementation guides, business process descriptions, examples of ASC ANSI X12 mapped transactions):
    Minor modifications may be necessary as described above.
1. GENERAL INFORMATION

1.1 PURPOSE:

1. Under the authority of the Federal Power Act (16 U.S.C 824 et seq.), the Natural Gas Act (15 U.S.C 717 et seq.), the Natural Gas Policy Act of 1978 (15 U.S.C 3301 et seq.), the Interstate Commerce Act (49 App. U.S.C 1 et seq. (1988)) and the various statutes pursuant to which the Commission regulates Federal power marketing agencies (16 U.S.C 839 et seq.; 16 U.S.C 825s; etc.), the Federal Energy Regulatory Commission (the Commission) promulgated 18 CFR §§ 35.7, 154.4, 284.123(d), 300 and 341. Each of these sections requires all tariffs filed pursuant to Parts 35, 154, 284, 300 and 341, all rate filings and modifications and updates of rate filings be submitted in electronic form. These instructions provide the format for the electronic file(s) submitted to the Commission.

1.2 WHO MUST FILE:

2. Each regulated entity, as defined in the Federal Power Act, the Federal power marketing agencies, the Natural Gas Act, the Natural Gas Policy Act and the Interstate Commerce Act, filing for initial rates or a change in rates pursuant to Parts 35, 154, 284, 300 or 341 of the Commission's regulations, withdraws of such tariff filings and any motions provided by these same parts that, if granted, would change the status of a proposed tariff.

1.3 WHAT TO SUBMIT:

3. Regulated entities must submit the proposed tariff changes and required documents “tariff filings” as specified in Parts 35, 154, 284, 300 or 341 of the Commission's regulations. The Commission’s tariff filing software provides regulated entities with the means by which to assemble the documents required for a tariff filing. Tariff formats that must accompany most tariff filings must be composed utilizing the Commission's tariff creation software. General instructions for the formatting of the individual documents required to accompany a tariff filing are located at Chapter 2 of this manual. Programs specific document formatting instructions are provided at Chapters 4 through 6 of this manual.

4. All data submitted in electronic format will be considered non-confidential and will be made available to the public upon request, unless accompanied by a request for privileged or confidential treatment complying with 18 CFR § 388.112 or § 385.1112 of the Commission's regulations. Instructions on how to mark and file such documents are located in Chapter 2 of this Manual. Electronic Tariff Filing Manual DRAFT 5

1.4 WHERE TO SUBMIT:

5. Submit the electronic filing to:
Office of the Secretary
Federal Energy Regulatory Commission
Washington, DC 20426
(INSERT electronic gateway address or instructions)

6. You shall not be penalized for failure to respond to this collection of information unless the collection of information displays a valid OMB control number.

1.5 WHERE TO SEND COMMENTS ON PUBLIC REPORTING BURDEN:

7. The public reporting burden for complying with the information collections covered under the control numbers listed on this manual are estimated to average 2? hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and
reviewing these collections of information. The public reporting burden for the FERC-545 collection of information is estimated to average 58.8 hours per response, the public reporting burden for the FERC-549 collection of information is estimated to average 11.2 hours per response, the public reporting burden for the FERC-550 is estimated to average 11 hours per response. Send comments regarding these burden estimates or any aspect of these collections of information, including suggestions for reducing burden, to the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426 (Attention: Information Clearance Officer, ED-30); and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 (Attention: Desk Officer for the Federal Energy Regulatory Commission).