APPENDIX 12A. MANUFACTURER IMPACT ANALYSIS INTERVIEW GUIDES: LIQUID-IMMERSED AND MV DRY-TYPE

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12A.1 Liquid-Immersed MIA Interview Guide

Liquid-Immersed
Distribution Transformer
Energy Conservation Standards Rulemaking
Manufacturer Impact Analysis Interview Guide

Navigant Consulting, Inc.
May 2005

1. KEY ISSUES

The Department of Energy (DOE) is currently considering six Trial Standard Levels (TSLs). The TSLs are presented below as they apply to the representative units selected for detailed analysis. In responding to this questionnaire, please refer to the table of TSLs below.

Product Class	**Product Class 1 (1-phase)**			**Product Class 2 (3-phase)**	
Design Lines	**DL1 10-167 kVA (rectangular tank)**	**DL2 10-167 kVA (round tank)**	**DL3 250-883 kVA**	**DL4 15-500 kVA**	**DL5 750-2500 kVA**
Representative Unit	**50 kVA**	**25 kVA**	**500 kVA**	**150 kVA**	**1500 kVA**
Base Case	None			None	
TSL1 / TP-1	98.90%	98.70%	99.30%	98.90%	99.30%
TSL2	99.04%	98.73%	99.38%	99.08%	99.36%
TSL3	99.19%	98.76%	99.46%	99.26%	99.42%
TSL4	99.33%	98.79%	99.54%	99.45%	99.47%
TSL5	99.49%	98.96%	99.74%	99.58%	99.71%
TSL6	99.59%	99.46%	99.75%	99.61%	99.71%

Note: Efficiencies are specified at the NEMA TP1 temperature and loading conditions.

1.1 What are the key issues for your company regarding the distribution transformer energy conservation standard rulemaking?

1.2 How significant are the above key issues at each Trial Standard Level?

1.3 How can we most effectively incorporate these issues in the Manufacturer Impact Analysis?

2. COMPANY OVERVIEW AND ORGANIZATIONAL CHARACTERISTICS

The Department's interest concerning manufacturer impact is focused at the plant or profit center level directly pertinent to transformer production. However, the context within which the plant operates and the details of plant production and costs are not readily available from the published literature, so the Department invites you to provide these details confidentially in your own words to the extent practical. The organizational setting around the transformer profit center is of interest to round out the Department's understanding of the probable future of the transformer manufacturing activity with and without energy efficiency standards.

2.1 Do you have a parent company, and/or any subsidiaries relevant to the transformer industry?

2.2 Where are your production facilities located, and what is the product mix manufactured at each location?

2.3 What are your employment levels at these facilities?

2.4 What are your product lines, niches and relative strengths in the liquid-immersed market?

3. FINANCIAL PARAMETERS

Navigant Consulting has built a model of industry financial impacts called the Government Regulatory Impact Model (GRIM), using publicly available data on distribution transformer manufacturers. This questionnaire attempts to understand how your company's financial situation differs from our industry aggregate picture.

3.1 Please compare your financial parameters to the GRIM parameters tabulated below.

GRIM Input	Definition	Our Industry Estimate	Your Industry Estimate (if significantly different)	Your Business Segment's Actual (if significantly different)
Income Tax Rate	Corporate effective income tax rate (percentage of earnings before tax)	30.0%		
Weighted Average Cost of Capital (WACC)	Inflation-adjusted weighted average of corporate cost of debt and return on equity	8.9%		
Working Capital, net	Current assets less current liabilities (percentage of revenues)	15.4%		
SG&A	Selling, general, and administrative expenses (percentage of revenues)	12.5%		
R&D	Research and development expenses (percentage of revenues)	1.4%		
Depreciation	Amortization of fixed assets (percentage of revenues)	1.7%		
Capital Expenditures	Outlay of money to acquire or improve capital assets (percentage of revenues, not including acquisition or sale of business units)	1.9%		
PPE, net	Plant, Property, and Equipment less accumulated depreciation	16.6%		

3.2 How might new efficiency standards alter your company's financial parameters?

4. MORE EFFICIENT DESIGNS

The Department's engineering analysis models improvements in efficiency by considering alternative combinations of design factors such as core steels, winding conductors, and joint configurations. The Department would like to understand what changes may be necessary in your product designs for the production of higher efficiency liquid-immersed distribution transformers.

4.1 What are your current design features? For each design line, which materials are used to build your non-evaluated transformers? What joint types are used?

4.2 Does your company build TP1-compliant transformers? How do these designs compare to your non-evaluated transformers?

4.3 Does your company build transformers that significantly exceed TP1 efficiency levels? Which designs are used to exceed TP1? Which designs would you likely use to meet the various TSLs?

4.4 Are there any other manufacturing issues that DOE should be aware of in terms of producing more energy efficient transformers at your facility?

4.5 Do you currently fabricate your own cores and coils? Would the standard level change your business practices with respect to such make vs. buy decisions?

5. MATERIAL PRICES AND AVAILABILITY

5.1. In its revised Engineering Analysis, the Department updated its price assumptions for material inputs. The Department considered two price scenarios: 1) 5-year average for the years 2000-2004 (2004 US$), and 2) typical first quarter 2005 prices. The prices assumed to be paid by transformer manufacturers are shown in the table below. In your experience are these prices representative of the industry as a whole? Are the prices that your company pays significantly different? If so, does this confer a disadvantage to your firm?

Item and Description	Material Price (2000-2004)	Material Price (Q1 2005)
M2 core steel	$0.95	$1.71
M3 core steel	$0.80	$1.63
M4 core steel	$0.76	$1.56
M6 core steel	$0.70	$1.42
ZDMH (mechanically-scribed core steel)	$1.47	$2.75
SA1 (amorphous) – finished core, volume production	$1.80	$2.50
Copper wire, formvar, round #10-20	$1.55	$2.25
Copper wire, enameled, round #7-10	$1.51	$2.21
Copper wire, enameled, rectangular sizes	$1.76	$2.65
Aluminum wire, formvar, round #9-17	$1.43	$1.56
Aluminum wire, formvar, round #7-10	$1.46	$1.58
Copper strip, thickness range 0.02-0.045	$2.32	$2.92
Copper strip, thickness range 0.030-0.060	$2.24	$2.84
Aluminum strip, thickness range 0.02-0.045	$1.54	$1.66
Aluminum strip, thickness range 0.045-0.080	$1.45	$1.69
Mineral Oil	$1.71	$2.40

* Five year average (2000 through 2004) for materials expressed in 2004$ per lb. Average compiled by Paul Goethe, Optimized Program Service, January 2005.

5.2. In the Department's analysis, material costs are marked up to determine the manufacturer sales price. In light of the large increases of material costs, have you changed your material markup factors or practices?

5.3. Are the materials necessary to build more energy efficient transformers readily available?

5.4. Have your company's procurement practices changed in response to recent commodity price volatility?

5.5. Have recent material price changes affected your company's business?

6. SHIPMENT PROJECTIONS

6.1 An efficiency standard can affect shipments by changing product attributes, marketing approaches, product availability, and price. For the ANOPR and NOPR, a small sensitivity of liquid-immersed shipments to price is modeled. Do you consider this to be appropriate?

6.2 What is your company's approximate market share in each of the liquid-immersed design lines? Within each design line, is your proportion of shipments at each kVA rating the same as the industry average?

6.3 Would you expect your market share to change once standards become effective? Does your outlook change with higher efficiency levels?

7. CONVERSION COSTS

An increase in efficiency standards may cause your company to incur one-time costs. We call these conversion costs because they are the costs of changing your business to comply with new efficiency standards. The GRIM considers three types of conversion costs:

- Conversion Capital Expenditures—One-time investments in plant, property, and equipment (PPE) necessitated by an efficiency standard. These may be completely incremental to existing PPE or they could involve replacement of existing PPE.
- Product Conversion Expenses—One-time expenses in research, product development, testing, and marketing necessitated by an appliance efficiency standard.
- Annual Compliance Costs (not technically a conversion cost) – On-going expenses incurred to comply with efficiency standards, typically to meet testing requirements.

7.1 What level of conversion costs do you anticipate incurring under the different Trial Standard Levels? Refer to the tables below to provide your company's estimates. Please provide additional qualitative information to help us understand the nature of your investments.

Trial Standard Level	Liquid-Immersed – Conversion Capital Expenditures *(thousands U.S.$)*			
	Building	**Equipment**	**Tooling**	**Other**
TSL1 (TP-1)				
TSL2				
TSL3				
TSL4				
TSL5				
TSL6				

Trial Standard Level	Liquid-Immersed – Product Conversion Expenses *(thousands U.S.$)*			
	Research & Product Development	**Testing**	**Marketing**	**Other**
TSL1 (TP-1)				
TSL2				
TSL3				
TSL4				
TSL5				
TSL6				

7.2 What portion of your conversion capital expenditures will go towards replacing existing assets that would become obsolete under an efficiency standard? Does your answer depend upon the TSL?

7.3 What are the depreciation periods for the three types of capital expenditures (building, equipment, tooling)?

7.4 What specific annual compliance costs (after the effective date) do you anticipate incurring to comply with standards? Will they vary with standard level? Would they vary over time (e.g., increase with sales)?

8. PRODUCT MIX

Current differences in product mix (distribution of product sales by efficiency level) among manufacturers can lead to different reactions to and impacts from new efficiency standards. The GRIM calculates financial results at each efficiency level to capture some of these effects.

8.1 What is the typical efficiency of a non-evaluated transformer for each representative unit?

8.2 What percentage of product in each design line is TP1-compliant (industry-wide)? Do significant fractions of product exceed TP1 efficiency levels (industry-wide)? Comment on any differences between the industry's distribution of product efficiencies and your company's.

8.3 Do you expect the product efficiency mix to shift over time in the base case? Why or why not?

8.4 For each design line and corresponding TSL, please comment on the potential for marketing premium products (i.e., those with efficiencies significantly above of the TSL). What might be the percentage of premium efficiency products sold at each TSL?

9. MARKUPS AND PROFITABILITY

One of the primary objectives of the Manufacturer Impact Analysis is to assess the impact of Trial Standard Levels on industry and sub-group profitability. In this section, we would like your assistance understanding how the Trial Standard Levels would impact your company's markups and profitability.

9.1 The non-production cost markup is defined as the factor applied to the full production costs to arrive at the Manufacturer Selling Price. The Manufacturer Selling Price allows the company to recover all costs, both production and non-production, and to earn a profit. The Department used a non-production cost markup of 1.25 for SG&A, R&D, interest, and profit. This represents a 20% gross margin on sales price.

9.1.1 How does the industry average of 1.25 compare with your non-production cost markup?

9.1.2 Has the average mark-up changed as a result of higher material costs?

9.1.3 Is the mark-up on a TP1 product different?

9.2 What other factors might change the industry's profitability?

9.3 Has recent commodity price volatility affected the industry's profitability?

10. REFURBISHMENT

10.1 How do you expect new standards to impact the size and profitability of the refurbished distribution transformer market?

11. CUMULATIVE REGULATORY BURDEN

Cumulative regulatory burden refers to the burden that industry faces from overlapping effects of new or revised DOE standards and/or other regulatory actions affecting the same products or industry.

11.1 Are there other recent or impending regulations that distribution transformers face (from DOE or otherwise)? How might an energy efficiency standard impact the cumulative regulatory burden faced by your company?

11.2 Are there any other DOE standards that would pose a significant impact on your company (any division) within three years of the proposed effective date for efficiency standards (2010)?

11.3 Under what circumstances would you be able to coordinate any expenditures related to metrification, other regulations, and distribution transformer efficiency standards, thereby lessening the cumulative burden?

12. EXPORTS / FOREIGN COMPETITION / OUTSOURCING

Disparity between domestic and foreign efficiency standards could impact exports or imports. Labor content and material changes - resulting from efficiency standards - may impact sourcing decisions.

12.1 Does the bulk of your company's transformer production occur domestically? Absent standards, are production facilities being relocated to foreign countries? Would standards impact your domestic vs. foreign manufacturing decision? How?

12.2 Could a new standard affect your export sales? What would the resulting impact be, if any, on your manufacturing operations and profitability?

12.3 What percentage of the U.S. market has been captured by foreign competition? Would standards have an impact on foreign competition? How?

13. DIRECT EMPLOYMENT IMPACT ASSESSMENT

The impact of new energy efficiency standards on employment is an important consideration in the rulemaking process. This section of the interview guide seeks to explore current trends in transformer production employment and solicit manufacturer views on how domestic employment patterns might be affected by new energy efficiency standards.

13.1 Would your domestic employment levels change under new energy efficiency standards?

13.2 Would the workforce skills necessary under new energy efficiency standards require extensive retraining or replacement of employees?

14. CONSOLIDATION

New efficiency standards can alter the competitive dynamics of the market. This can include prompting companies to enter or exit the market, or to merge. The DOE and the Justice Department are both

interested in any potential reduction in competition that would result from a new efficiency standard.

14.1 Please comment on industry consolidation and related trends over the last 5 years.

14.2 In the absence of new standards, do you expect any industry consolidation? Please describe your expectations.

14.3 How would new standards affect your ability to compete?

14.4 Could new standards disproportionately advance or harm the competitive positions of some firms (e.g., small businesses)?

14.5 Could new standards result in disproportionate economic or performance penalties for particular consumer subgroups?

14.6 Could new standards result in products that will be less desirable to consumers (not considering price effects)? Which attributes could be affected?

15. NICHE PRODUCTS

The definition of a distribution transformer excludes certain types of transformers from this rulemaking. For transformers that are covered, DOE is interested in whether new standard levels for some sub-groups of products might threaten their viability because of either technical or commercial considerations.

15.1 Do you have any products whose viability could be threatened by a higher efficiency standard? If so, please identify the threatened products and the threshold Trial Standard Level that poses a threat.

15.2 What would you have to do in order to ensure the viability of those products?

15.3 For the purposes of the GRIM, DOE has separated the distribution transformer industry into three main groups – liquid-immersed, low voltage dry, and medium voltage dry. Are there other industry groupings that might be meaningful?

16. EFFECTIVE DATE OF STANDARDS

The effective date for new standards after the regulation is promulgated is currently expected to be 2010 (final rule to be published in 2007).

16.1 Is this 3-year lead time for retooling, redesign, and compliance demonstration feasible/adequate? If the answer depends on the new standard level, please explain.

16.2 If the effective date were postponed, would the burden of the standard on your company be reduced?

17. MISCELLANEOUS

17.1 Are there any federal tax credits or other incentive programs to encourage you to produce energy efficient transformers?

MV Dry-Type
Distribution Transformer
Energy Conservation Standards Rulemaking
Manufacturer Impact Analysis Interview Guide

Navigant Consulting, Inc.
May 2005

1. KEY ISSUES

The Department of Energy (DOE) is currently considering six Trial Standard Levels (TSLs). The TSLs are presented below as they apply to the representative units selected for detailed analysis. In responding to this questionnaire, please refer to the table of TSLs below.

Product Class	**Product Class 6 (MV 3-phase, 20-45 kV BIL)**		**Product Class 8 (MV 3-phase, 60-95 kV BIL)**	
Design Lines	**DL9 15-500 kVA**	**DL10 750-2500 kVA**	**DL11 15-500 kVA**	**DL12 750-2500 kVA**
Representative Unit	**300 kVA**	**1500 kVA**	**300 kVA**	**1500 kVA**
Base Case	None		None	
TSL1 / TP-1	98.60%	99.10%	98.50%	99.00%
TSL2	98.82%	99.20%	98.67%	99.12%
TSL3	99.04%	99.30%	98.84%	99.23%
TSL4	99.26%	99.39%	99.01%	99.35%
TSL5 / TSL6	99.41%	99.51%	99.09%	99.51%

Product Class	**Product Class 10 (MV 3-phase, 110-150 kV BIL)**
Design Lines	**DL13 225-2500 kVA**
Representative Unit	**2000 kVA**
Base Case	None
TSL1 / TP-1	99.00%
TSL2	99.15%
TSL3	99.30%
TSL4	99.45%
TSL5 / TSL6	99.55%

Note: Efficiencies are specified at the NEMA TP1 temperature and loading conditions. Also, efficiency standards for the MV dry-type single-phase transformers will be based on the corresponding three-phase analog (e.g., the 100 kVA single-phase efficiency standard will be based upon the 300 kVA three-phase standard).

1.4 What are the key issues for your company regarding the distribution transformer energy conservation standard rulemaking?

1.5 How significant are the above key issues at each Trial Standard Level?

1.6 How can we most effectively incorporate these issues in the Manufacturer Impact Analysis?

2. COMPANY OVERVIEW AND ORGANIZATIONAL CHARACTERISTICS

The Department's interest concerning manufacturer impact is focused at the plant or profit center level directly pertinent to transformer production. However, the context within which the plant operates and the details of plant production and costs are not readily available from the published literature, so the Department invites you to provide these details confidentially in your own words to the extent practical. The organizational setting around the transformer profit center is of interest to round out the Department's understanding of the probable future of the transformer manufacturing activity with and without energy efficiency standards.

2.5 Do you have a parent company, and/or any subsidiaries relevant to the transformer industry?

2.6 Where are your production facilities located, and what is the product mix manufactured at each location?

2.7 What are your employment levels at these facilities?

2.8 What are your product lines, niches and relative strengths in the medium-voltage dry-type market?

4. FINANCIAL PARAMETERS

Navigant Consulting has built a model of industry financial impacts called the Government Regulatory Impact Model (GRIM), using publicly available data on distribution transformer manufacturers. This questionnaire attempts to understand how your company's financial situation differs from our industry aggregate picture.

3.1 Please compare your financial parameters to the GRIM parameters tabulated below.

GRIM Input	Definition	Our Industry Estimate	Your Industry Estimate	Your Business Segment's Actual
Income Tax Rate	Corporate effective income tax rate (percentage of earnings before tax)	33.9%		
Weighted Average Cost of Capital (WACC)	Inflation-adjusted weighted average of corporate cost of debt and return on equity	8.9%		
Working Capital, net	Current assets less current liabilities (percentage of revenues)	10.6%		
SG&A	Selling, general, and administrative expenses (percentage of revenues)	13.5%		
R&D	Research and development expenses (percentage of revenues)	1.1%		
Depreciation	Amortization of fixed assets (percentage of revenues)	1.8%		
Capital Expenditures	Outlay of money to acquire or improve capital assets (percentage of revenues, not including acquisition or sale of business units)	2.1%		
PPE, net	Plant, Property, and Equipment less accumulated depreciation	16.1%		

3.2 How might new efficiency standards alter your company's financial parameters?

4. MORE EFFICIENT DESIGNS

The Department's engineering analysis models improvements in efficiency by considering alternative combinations of design factors such as core steels, winding conductors, and joint configurations. The Department would like to understand what changes may be necessary in your product designs for the production of higher efficiency medium-voltage dry-type distribution transformers.

4.6 What are your current design features? For each design line, which materials are used to build your non-evaluated transformers? What joint types are used?

4.7 Does your company build TP1-compliant transformers? How do these designs compare to your non-evaluated transformers?

4.8 Does your company build transformers that significantly exceed TP1 efficiency levels? Which designs are used to exceed TP1? Which designs would you likely use to meet the various TSLs?

4.9 Are there any other manufacturing issues that DOE should be aware of in terms of producing more energy efficient transformers at your facility?

4.10 Do you currently fabricate your own cores and coils? Would the standard level change your business practices with respect to such make vs. buy decisions?

5. MATERIAL PRICES AND AVAILABILITY

5.6. In its revised Engineering Analysis, the Department updated its price assumptions for material inputs. The Department considered two price scenarios: 1) 5-year average for the years 2000-2004 (2004 US$), and 2) typical first quarter 2005 prices. The prices assumed to be paid by transformer manufacturers are shown in the table below. In your experience are these prices representative of the industry as a whole? Are the prices that your company pays significantly different? If so, does this confer a disadvantage to your firm?

Item and Description	Material Price (2000-2004)	Material Price (Q1 2005)
H-O DR core steel (laser-scribed)	$0.99	$1.85
M3 core steel	$0.80	$1.63
M4 core steel	$0.76	$1.56
M5 core steel	$0.72	$1.47
M6 core steel	$0.70	$1.42
M19 core steel (26 gauge)	$0.56	$0.82
M36 core steel (29 gauge)	$0.50	$0.69
M36 core steel (26 gauge)	$0.45	$0.65
M43 core steel (26 gauge)	$0.43	$0.58
Copper wire, rectangular 0.1 x 0.2, Nomex wrapped	$2.00	$2.69
Aluminum wire, rectangular 0.1 x 0.2, Nomex wrapped	$2.06	$2.05
Impregnation (per gallon)	$17.80	$19.00

* Five year average (2000 through 2004) for materials expressed in 2004$ per lb. Average compiled by Paul Goethe, Optimized Program Service, January 2005.

5.7. In the Department's analysis, material costs are marked up to determine the manufacturer sales price. In light of the large increases of material costs, have you changed your material markup factors or practices?

5.8. Are the materials necessary to build more energy efficient transformers readily available?

5.9. Have your company's procurement practices changed in response to recent commodity price volatility?

5.10. Have recent material price changes affected your company's business?

6. SHIPMENT PROJECTIONS

6.4 An efficiency standard can affect shipments by changing product attributes, marketing approaches, product availability, and price. In the ANOPR, the Department assumed that industry-wide dry-type shipments do not vary by standard level (i.e., there is no consumer sensitivity to price). For the NOPR, a small sensitivity of dry-type shipments to price may be introduced. Do you consider this to be appropriate?

6.5 What is your company's approximate market share in each of the medium-voltage design lines? Within each design line, is your proportion of shipments at each kVA rating the same as the industry average?

6.6 Would you expect your market share to change once standards become effective? Does your outlook change with higher efficiency levels?

7. CONVERSION COSTS

An increase in efficiency standards may cause your company to incur one-time costs. We call these conversion costs because they are the costs of changing your business to comply with new efficiency standards. The GRIM considers three types of conversion costs:

- Conversion Capital Expenditures—One-time investments in plant, property, and equipment (PPE) necessitated by an efficiency standard. These may be completely incremental to existing PPE or they could involve replacement of existing PPE.
- Product Conversion Expenses—One-time expenses in research, product development, testing, and marketing necessitated by an appliance efficiency standard.
- Annual Compliance Costs (not technically a conversion cost) – On-going expenses incurred to comply with efficiency standards, typically to meet testing requirements.

7.5 What level of conversion costs do you anticipate incurring under the different Trial Standard Levels? Refer to the tables below to provide your company's estimates. Please provide additional qualitative information to help us understand the nature of your investments.

Trial Standard Level	**MV Dry-Type – Conversion Capital Expenditures** ***(thousands U.S.$)***			
	Building	**Equipment**	**Tooling**	**Other**
TSL1 (TP-1)				
TSL2				
TSL3				
TSL4				
TSL5 / TSL6				

Trial Standard Level	**MV Dry-Type – Product Conversion Expenses** ***(thousands U.S.$)***			
	Research & Product Development	**Testing**	**Marketing**	**Other**
TSL1 (TP-1)				
TSL2				
TSL3				
TSL4				
TSL5 / TSL6				

7.6 What portion of your conversion capital expenditures will go towards replacing existing assets that would become obsolete under an efficiency standard? Does your answer depend upon the TSL?

7.7 What are the depreciation periods for the three types of capital expenditures (building, equipment,

tooling)?

7.8 What specific annual compliance costs (after the effective date) do you anticipate incurring to comply with standards? Will they vary with standard level? Would they vary over time (e.g., increase with sales)?

8. PRODUCT MIX

Current differences in product mix (distribution of product sales by efficiency level) among manufacturers can lead to different reactions to and impacts from new efficiency standards. The GRIM calculates financial results at each efficiency level to capture some of these effects.

8.5 What is the typical efficiency of a non-evaluated transformer for each representative unit?

8.6 What percentage of product in each design line is TP1-compliant (industry-wide)? Do significant fractions of product exceed TP1 efficiency levels (industry-wide)? Comment on any differences between the industry's distribution of product efficiencies and your company's.

8.7 Do you expect the product efficiency mix to shift over time in the base case? Why or why not?

8.8 For each design line and corresponding TSL, please comment on the potential for marketing premium products (i.e., those with efficiencies significantly above of the TSL). What might be the percentage of premium efficiency products sold at each TSL?

9. MARKUPS AND PROFITABILITY

One of the primary objectives of the Manufacturer Impact Analysis is to assess the impact of Trial Standard Levels on industry and sub-group profitability. In this section, we would like your assistance understanding how the Trial Standard Levels would impact your company's markups and profitability.

9.4 The non-production cost markup is defined as the factor applied to the full production costs to arrive at the Manufacturer Selling Price. The Manufacturer Selling Price allows the company to recover all costs, both production and non-production, and to earn a profit. The Department used a non-production cost markup of 1.25 for SG&A, R&D, interest, and profit. This represents a 20% gross margin on sales price.

9.4.1 How does the industry average of 1.25 compare with your non-production cost markup?

9.4.2 Has the average mark-up changed as a result of higher material costs?

9.4.3 Is the mark-up on a TP1 product different?

9.5 What other factors might change the industry's profitability?

9.6 Has recent commodity price volatility affected the industry's profitability?

10. REFURBISHMENT

10.1 How do you expect new standards to impact the size and profitability of the refurbished distribution transformer market?

11. CUMULATIVE REGULATORY BURDEN

Cumulative regulatory burden refers to the burden that industry faces from overlapping effects of new or revised DOE standards and/or other regulatory actions affecting the same products or industry.

11.1 Are there other recent or impending regulations that distribution transformers face (from DOE or otherwise)? How might an energy efficiency standard impact the cumulative regulatory burden faced by your company?

11.2 Are there any other DOE standards that would pose a significant impact on your company (any division) within three years of the proposed effective date for efficiency standards (2010)?

11.3 Under what circumstances would you be able to coordinate any expenditures related to metrification, other regulations, and distribution transformer efficiency standards, thereby lessening the cumulative burden?

12. EXPORTS / FOREIGN COMPETITION / OUTSOURCING

Disparity between domestic and foreign efficiency standards could impact exports or imports. Labor content and material changes - resulting from efficiency standards - may impact sourcing decisions.

12.1 Does the bulk of your company's transformer production occur domestically? Absent standards, are production facilities being relocated to foreign countries? Would standards impact your domestic vs. foreign manufacturing decision? How?

12.2 Could a new standard affect your export sales? What would the resulting impact be, if any, on your manufacturing operations and profitability?

12.3 What percentage of the U.S. market has been captured by foreign competition? Would standards have an impact on foreign competition? How?

13. DIRECT EMPLOYMENT IMPACT ASSESSMENT

The impact of new energy efficiency standards on employment is an important consideration in the rulemaking process. This section of the interview guide seeks to explore current trends in transformer production employment and solicit manufacturer views on how domestic employment patterns might be affected by new energy efficiency standards.

13.3 Would your domestic employment levels change under new energy efficiency standards?

13.4 Would the workforce skills necessary under new energy efficiency standards require extensive retraining or replacement of employees?

14. CONSOLIDATION

New efficiency standards can alter the competitive dynamics of the market. This can include prompting companies to enter or exit the market, or to merge. The DOE and the Justice Department are both interested in any potential reduction in competition that would result from a new efficiency standard.

14.1 Please comment on industry consolidation and related trends over the last 5 years.

14.2 In the absence of new standards, do you expect any industry consolidation? Please describe your expectations.

14.3 How would new standards affect your ability to compete?

14.4 Could new standards disproportionately advance or harm the competitive positions of some firms (e.g., small businesses)?

14.5 Could new standards result in disproportionate economic or performance penalties for particular consumer subgroups?

14.6 Could new standards result in products that will be less desirable to consumers (not considering price effects)? Which attributes could be affected?

15. NICHE PRODUCTS

The definition of a distribution transformer excludes certain types of transformers from this rulemaking. For transformers that are covered, DOE is interested in whether new standard levels for some sub-groups of products might threaten their viability because of either technical or commercial considerations.

15.1 Do you have any products whose viability could be threatened by a higher efficiency standard? If so, please identify the threatened products and the threshold Trial Standard Level that poses a threat.

15.2 What would you have to do in order to ensure the viability of those products?

15.3 For the purposes of the GRIM, DOE has separated the distribution transformer industry into three main groups – liquid-immersed, low voltage dry, and medium voltage dry. Are there other industry groupings that might be meaningful?

16. EFFECTIVE DATE OF STANDARDS

The effective date for new standards after the regulation is promulgated is currently expected to be 2010 (final rule to be published in 2007).

16.1 Is this 3-year lead time for retooling, redesign, and compliance demonstration feasible/adequate? If the answer depends on the new standard level, please explain.

16.2 If the effective date were postponed, would the burden of the standard on your company be reduced?

17. MISCELLANEOUS

17.1 Are there any federal tax credits or other incentive programs to encourage you to produce energy efficient transformers?