NOTICES OF FINAL RULEMAKING

This section of the *Arizona Administrative Register* contains Notices of Final Rulemaking. Final rules have been through the regular rulemaking process as defined in the Administrative Procedures Act. These rules were either approved by the Governor's Regulatory Review Council or the Attorney General's Office. Certificates of Approval are on file with the Office.

The final published notice includes a preamble and text of the rules as filed by the agency. Economic Impact Statements are not published.

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the final rules should be addressed to the agency that promulgated the rules. Refer to Item #5 to contact the person charged with the rulemaking. The codified version of these rules will be published in the *Arizona Administrative Code*.

NOTICE OF FINAL RULEMAKING

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 5. CORPORATION COMMISSION – TRANSPORTATION

[R16-189]

PREAMBLE

1. Article, Part, or Section Affected (as applicable) — **Rulemaking Action**

R14-5-202	Amend
R14-5-203	Amend
R14-5-204	Amend
R14-5-205	Amend
R14-5-207	Amend

2. Citations to the agency's statutory rulemaking authority to include both the authorizing statute (general) and the implementing statute (specific):

Authorizing statute: Arizona Constitution, Article XV § 3.

Implementing statute: A.R.S. §§ 40-441, 40-202(A), 40-203, 40-321(A), 40-322, 40-336.

3. The effective date of the rule:

September 14, 2016

a. If the agency selected a date earlier than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the earlier date and state the reason or reasons the agency selected the earlier effective date as provided in A.R.S. § 41-1032(A)(1) through (5):

Immediately upon filing in the Office of the Secretary of State after Attorney General certification per A.R.S. §§ 41-1032(A), 41-1044 and 41-1057. Immediate effectiveness of these rule amendments is justified under A.R.S. § 41-1032(A)(1) and (2), to preserve the public health and safety and to avoid a violation of the PHMSA deadline for the Commission to adopt regulations conforming to the current federal regulations for pipeline safety. Because the rule amendments deal directly with the handling of natural gas and other hazardous liquids transmitted through pipelines, the rule amendments will preserve the public health or safety.

b. If the agency selected a date later than the 60 day effective date as specified in A.R.S. § 41-1032(A), include the later date and state the reason or reasons the agency selected the later effective date as provided in A.R.S. § 41-1032(B):

Not applicable

4. Citations to all related notices published in the *Register* as specified in R1-1-409(A) that pertain to the record of the final rulemaking package:

Notice of Rulemaking Docket Opening: 21 A.A.R. 685, May 15, 2015

Notice of Proposed Rulemaking: 21 A.A.R. 674, May 15, 2015

Notice of Supplemental Proposed Rulemaking: 21 A.A.R. 3158, December 11, 2015

Notice of Emergency Rulemaking: 22 A.A.R. 5, January 1, 2016

Notice of Emergency Rulemaking Renewal: 22 A.A.R. 1637, June 24, 2016

5. The agency's contact person who can answer questions about the rulemaking:

Name: Charles Hains, Commission Counsel, Legal Division

Address: Arizona Corporation Commission
1200 W. Washington St.
Phoenix, AZ 85007

Telephone: (602) 542-3402
Fax: (602) 542-4870
E-mail: Chains@azcc.gov
Web site: www.azcc.gov

6. An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:

The Commission's Pipeline Safety rules establish construction and safety standards for gas, liquefied natural gas ("LNG"), and hazardous liquid pipeline systems and for master meter systems. The rules are designed to protect all residents of and visitors to the State of Arizona by helping to ensure that the handling and transportation of gas, LNG, and hazardous liquids are conducted in the safest manner possible. The primary purpose of this rulemaking is to make the Commission's Pipeline Safety rules consistent with current federal pipeline safety regulations so that the Commission maintains compliance with the requirements of its intergovernmental agreement with the U.S. Department of Transportation's Pipeline and Hazardous Material Safety Administration ("PHMSA"). The rulemaking accomplishes this by updating the incorporations by reference for 49 CFR Parts 40, 191, 192, 193, 195, and 199, as well as several PHMSA reporting forms, and by clarifying some requirements of the rules.

Under Title 49, § 60105 of the U.S. Code ("49 U.S.C. § 60105"), the Commission holds certification from PHMSA authorizing the Commission to prescribe and enforce safety standards and practices for intrastate pipeline facilities and intrastate pipeline transportation. (*See* 49 U.S.C. § 60105(a).) The Commission is also authorized to act as an interstate agent under 49 CFR Chapter 601. To maintain its certification, the Commission must annually submit to PHMSA a certification stating, *inter alia*, that the Commission (1) has regulatory jurisdiction over the standards and practices to which the certification applies; (2) has adopted, by the date of certification, each applicable standard prescribed under 49 U.S.C. Chapter 601 or, if the standard was prescribed no later than 120 days before certification, is taking steps to adopt the standard; and (3) is enforcing each adopted standard through means including inspections by qualified Commission employees. (49 U.S.C. § 60105(b).) The certification filing must also identify the persons subject to the Commission's safety jurisdiction, describe specific types of reported accidents or incidents during the past 12 months, provide an investigation summary for each accident or incident, and describe the Commission's regulatory and enforcement practices. (49 U.S.C. § 60105(c).) PHMSA may reject certification for a state authority if it determines that the state authority is not satisfactorily enforcing compliance with the applicable federal safety standards of 49 U.S.C. Chapter 601. (49 U.S.C. § 60105(f).) A state authority that carries out a safety program pursuant to certification under 49 U.S.C. § 60105 is eligible to obtain grant funding from PHMSA of up to 80 percent of the state authority's costs for the personnel, equipment, and activities reasonably required to carry out the program for the next calendar year. (49 U.S.C. § 60107(a).) One of the performance factors considered by PHMSA when determining the allocation of grant funds to a state authority is whether the state has adopted the applicable federal pipeline safety standards. (49 CFR § 198.13(c)(7).) PHMSA can withhold payment if it determines that a state authority is not satisfactorily carrying out its safety program. (49 U.S.C. § 60107(b).) PHMSA requires the Commission to update its Pipeline Safety rules to the current federal standards by December 31, 2015.

The Commission commenced this rulemaking through a Notice of Rulemaking Docket Opening and Notice of Proposed Rulemaking published in the *Arizona Administrative Register* on May 15, 2015. The Commission held an oral proceeding on June 18, 2015, and did not receive any oral or written public comments on the rulemaking. On August 26, 2015, the Commission approved a Notice of Final Rulemaking ("NFRM") package for filing with the Attorney General ("AG") for certification under A.R.S. § 41-1044. The NFRM included language demonstrating the need for an immediate effective date for the rulemaking as provided under A.R.S. § 41-1032. The Commission filed the NFRM package with the AG on September 15, 2015. Subsequent to the filing of the NFRM package, the AG notified the Commission that the AG considered modifications made to a date parenthetical included in the NFRM to constitute a substantial change under A.R.S. § 41-1025 and thus would not approve the NFRM. The Commission withdrew the NFRM package and proceeded with a Notice of Supplemental Proposed Rulemaking to continue the regular rulemaking process to promulgate the updated rules.

Because the Commission's failure to meet the requirements of the certification program could result in loss of funding for the Commission's Pipeline Safety program, and the PHMSA deadline for the Commission to update its Pipeline Safety rules to the current federal standards is December 31, 2015, the Commission also filed a Notice of Emergency Rulemaking ("NERM") with the AG on October 22, 2015, under A.R.S. § 41-1026, to adopt the rule revisions herein.

At the time the NFRM was approved by the Commission, the most recent codification of 49 CFR Parts 40, 191, 192, 193, 195, and 199 had been issued on October 1, 2014. However, 49 CFR Parts 192, 193, 195, and 199 had recently been amended through a PHMSA rulemaking. Thus, in the NFRM, the Commission included the following parenthetical date citation for the 49 CFR Parts: "(October 1, 2012 October 1, 2014, as amended by the Final Rule published at 80 Fed. Reg. 168 (January 5, 2015) and effective March 6, 2015)." The Notice of Proposed

Rulemaking had included a parenthetical date citation of February 5, 2015, which was intended to represent the current version of the 49 CFR Parts as of March 31, 2015, when the language for the proposed rulemaking was initially provided to the Commissioners for consideration at an Open Meeting. The Commission found that the revision to the date parenthetical included in the NFRM would not result in a substantial change to the proposed rules, under A.R.S. § 41-1025, because the revision did not change the persons affected by the rules, the subject matter of the rules, the issues determined by the rules, or the effects of the rules. The AG disagreed, however, concluding that the revision resulted in a substantial change.

The rule text in the NFRM also differed from that in the propose rulemaking because it updated the parenthetical date for Form PHMSA F 7100.1-1, located in R14-5-204(A)(2), by replacing "(January 2011)" with "(January 2011 May 2015)." The Commission also found that this revision would not result in a substantial change because the revision did not change the persons affected by the rules, the subject matter of the rules, the issues determined by the rules, or the effects of the rules. The January 2011 form and the May 2015 form differ in that the May 2015 form requires the preparer to check two additional boxes to identify commodity group and operator type and requires the preparer to break down total excavation damage events by root cause rather than just reporting the total. Both versions have burden estimates of approximately 16 hours.

The rule language included in the Notice of Supplemental Proposed Rulemaking differs from that included in the NFRM only in the parenthetical date citation for the 49 CFR Parts incorporated by reference in R14-5-202(B). A new codification of the 49 CFR Parts was issued on October 1, 2015, in accordance with the U.S. Government Publishing Office's regular codification schedule. Because this new codification includes all of the updates reflected in the revised date parenthetical included for the NFRM, and the new codification can be referenced more simply, the Commission included the October 1, 2015, date in the Notice of Supplemental Proposed Rulemaking.

Through the NERM, the Commission will comply with the PHMSA requirement for the Commission's Pipeline Safety rules to be consistent with the current federal pipeline safety standards before January 1, 2016. Yet A.R.S. § 41-1026(D) provides that if an agency has not issued either a Notice of Proposed Rulemaking or a Notice of Supplemental Proposed Rulemaking to adopt rule revisions consistent with its NERM within 180 days after the effective date of the rules as revised by the NERM, the rules as revised by the NERM will expire and will be ineligible for renewal. Thus, the Commission can only maintain its compliance by engaging in regular rulemaking.

For the Commission to preserve public health and safety and to maintain the Commission's compliance with federal requirements, the regular rulemaking must be completed and must become effective as quickly as possible. If the Commission fails to adopt the rule updates permanently through regular rulemaking, the Commission could lose federal grant funding for the Commission's Pipeline Safety program. This would constitute an imminent budget reduction and would result in serious prejudice to the public interest, which is best served by a robust Pipeline Safety program that has sufficient resources to enforce the current federal safety standards. Because the rules at issue establish safety standards consistent with the current federal safety standards, it is in the public interest to have the rules in effect and capable of enforcement as soon as possible. The Commission intends for this rulemaking to be adopted with an immediate effective date, under A.R.S. § 41-1032(A)(1) and (2), to preserve the public peace, health, and safety, and to avoid a violation of federal law or regulation.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. A summary of the economic, small business, and consumer impact:

Small Business Subject to the Rules: These rules do not change the responsibilities of master meter operators already established in 1970 by the adoption by the Commission of the Code of Federal Regulations, Title 49, Parts 191 and 192.

The new rules may increase testing costs for operators of liquefied natural gas facilities when welding is performed, although such costs should be minimal as welding is a non-recurring activity. Such costs will only be incurred if the liquefied natural gas facility operator is not already ensuring that nondestructive testing is completed for each weld performed on newly installed, replaced, or repaired pipeline or appurtenances.

The new rules will have no effect upon consumers or users of the gas service provided by regulated public utilities as they presently are required to be in compliance with all standards, but, this will benefit consumers, users and the general public by maintaining a safe pipeline system.

The new rules are the least costly method for obtaining compliance with the long standing minimum safety standards. The rules do not impose additional standards. There is no less intrusive method.

10. A description of any changes between the proposed rulemaking, to include supplemental notices, and the final rulemaking:

The following clarifying changes were made to the final rulemaking:

a. R14-5-202(B) was revised by replacing "(~~October 1, 2012~~ February 5, 2015)" with "(~~October 1, 2012~~ October 1, 2015).";

b. R14-5-204(A)(2), was revised by updating the date of the incorporation by reference for Form PHMSA F 7100.1-1, by replacing "(January 2011)" with "(~~January 2011~~ May 2015).";

c. To simplify the text submitted for the Notice of Final Rulemaking by including "no change" for those subsections that are not being changed.

11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:

Public Comments & Staff and Commission Responses Thereto
(formal comments provided in response to the Notice of Supplemental Proposed Rulemaking ("NSPRM"))

Spectrum Comment	Staff Response	Commission Response
The notices were mailed to an old office address even though Spectrum changed its mailing address with Staff in Docket No. G-20923A-15-0030 ("Complaint case"). Because the Notice of Proposed Rulemaking ("NPRM") was sent to the old address, Spectrum had no opportunity to comment.	The address on file with Staff for Desert Gas, LP ("Desert Gas") was updated when Staff was made aware of the correction. The NPRM, Notice of Emergency Rulemaking ("NERM"), and NSPRM were all published in the *Arizona Administrative Register*, providing notice to the public. Spectrum provided comments to the NSPRM during the formal comment period and has had an opportunity to be heard.	The Administrative Procedure Act ("APA"), A.R.S. §§ 41-1001 et seq., generally requires that notice of rulemaking activity be provided through publication in the *Arizona Administrative Register.* The additional notice provided by the Commission through mailing to stakeholders was provided as a courtesy. The Commission regrets that the courtesy copies were sent to Desert Gas using an outdated address. However, because Spectrum was able to comment on the NSPRM, Spectrum has had an opportunity to be heard, and no additional action is needed.
The rule change in A.A.C. R14-5-202(T) ("Rule 202(T)" only impacts two operators in the state, and Applied LNG Technologies ("ALT") was as surprised as Spectrum was.	Staff is unaware of any comments or objections from ALT. ALT was included on the proposed service list filed by Staff and has been included on the service list throughout this matter. The number of facility operators impacted by a rule change does not lessen the appropriateness of adopting a safety rule change. Additional operators may begin operating within Arizona. Additionally, transmission pipeline operators are already required to comply with a similar requirement. Staff acknowledges that there will be a cost impact to liquefied natural gas ("LNG") facility operators that are not already performing nondestructive testing of all welds performed on newly installed, replaced, or repaired pipeline or appurtenances. The Commission specifically added that impact to the Economic, Small Business, and Consumer Impact Statement ("EIS") adopted in Decision No. 75250. Staff believes that Rule 202(T) provides flexibility because it does not specify the technology to be used. The choice of technology will impact costs. Additionally, Rule 202(T) is prospective and will only impact new welds.	Rule 202(T) establishes a safety standard that will apply equally to any LNG facility that operates in Arizona. While that list may only include the facilities of two operators currently, it may include more in the future. The Commission agrees with Staff that the number of entities subject to a rule establishing a generally applicable standard to protect health, safety, and welfare is not a measure of the appropriateness of the rule. Additionally, ALT is on the service list for this matter, has been sent numerous documents regarding the rule changes pursued by the Commission, and has not made any comments regarding Rule 202(T) or any other aspect of the rulemaking. Because none of the mail sent to ALT has been returned as undeliverable, the Commission concludes that ALT has received ample notice of this matter.

Spectrum does not understand why the Commission feels the need to modify 49 CFR § 193.2303 when the other 49 states accept it. Spectrum does not see the rationale for this change and wonders what safety or economic data was relied upon for this change. The LNG industry is being singled out, and Spectrum is not aware of any pipe weld failure to suggest change is needed. This rule change will give pause to other LNG investments that may be made in Arizona.	Arizona's pipeline safety program meets federal audit standards and maintains a very proactive regulatory oversite safety program. Other states typically follow Arizona's example. The process of liquefying natural gas is cryogenic and involves both increasing pressure and decreasing temperature to change natural gas into a liquid. The pressure is comparable to that experienced by transmission pipe, for which 100 percent nondestructive testing is already required for new welds, although transmission pipe is not subjected to comparable operating temperature stresses. Rule 202(T) puts LNG facilities on equal footing with facilities that operate under comparable pressures.	The Commission previously determined, for intrastate transmission pipeline transporting gas and operating at a pressure at or above 20 percent of specified minimum yield strength ("SMYS"), that it was appropriate to establish a 100-percent nondestructive testing requirement for welds performed on newly installed, replaced, or repaired pipeline or appurtenances. (*See* A.A.C. R14-5-202(S).) That the transmission pipeline testing requirement was supported by Southwest Gas lends credence to the Commission's position that such a standard was appropriate to enhance safety and was not unduly burdensome. The Commission believes that it is likewise appropriate to enhance the safety of LNG facilities by requiring 100-percent nondestructive testing of field welds for LNG pipeline, which is subject to similar operating pressures.
Spectrum takes issue with statements made at the June 18 hearing suggesting that the rule changes were required only to maintain compliance with the federal code and that funding would be at risk if the rule changes were not adopted. "The notion that funding would be at risk if the ACC didn't adopt the Federal code is false and deceptive. Should the enforcement department be allowed to write the rules? This is a public policy issue and should be treated as such."	At the June 18 oral proceeding, Staff stated that the rulemaking is primarily to adopt updates to the CFRs and additionally made some clarifications to the rules. The text of the rules, with the changes identified, was published in the *Arizona Administrative Register* in accordance with proper rulemaking procedure. In accordance with the Federal Certification and Grant Program, each state Pipeline Safety Program must adhere to federal certification guidelines to assure full funding. The Pipeline Safety Section is audited annually for compliance with federal guidelines. Failure to adhere to the guidelines will result in decreased funding. Safety is a public policy concern. This does not change the analysis of the appropriateness of adopting the rule changes.	The Commission agrees with Staff that the primary purpose of the rule revisions was to update the incorporations by reference to federal regulations and forms, which were made to ensure that the Commission's Pipeline Safety Program maintained eligibility for federal funding. Spectrum is incorrect that failure to update the incorporations by reference would not jeopardize that federal funding, as the Commission's certification under 49 U.S.C. § 60105 is dependent upon the Commission's timely adoption of the applicable safety standards prescribed under 49 U.S.C. Chapter 601. Many of the issues before the Commission can be described as public policy issues. This label does not remove the issue from treatment through rulemaking. Indeed, when the issue implicates safety concerns, and it is appropriate to address the issue through a safety standard that must apply across the board to certain activities or types of facilities, the APA generally requires that the standard be adopted through rulemaking. (*See* A.R.S. § 41-1001(19).)

This change impacts ongoing work Spectrum has in progress. On July 20, as part of the Settlement Agreement in the Complaint case ("Settlement Agreement"), Spectrum submitted a package to the Pipeline Safety office advising of a modification to its Desert Gas plant. The package included the x-ray strategy for the package, which was approved by a Pipeline Safety office email. Installation is underway, and Spectrum would like to avoid a conflict over the x-ray requirements. Spectrum has other projects in process as well that will be impacted by Rule 202(T).	Rule 202(T) went into effect on an emergency basis on December 15, 2015. Certain facilities were assembled and welds were performed before Rule 202(T) became effective. Those welds were performed in a manner consistent with the rules then in effect and need not be tested under Rule 202(T). New welds performed after December 15, 2015, are subject to the new testing requirement in Rule 202(T). Additionally, Staff noted that Rule 202(T) does not require that nondestructive testing be done by x-ray.	The Commission agrees with Staff that any weld described in Rule 202(T) and performed on or after December 15, 2015, is required to be nondestructively tested before it is placed into service.
The Settlement Agreement includes 100 percent testing for only the welds that were the cause of the complaint, not for all future welds, although that is what Staff had desired.	Settlement Agreements generally apply only to the matter at hand and not to future matters. Staff does not believe that the Settlement Agreement addressed the issue of nondestructive testing where no weld failure had been detected. In one section, the Settlement Agreement addressed welds performed specifically in connection with the methane compressor the Complaint case concerned. In another section of the Settlement Agreement, Desert Gas agreed that all future welds would meet the requirements of 49 CFR § 193.2013(b)(C), which is the incorporation by reference of American Society of Mechanical Engineers ("ASME") standards for quality of welds. The ASME requirements are only implicated when failed welds are detected and do not address the frequency of nondestructive testing on a standard basis. This situation is addressed under National Fire Protection Association ("NFPA") Code 59A, § 6.6.3.2.	The Commission agrees that the Settlement Agreement required 100 percent nondestructive testing only for the welds at issue in the Complaint case. The Commission notes that the Settlement Agreement also provided that "none of [its] provisions may be referred to, cited, or relied upon by any other Party as precedent in any proceeding before [the] Commission . . . for any purpose except in furtherance of the purposes and results of [the Settlement] Agreement." The Settlement Agreement does not and could not resolve the Commission's policy as to all field welds made in all LNG facilities, not just the Ehrenberg facility operated by Desert Gas, whereas Rule 202(T) does. The appropriate manner for the Commission to establish a 100-percent nondestructive testing standard for such welds is through rulemaking under the APA, and the Settlement Agreement did not remove Desert Gas's obligation to comply with rules promulgated by the Commission after execution of the Settlement Agreement.
This rule change has a significant economic impact. Has the Commission calculated the increased cost of future expansion for LNG plant owners and considered how this action will stymie growth?	The costs associated with the nondestructive testing can vary widely based upon the scope of the work, the number of welds, and the method of testing used. The rule change does not specify the testing methodology, so operators can select methods that are already approved under the ASME incorporated by reference in the CFRs and in the Commission's rules. Because the rule change applies only to new welds performed on jurisdictional pipeline at the facility location, as part of installation, repair, or replacement of pipeline or appurtenances, and not to any welds made on shop fabricated units purchased and installed as single components, the total number of welds to be tested is limited.	The Commission concurs with Staff's assessment that the economic impacts of Rule 202(T) will vary depending upon the testing methods used, which are determined by operators, as well as the extent to which new welds are made at a facility. The Commission believes that the additional expense incurred due to 100-percent nondestructive testing of new welds made at an LNG facility will result in enhanced safety and, if the nondestructive testing detects and causes an operator to require remediation of faulty welding, may result in significant savings to the operator by preventing the damages that could result from pipeline breach.

In general, rules, regulations, or statutes are created by one body and enforced by others. Was the source for this rule the same as the enforcement? Is there any check and balance in the process?	Staff does not agree that entities that promulgate rules do not enforce those rules. One of the defining characteristics of administrative agencies is that they combine aspects of legislative (creating new requirements), executive (enforcing jurisdictional requirements), and potentially judicial (if enforcement is adjudicated internally) functions. The federal regulatory regime governing pipeline safety also combines rulemaking and enforcement in one entity. Arizona statutes (A.R.S. §§ 40-441 et seq.) authorize the Commission to promulgate rules for the enhancement of pipeline safety and to enforce compliance with those rules. Staff is proposing the rule, but the Commission must vote to adopt the proposed rule changes in a process that follows APA requirements. The Commission is an elected body. Because the rules do not fall within the Commission's exclusive ratemaking authority, the rules also must be reviewed and approved by the Attorney General in order to become effective.	Staff's response is appropriate. The Commission, similar to administrative agencies at other levels of government, is authorized by law to promulgate rules and to enforce those rules. The Arizona Legislature has provided the Commission this authority with regard to pipeline safety through A.R.S. §§ 40-441 et seq. It is the Commission, rather than Staff, that determines whether to propose a rule and whether a proposed rule will be adopted as a final rule. It is also the Commission rather than Staff that ultimately decides, through a formal Decision made after an evidentiary hearing presided over by an impartial administrative law judge, whether any formal enforcement action will be taken against an operator for failure to comply with a rule. In addition, revisions to the Commission's pipeline safety rules can only become effective upon certification from the Attorney General under A.R.S. § 41-1044, as the rules do not fall under the Commission's exclusive and plenary constitutional ratemaking authority. Checks and balances are in place, as required by applicable laws.
Spectrum's plant integrates several skid-mounted package compressors and a few other prefabricated skids with pipe on them. These packages can be installed and removed and are always manufactured elsewhere. Is all of the on-skid piping subject to Rule 202(T)? If so, this will preclude Spectrum from being able to use packaged compressors and systems without having them built according to the rule. The gas producing states have thousands of these units in operation and don't require 100 percent of welds to be tested. Did anyone think about this?	Rule 202(T) would apply only to those welds that are performed on site at the facility. Prefabricated assemblies would not be impacted by Rule 202(T). Nonetheless, it will remain the operator's responsibility to provide documentation demonstrating that the prefabricated assemblies have been constructed and tested in accordance with other existing regulations and adopted standards.	The Commission agrees that Rule 202(T) applies only to welds performed on site at an LNG facility, "on newly installed, replaced, or repaired pipeline or an appurtenance." Thus, Rule 202(T) would not require Desert Gas to complete nondestructive testing of welds made in the manufacture of a prefabricated skid or other packaged plant item. It appears that Spectrum may have misunderstood the applicability of Rule 202(T) and that this misunderstanding contributed to Spectrum's conclusion that Rule 202(T) presents a great burden to Desert Gas's operations.

Spectrum has been told that the upshot of Rule 202(T) is the elimination of a particular exception provided in NFPA 59A § 6.6.3.2. Why does the Commission believe the NFPA erred in providing the exception, and what is the basis for the Commission's adopting rules that exceed the Pipeline and Hazardous Materials Safety Administration ("PHMSA") code and the American National Standards Institute ("ANSI") piping codes, which are the industry standards throughout the industrialized world?

Staff believes that Rule 202(T) will improve safety and that, from a policy perspective, standards articulate minimum conduct (the floor). Staff believes that with regard to public safety, the driving force behind rule changes should not be to treat the floor as the ceiling as to what constitutes reasonable or appropriate requirements. Staff believes that a safety improvement is appropriate if it can be reasonably anticipated to improve a safety concern. Rule 202(T) will improve safety by requiring full nondestructive testing on all new welds for the installation, repair, or replacement of LNG pipeline or appurtenances. As stated above, Staff believes that the increased testing requirements, comparable to the testing requirements for transmission pipeline, are reasonable because of the pressure and thermal stresses to which the pipeline is exposed.

NFPA 59A § 6.6.3.2 generally requires full radiographic or ultrasonic examination of all circumferential butt welds, but provides exceptions for certain liquid drain and vapor vent piping and for pressure piping operating above -20° F (-29° C), for which 30 percent of each day's circumferentially welded pipe joints must be nondestructively tested in accordance with ASME B31.3. Rule 202(T) eliminates these exceptions for any pipe welds falling within its requirements. The Commission agrees with Staff that industry standards establish minimum requirements rather than maximum requirements and, further, that Rule 202(T) will enhance the safety of LNG facilities. The Commission further believes that PHMSA's inquiry into revising the federal pipeline safety regulations applicable to LNG facilities suggests that PHMSA also sees room for safety improvements over the current federal and industry standards. The relevant inquiry engaged in by the Commission regarding Rule 202(T) is whether safety improvements can and should be made for welds performed at LNG facilities in Arizona. The Commission concluded that safety improvements can and should be made.

Discussion Resulting from Procedural Order of January 28, 2016, and Commission Responses Thereto
On January 28, 2016, a Commission Administrative Law Judge issued a Procedural Order ("P.O.") requiring Staff to file responses to specific questions and allowing Spectrum and any other interested person to file responses to Staff's responses. Spectrum was the only entity to file responses. A subsequent P.O. required Staff to file a reply to Spectrum's responses. Introductory statements made by Spectrum, the questions posed by the P.O., and the discussion resulting therefrom, are set forth below, along with the Commission's responses.

P.O. Question	Staff Response to P.O. Question	Spectrum Response to Staff Response	Staff Reply to Spectrum Response	Commission Response
N/A	N/A	Spectrum is a regional LNG producer and owns Desert Gas. Desert Gas serves over 50,000 gallons per day of LNG from its Ehrenberg plant, for fueling stations in Arizona and southern California, but is a relatively small operation. Desert Gas does not transport or transmit LNG through a transmission main or otherwise outside its property lines. Spectrum has extensive experience with regulation of LNG. In the Complaint case, Desert Gas worked with Staff to enter into a Settlement Agreement that adopted several proactive measures that go beyond federal and state regulatory requirements and were specifically tailored to ensure safety at the Ehrenberg LNG plant. The subject matter of the complaint involved no release of natural gas in any form, no injury to persons, no damage to property, and no pipe weld failures that allowed pipe to physically come apart.	The PHMSA rulemaking process is at a germinal stage, and it could be three to five years before any federal rule change is made. Until recently, Robert Miller, Supervisor of the Commission's Pipeline Safety Program, was the national chair of the National Association of Pipeline Safety Regulators ("NAPSR"). After his chairmanship, Mr. Miller continued to be a voting board member of NAPSR. As such, Mr. Miller voted in support of holding the workshops referenced by Spectrum. [Mr. Miller retired from the Commission in May 2016.] State regulators in the field of pipeline safety generally have more expertise than, and are relied upon by, federal regulators. Staff is not	The Commission understands that Desert Gas is likely to experience some additional expenses as a result of Rule 202(T), but believes that Desert Gas can mitigate those expenses through the timing of the testing and the choice of testing methods. As stated previously, the Settlement Agreement addressed specifically the issues that had arisen in the Complaint case, and it applies only to Desert Gas. While the Commission could have decided to propose rulemaking to require all LNG facility operators to comply with the safety-enhancing provisions included in the Settlement Agreement, the Commission instead has adopted through the NERM the

		Spectrum believes that the measures it agreed to in the Settlement Agreement are cost effective and will lead to significantly greater assurances of safety within its Ehrenberg operations than will Rule 202(T), which will impose significant additional cost without any significant benefit. If Spectrum must comply with Rule 202(T) in addition to the terms and conditions of the Settlement Agreement, Spectrum will suffer adverse economic impact. Currently, 49 CFR § 193.2013 adopts the NFPA 59A standard (§ 6.6.3) for welded pipe tests for LNG, requiring that all circumferential butt welds be examined fully by radiographic or ultrasonic inspection, except that for pressure piping operating at above -20° F, only 30 percent of each day's circumferential welded pipe joints must be tested over the entire circumference. Rule 202(T) removes this exception. Rule 202(T) is unnecessary and unduly burdensome and fails to take into account the current PHMSA process to examine regulation of LNG, which includes experts from various perspectives. PHMSA has more experience and background in cryogenics and in determining the appropriate level of nondestructive testing for LNG facilities than does the Commission. The Commission should defer to the PHMSA process to define the necessary safety regulations for LNG facilities. Spectrum's Arizona operations have no piping that is under both high pressures and low temperatures. Desert Gas's piping that contains LNG is at low pressure and low temperatures and consists of stainless steels and aluminum, which are not weakened by low temperatures.	persuaded that PHMSA's efforts reduce or eliminate the appropriateness of adopting Rule 202(T). Rule 202(T) is not in conflict with current federal regulations and is permissible because state agencies are permitted to adopt more stringent requirements. Staff believes that Rule 202(T) treats cryogenic facilities the same as the Commission's rules already treat other high pressure pipelines that carry hazardous liquids or natural gas. Operators are already required to perform 100 percent nondestructive testing on all new welds on transmission pipeline. (See R14-5-202(S).) Some of Spectrum's piping is 49 CFR Part 192 piping operating at transmission pressures. Facilities used in the cryogenic phase of the liquefying process are subject to unique thermal stresses. Ensuring the integrity of welds for such facilities is no less important than it is for transmission pipelines.	more flexible requirement in Rule 202(T), which corresponds to the requirement previously adopted for transmission pipeline in R14-5-202(S). The Commission notes that the Settlement Agreement specifically required use of x-ray testing, which Rule 202(T) does not. The Commission further points out that its Pipeline Safety Program personnel are nationally recognized for their expertise, which will be shared during the PHMSA regulatory process. Should PHMSA actively determine that 100-percent nondestructive testing of LNG pipeline welds in the field is inappropriate for some reason, the Commission will consider PHMSA's determination and could decide to revise Rule 202(T) accordingly. However, as was noted by Staff, PHMSA's consideration of appropriate revisions to the regulation of LNG facilities is only beginning, and the process may take several years. The Commission would not best serve the public interest by delaying permanent adoption of Rule 202(T), a standard that the Commission expects to enhance the safety of LNG facility operations.
1. What are the technologies available to nondestructively test welds as required under Rule 202(T)?	The standard testing methods are liquid penetrant, magnetic particle, radiography (x-ray), and ultrasonic. These methods are recognized by NFPA 59A (2001) and ASME Standard B31.3 (1996), both of which are incorporated by reference in 49 CFR § 193.2013.	Staff did not indicate what the standards are regarding each of the tests it lists, including frequency of testing. ASME B31.3 at § 344.1.3 defines three different terms for examination—100 percent, random, or spot. Spectrum maintains that 100 percent nondestructive testing is not necessary and will not provide significant benefit to justify the increased costs.	Staff was asked to identify the permissible methods of nondestructive testing and did so, including attached copies of the standards, which speak for themselves in terms of frequency. The standards do not require 100 percent testing of transmission main welds, although Arizona does under R14-5-202(S). The ASME and NFPA standards do not create ceilings for what constitutes appropriate frequency for nondestructive testing.	Staff's response identified the available testing methodologies, as requested.

2. What is the estimated cost to test a weld using each of the technologies identified in response to question [1]?	Staff obtained estimates from three Arizona testing laboratories for each method. It takes approximately 30 to 60 minutes to set up portable testing equipment and between 10 and 30 minutes to test each weld, depending on field conditions and the testing method used. Radiographic testing generally takes the longest. However, testing laboratories uniformly charge by the hour rather than by weld. Each Arizona testing lab would charge for a full day's labor per technician because the Arizona LNG facilities are outside of the lab's vicinity. Each lab would also charge a flat rental cost for the mobile testing lab and darkroom facilities, at a cost of approximately $700 per day, and would charge travel expense of approximately $0.75 per mile, per diem of $175 per technician, and the costs of consumable testing materials. The costs for the different methods, not including the $700 flat rental cost, $135/technician per diem, and $0.75 per mile of travel, would be approximately as follows: Radiography: Labor cost of $145/technician/hour for 8 hours, film cost of $36 to $41 per weld; Ultrasonic: Labor cost of $80/technician/hour for 8 hours; Liquid penetrant: Labor cost of $75/technician/hour for 8 hours; $15 per can of liquid penetrant used; and Magnetic particle: Labor cost of $75/technician/hour for 8 hours and approximately $35/day for materials used. The time to perform a weld (approximately 45 to 60 minutes for the welds at issue in the Complaint case) exceeds the time to nondestructively test a weld. Because the existing rule already required 30 percent of each day's welds to be nondestructively tested, and each testing lab charges for a full day's labor, the major difference in costs created by Rule 202(T) arises from the incidental costs of additional consumable testing materials such as film or liquid penetrant. Overall testing costs may even decrease because the testing could be done after completion of welding activity performed over multiple days, rather than being done each day, as required by 49 CFR § 193.2013. Staff believes that any cost increase will be incidental.	Staff's response is largely speculation. No one can be sure what the cost impacts of Rule 202(T) will be, but they will be significant. Staff's response is based on production work and does not reflect what will likely be found in the field and, further, does not include the cost associated with a loss of production from the facility. For a repair that involves welding at the plant, Staff's estimate includes only the cost of the inspection work. The full economic impact of Rule 202(T) would include the loss of production. Rule 202(T) would impact testing of 95 percent of the welds performed on any new facilities Spectrum contemplates building. Spectrum recently purchased 10 acres of land from the State of Arizona for the purpose of investing in a new LNG plant adjacent to the existing plant. The project has been suspended due to "economic head winds in the energy sector," but any added costs would further degrade its chance of success. If the LNG sector is unnecessarily burdened with additional regulations, it will locate elsewhere. PHMSA is undertaking a full evaluation of regulation of LNG facilities. Spectrum will participate and believes that the appropriate method to modify the code is to make a proposal before a body of experts in the welding of carbon steel pipe. Staff should submit written comments to PHMSA. If PHMSA agrees, the change can be included in the next edition of the federal code.	Staff agrees that its response is speculative, as examples are. Staff provided reasonable approximations based on current charges and industry experience. Staff did not include lost production cost in its estimates because nondestructive testing must be completed before facilities are placed into service. An operator will have some control over the lost production costs experienced based upon its decision as to the timing of nondestructive testing (on a rolling basis during construction or only at the end of all construction). Staff acknowledges that the rule will impose a cost on LNG facility operators, but has considered the costs and believes that the costs will vary depending on the circumstances and how an operator manages welding projects. Whether the cost of testing renders a particular project economically infeasible is not the threshold for appropriateness of a rule, particularly a safety rule. Also, the costs will be lower for LNG facilities constructed closer to locations that have local nondestructive test service providers.	The Commission finds Staff's estimates helpful in understanding the probable costs of testing under Rule 202(T). As stated previously, the Commission believes that an LNG facility operator will have the ability to mitigate its testing costs through its choices regarding the timing of the testing and the nondestructive testing technology chosen. These choices will also influence the duration of any period of non-production that results not simply from the need for repair but from the requirement for testing to be completed. Additionally, an operator's chosen site for an LNG facility will continue to have great influence upon the costs of testing and the duration of any delay in production that results therefrom, due largely to the proximity of testing services to the site. It is up to an LNG operator to determine whether new or expanded LNG facility operations are economically feasible. Rule 202(T) should not have a great impact upon that decision, as the costs to comply with Rule 202(T) should not be substantially greater than the costs to comply with the prior requirement to test 30-percent of each day's welds. Indeed, costs may be lower if all nondestructive testing is completed at the end of construction, thereby saving on minimum daily labor costs. While it is appropriate for the Commission to consider and evaluate the estimated economic benefits and burdens associated with any rule adopted, Spectrum's speculation regarding the impact that the enhanced safety standards could have upon potential future expansion plans should not serve as a deciding factor in the Commission's analysis. Spectrum has criticized the data provided by Staff, but has itself provided no data to support its criticisms. As stated previously, Commission Pipeline Safety Program personnel will be participating in the PHMSA process, as they are recognized experts in the field.

3. To Staff's knowledge, has any other U.S. state, any other jurisdictional governmental entity, or any recognized industry standard-setting entity adopted a requirement substantially similar to that in Rule 202(T) or more stringent than the requirement in 49 CFR 193.2[3]03? If so, please identify each such entity and provide a copy of the requirement adopted.	Staff is not aware of any other U.S. state's or other jurisdictional governmental entity's having adopted a requirement like that in Rule 202(T). Arizona's pipeline regulations are generally proactive and ahead of other states. The NFPA 59A and ASME B31.3, adopted in 49 CFR Part 193, require 100 percent nondestructive testing of several types of welds. (*See* NFPA 59A at §§ 6.6.3.2 and 6.6.3.3; ASME B31.1 at § 341.43(b).)	Spectrum knows of no other state, jurisdictional government entity, or industry standard that has adopted a requirement substantially similar to or more stringent than Rule 202(T). Both the NFPA and PHMSA provided an exception for "warm pipe" (pipe operating at temperatures above -20° F) by allowing 30 percent of such pipe's welds to be nondestructively tested. Spectrum's Arizona operations involve 95 percent warm pipe. NFPA, ASME, and PHMSA are the entities with primary expertise in this area. The PHMSA process should be allowed to "play itself out" before any changes are made that could significantly impact small operations of LNG facilities. Spectrum provided the text of an email sent by PHMSA on March 9, 2016, announcing an upcoming two-day LNG Workshop being held May 18-19, 2016. According to the email, the LNG Workshop was to include federal and state regulators, emergency responders, NFPA 59A technical committee members, industry, and interested members of the public.	Spectrum's assertion that PHMSA and industry are the entities with the primary expertise regarding LNG safety regulation is erroneous. PHMSA works in partnership with NAPSR and recognizes that in matters of intrastate safety regulation, including for LNG facilities, the states possess the leading source of expertise.	While the Commission acknowledges that it would be easier not to be the first regulatory body to adopt a safety standard, the Commission does not believe that being the first equates to being wrong. The Commission's Pipeline Safety Program personnel have extensive experience and knowledge in the areas of pipeline safety and welding. These personnel will provide their expertise to PHMSA through the LNG Workshop process. The existence of such an effort by PHMSA reinforces for the Commission its own recognition that there are safety improvements to be made in LNG facility operations. Rule 202(T) will help to bring about such safety improvements.

4. What caused Staff to conclude that it is necessary to require nondestructive testing of each weld performed on site at an LNG facility on newly installed, replaced, or repaired LNG pipeline or appurtenances?	Staff has recently grown concerned by the quality of welding performed at LNG facilities, such as concerning the welds at issue in the Complaint case. In that case, Desert Gas performed a plant upgrade involving 83 welds and used two contracted welders. Fewer than half of the required 30 percent of daily welds were nondestructively tested. After the upgraded facility was operational, additional remedial nondestructive testing was done, revealing that 8 out of 15 additionally tested welds were faulty. Upon re-welding, one repaired weld was still faulty. Staff found the greater-than-50 percent failure rate "profoundly troubling." Staff believes that had 100 percent testing been required at the time, the issue (which ultimately was attributed to one of the contracted welders being unqualified to perform the work required) would have been identified and rectified before the upgraded facility was operational. Welding and material failure are the second leading cause of pipeline failures in the nation. The greatest risk of failure for a faulty weld is when it is first brought under full operating stress. It may be cheaper for an LNG facility operator using contracted welders to identify and have faulty welds repaired prior to initiating operations for the welded plant because identifying problems while the welding activity is ongoing means that the welders will still be available to perform necessary remedial work. Demand and lack of natural gas storage in Arizona may lead to growth in LNG operations in Arizona. Staff foresees demand for LNG peak-shaving plants. Also, the American Gas Association noted in August 2013 that natural gas supplies nearly one-fourth of all energy used in the U.S. The U.S. Department of Energy projects that consumption of natural gas will increase 11 percent by 2030.	Spectrum worked with Staff in the Complaint case to develop a Settlement Agreement with measures that go above and beyond the current rules and that will be as or more cost effective in providing assurances of safety. No gas was ever released, and no piping physically came apart due to failed welds. The problem involved issues with the welding contractor Spectrum hired, which produced substandard quality welds. Spectrum paid a significant fine and agreed to pay a higher fine should the problem recur. 100 percent nondestructive testing is not the failsafe the rule would suggest. X-ray examination can be useful in determining the quality of a weld, but cannot accurately predict physical failure. Under the various codes, each weld is permitted a certain percentage of flaws. Examination of x-ray tests of pipe welds are subject to interpretation, as Spectrum has experienced firsthand. The events that gave rise to the Complaint case were independent of the percentage of testing required. Spectrum acknowledged that mistakes were made. But neither that incident nor the possibility of future facilities justified Rule 202(T) when Spectrum has expended significant costs to implement the measures agreed to in settling the complaint from the Complaint case.	Staff acknowledges that Spectrum has complied with the Settlement Agreement from the Complaint case and notes that the Settlement Agreement required Desert Gas to perform 100 percent nondestructive testing of the welds in question. The Settlement Agreement binds only Staff and Spectrum, while a rule change would impose the requirement on all operators throughout the state. Spectrum already is not the only LNG facility operator in Arizona, and another LNG storage facility is under construction in Tucson. That and any other new LNG facility will be subject to Rule 202(T).	As stated previously, the Settlement Agreement approved in the Complaint case applies only to Desert Gas, not to any other LNG facility operator. The appropriate manner for the Commission to adopt generally applicable safety standards for LNG facilities is through rulemaking, not through a Settlement Agreement in one specific case. Rule 202(T) applies to the other LNG facility currently operating in Arizona and to future LNG facilities and does not require that only x-ray testing be used. Had Desert Gas completed the 30-percent nondestructive testing required for its daily welds, Desert Gas may have detected the faulty nature of the welds sooner and may have saved itself some difficulty and expense. A blanket requirement for 100 percent of welds to be nondestructively tested before the welds are placed into service is very clear and will avoid any potential confusion or misunderstanding regarding the testing required, which should simplify compliance efforts.

5. Is Staff aware of any incidents of weld failure in LNG facility pipeline or appurtenances in the U.S. or any other country? If yes, please identify where and when the incident occurred, identify what entity or entities owned and operated the affected LNG facility pipeline or appurtenances, describe any findings regarding the cause of the incident and identify by whom those findings were made, and describe the physical and economic damages caused by the incident.	Staff is aware of one incident, but notes that PHMSA has only required LNG operators to file annual and incident reports since 2011 and that no regulations required reports of failures prior to that time. "Additionally, a large number of LNG facilities, mostly peak shaving operations, are still not regulated and reports of failures would go unreported unless they were large enough to garner media attention." On December 18, 2014, at the Intermountain Gas LNG facility near Nampa, Idaho, a weld located inside a tube within an economizer component failed, resulting in a leak of natural gas at a pressure of 600 psi. The leak caused the economizer box to rupture, which caused personnel to activate the emergency shutdown of the LNG facility. There were no injuries or fatalities as a result of the failure, but 185,000 cubic feet of natural gas were released, and property damages exceeded $102,000.	Spectrum disagrees with Staff's response for multiple reasons. First, Staff is incorrect that peak shaving LNG facilities are not regulated, as they clearly are within the scope of 49 U.S.C. § 60102 and the scope of PHMSA regulations starting at 49 CFR § 193.2001. It is common knowledge in the North American LNG industry that 49 CFR Part 193 was written and adopted specifically in response to growth in the number of peak shavers being built in the northeast. Second, the Intermountain Gas incident does not appear to be material to Spectrum's operations, and it involved an economizer with prefabricated welds delivered to the site. The economizer's prefabricated welds would not have been subject to testing under Rule 202(T). Third, several regulations indicate reporting requirements (such as 49 CFR § 193.2011). Spectrum strongly disagrees that failures at a large number of LNG facilities would go unreported, to the extent that those failures would pose a safety threat to persons and property.	Regarding peak shaving facilities, Staff reiterates that the Commission is not bound to treat federal regulations as the ceiling on what is appropriate regulation by the states. Federal regulators already defer to the greater expertise of state regulators in this area. Contrary to Spectrum's assertions, the Intermountain Gas incident demonstrates that improper welds on components that operate under the pressures and temperature variations present at an LNG facility can and do fail. The fact that the failed weld was performed in a tightly controlled factory setting reinforces Staff's view that welds performed under field conditions, where performance of a proper weld is more difficult, must be subjected to full examination. The reporting requirements for leaks and spills at LNG facilities only came into effect in 2011, and the requirements apply only to LNG facilities regulated by PHMSA.	The Commission finds persuasive Staff's reasoning that if a weld performed under presumably favorable factory conditions can fail and cause a rupture and release of large quantities of gas, a weld performed under less favorable field conditions also could fail and cause such release. Should such an incident occur, the monetary value of the losses incurred by Desert Gas (both in product and due to damages) could exceed any added costs that would be incurred as a result of the 100 percent nondestructive testing requirement in Rule 202(T). Additionally, public health and safety would be jeopardized.
6. What is the operating pressure present in typical LNG pipeline and appurtenances used in the same manner as those at Desert Gas's LNG facility?	Desert Gas's LNG plant operation and maintenance manual states that normal operating pressures prior to starting up the turbo-expanders range from 15 psi at the LNG storage tanks to 690 psi discharge pressure at one of the methane compressors. The inlet pressure from the TransCanada pipeline facility that feeds the LNG facility is approximately 630 psi.	There is no "typical LNG pipeline." Spectrum has a very small percentage of piping (less than 300 feet) operating at low temperatures. Most of Spectrum's piping is pressure piping subject to ASME B31.1, § 345, for which the 30 percent testing exception under NFPA 59A, § 6.6.3.2 applies because it is operating above -20° F. Generally, the highest pressure at which Spectrum handles LNG is around 100 psi, downstream of the truck loading pump when filling a trailer. Normal trailer pressure after loading is 15 psi. As a comparison, city transit buses and CNG fueled cars have pressure of 3,500 psi.	Staff is not just concerned about "cold" pipe. Staff is concerned about the integrity of welds that are subjected to high pressures and to welds that are subjected to high pressures and cryogenic temperatures. The cryogenic liquefying process will involve facilities that are "warm" and under high pressure, facilities that are "cold" and under high pressure, and facilities that are "cold" and under negligible pressure. Staff has no reason to dispute that the "cold" facilities under significant pressure are limited. However, there are facilities in Spectrum's LNG plant that will experience pressures as high as 1,000 psi. Most of the facilities will be "warm" high pressure or "cold" high pressure, both of which create safety concerns for Staff. Staff believes that the concern with testing the integrity of welds is at least equal to the concern presented by transmission pipeline and that for some of the piping, the high thermal stresses create additional stress further supporting testing.	The Commission shares Staff's concern regarding the integrity of field welds subjected to high pressures, regardless of the temperature of the gas within.

7. What is the operating pressure present in typical natural gas transmission pipelines for which 100 percent of new welds must be nondestructively tested?	For intrastate natural gas transmission facilities, under 49 CFR § 192.619, the maximum allowable operating pressure ("MAOP") varies based on the facility and is as low as 250 psi and as high as 837 psi.	Spectrum believes that the testing of natural gas transmission pipelines depends more on line location than operating pressure. 49 CFR Part 192, Subpart E addresses natural gas pipeline welding and includes requirements for nondestructive testing based on classes of locations and operating conditions (such as in 49 CFR § 192.241 and 49 CFR § 192.243(d)). In contrast, Rule 202(T) takes into account neither class location nor percentage of specified minimum yield strength ("SMYS").	Spectrum's response focuses on the federal requirements, which apply to interstate facilities. At an intrastate level, Arizona requires 100 percent nondestructive testing for all new welds for transmission facilities, regardless of conditions. (R14-5-202(S).)	The Commission believes that the comparable pressures to which transmission pipeline field welds and LNG facility pipeline field welds are exposed makes it reasonable and appropriate to require the same level of testing for each.
8. What are the temperatures present in typical LNG pipeline and appurtenances used in the same manner as those at Desert Gas's LNG facility, and what impact do those temperatures have upon pipeline and weld materials?	Temperatures of the gas at an LNG plant typically range from 60° F down to -270° F (the temperature at which gas condenses into liquid, considered cryogenic). At an LNG plant like Desert Gas's LNG plant, turbo expanders reduce the temperature of gas to well below 0° F, but only a portion of the gas is condensed to liquid, and the remaining gas is recompressed, resulting in an increase in pressure and temperature before being injected back into the main gas stream. The wide range of pressures and temperatures places thermal loads on the piping and welds. Under 49 CFR § 193.2505, LNG operators must have written cool-down procedures to enable the facility to gradually begin operations to avoid placing excessive thermal stresses on pipeline and components.	Spectrum's Desert Gas LNG facility has LNG pipeline with temperatures ranging from a high of 250° F to a low of -242° F and pressures ranging from a high of 1,000 psi to a low of 15 psi. But no single pipe experiences this range of temperatures or pressures. There are many separate stages of pressure and temperature at the plant, and the piping used for each location is appropriate for the conditions it experiences. Spectrum believes that Rule 202(T) addresses only "warm pipe welds" (above -20° F), so there is no question about the procedures for the lower temperature cryogenic piping. Because LNG cannot exist at -20° F, Rule 202(T) has nothing to do with cryogenic piping, and consideration of LNG or extremely low temperature conditions in this matter is not germane.	Staff agrees that no single pipe at Spectrum's facility must withstand the full range of pressure or temperature changes necessary in the cryogenic liquefaction process. Staff does not agree with Spectrum's assertion that Rule 202(T) applies only to "warm" pipe welds. Spectrum appears to believe, incorrectly, that Rule 202(T) is intended to correct an ambiguity in ASME 31.1 § 6.6.3.2. Staff has been unambiguous that the intent of the rule is to address Staff's safety concern that welds performed for the purpose of containing hazardous liquids at high pressure need to be tested to confirm the integrity of the weld, whether at a "warm" or "cold" temperature. The "cold" temperature supplies an additional mechanical stress. Because of this additional stress, it would be inappropriate to treat LNG facilities as less worthy of inspection than transmission pipeline for which there is already a 100-percent testing requirement. As with the transmission weld requirement in R14-5-202(S), Rule 202(T) elevates the requirement to be more stringent than that established by the ASME.	The Commission agrees with Staff that Rule 202(T) applies to all welds performed at an LNG facility on newly installed, replaced, or repaired pipeline or appurtenances, regardless of the temperature to which the pipeline is exposed.
9. What are the temperatures present in the typical natural gas transmission pipelines described in question 7, and what impact do those temperatures have upon pipeline and weld materials?	Temperatures in intrastate natural gas transmission facilities are generally around 60° F. Gas temperatures are usually higher downstream from compressor stations and lower at pressure reduction stations. Aboveground pipe undergoes some incidental thermal expansion and contraction due to the changing temperature of its surroundings.	Spectrum agrees with Staff's response and has no additional response at this time.	N/A	The Commission concurs with Staff's response

10. Why does Staff believe that it is not necessary to nondestructively test all welds made by a manufacturer of a prefabricated assembly being newly installed at an LNG facility (i.e., that it is only necessary to nondestructively test the welds made on site to connect the prefabricated assembly to the existing LNG facility pipeline and appurtenances)?	Pre-manufactured components are designed and manufactured to specific pressure and temperature ratings and are subject to component-specific testing requirements prescribed by 49 CFR Part 193 and NFPA 59A. The welding for factory manufactured components is conducted in a controlled environment, reducing variables that could adversely affect weld quality, such as temperature, pipe or appurtenance positioning, etc., and that cannot be controlled in a field environment. After construction, a component is also tested at the factory to ensure that it meets the design specifications and ratings. Provided that the manufacturer provides an LNG plant operator documentation stating that a component (including its welds) was tested and meets design requirements, the component's welds do not need additional nondestructive testing in the field.	Spectrum agrees with Staff's response and has no additional response at this time.	N/A	The Commission concurs with Staff's response. While the Commission is aware that even a factory weld in a prefabricated unit can fail, the Commission believes that the welds performed on site pose a greater risk and thus merit nondestructive testing per Rule 202(T).

11. To Staff's knowledge, has any other U.S. state, any other jurisdictional governmental entity, or any recognized industry standard-setting entity considered and decided not to adopt either a requirement substantially similar to that in Rule 202(T) or a requirement more stringent than the requirement in 49 CFR 193.2[3]03? If so, please identify each such state or entity and provide a copy of any documentation regarding the entity's consideration and decision not to adopt the requirement.	Staff is not aware of whether any other U.S. state, other jurisdictional governmental entity, or recognized industry standard-setting entity has considered but refrained from adopting a requirement substantially similar to that in Rule 202(T). In Staff's experience, the Commission's Pipeline Safety Program is typically ahead of other states.	Staff's experience in regulating this area is limited because Arizona is not an oil- and gas-producing state, and Arizona has no gas-processing facilities other than two small-scale LNG plants. Spectrum understands that the gas transmission pipeline facilities in Arizona were primarily installed to connect the producing regions in West Texas or the Rocky Mountains to the substantial energy market in California. These larger-scale facilities are significantly different than small-scale liquefiers such as Spectrum's operation. To determine the percentage of welds that must be tested for large interstate facilities, PHMSA takes into consideration the size of pipe, the SMYS, and the Class location of the pipeline and does not always require 100 percent x-ray testing. While Staff may be ahead of other states in implementing pipeline safety rules, it is PHMSA that has the expertise to examine the adequacy of current rules over LNG facilities. The Commission should participate in the PHMSA process to examine the regulation of LNG facilities instead of adopting Rule 202(T), which is unnecessary and will impose substantial additional costs without significant benefit and which interferes with measures already being undertaken by Spectrum by imposing significant additional cost.	The safety inquiry at issue in Rule 202(T) is whether a weld that must withstand specified stresses, such as operating pressures up to 1,000 psi, can withstand those stresses. The relevant experience is welding skill, not gas or petroleum production operations. Staff's knowledge of welds is guided by multiple qualified welders within Staff, with decades (possibly centuries) of cumulative experience. Staff believes that it has sufficient expertise to understand the relevant issues relating to the quality of welds. Staff's experience is relied upon by federal regulators. Staff's Pipeline Safety Program members have industry experience, are federal safety inspectors, and must receive continuous federally sponsored training. Staff's inspectors have and continue to serve as PHMSA associate instructors for PHMSA's Training and Qualification Division, which is responsible for training state and federal inspectors. Staff's inspectors maintain individual training that exceeds the average training maintained by federal inspectors. Additionally, NAPSR was until recently chaired by the Supervisor of Staff's Pipeline Program, Robert Miller. [Mr. Miller retired in May 2016.] Staff's views are relied upon by federal regulators, and Staff is qualified to promote pipeline safety rule enhancements. States are not bound to treat federal regulations as a ceiling on the level of regulation in pipeline safety matters, and the PHMSA process will address pipeline operations regulated by PHMSA rather than the intrastate operations that are regulated by states. Staff does not believe it necessary or appropriate to defer adoption of Rule 202(T) until PHMSA's rulemaking process concludes.	The Commission agrees with Staff's statements regarding the experience and expertise of Pipeline Safety Program personnel and their involvement with PHMSA trainings. The Commission also agrees, as stated previously, that federal regulations do not provide a maximum standard for state pipeline safety regulation and that the Commission need not wait for PHMSA to conclude its process before permanently adopting Rule 202(T).

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:

None

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

The rule amendments bring the state rules into conformity with the federal law, thereby paralleling the federal law and therefore are neither more nor less stringent than the federal law.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:

None

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rule:

49 CFR 40 (October 1, 2015) adopted in R14-5-202(B)

49 CFR 191 (October 1, 2015) adopted in R14-5-202(B)

49 CFR 192 (October 1, 2015), except I(A)(2) and (3) of Appendix D to part 192 adopted in R14-5-202(B)

49 CFR 193 (October 1, 2015) adopted in R14-5-202(B)

49 CFR 195 (October 1, 2015), except 195.1(b)(2), (3), and (4) adopted in R14-5-202(B)

49 CFR 199 (October 1, 2015) adopted in R14-5-202(B)

14. Whether the rule was previously made, amended or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:

Notice of Supplemental Proposed Rulemaking: 21 A.A.R. 3158, December 11, 2015

Notice of Emergency Rulemaking: 22 A.A.R. 5, January 1, 2016

Notice of Emergency Rulemaking Renewal: 22 A.A.R. 1637, June 24, 2016

Changes between the emergency and final rulemaking packages were made to simplify the text submitted by including "no change" for those subsections that are not being changed.

15. The full text of the rules follows:

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS ANDASSOCIATIONS; SECURITIES REGULATION

CHAPTER 5. CORPORATION COMMISSION – TRANSPORTATION

ARTICLE 2. PIPELINE SAFETY

Section
R14-5-202. Construction and Safety Standards for Gas, LNG, and Hazardous Liquid Pipeline Systems
R14-5-203. Pipeline Incident Reports
R14-5-204. Annual Reports
R14-5-205. Commission Investigations
R14-5-207. Master Meter System Operators

ARTICLE 2. PIPELINE SAFETY

R14-5-202. Construction and Safety Standards for Gas, LNG, and Hazardous Liquid Pipeline Systems

A. No change

B. Subject to the definitional changes in R14-5-201 and the modifications noted in this Section, the Commission adopts, incorporates, and approves as its own 49 CFR 40; 191; 192, except (I)(A)(2) and (3) of Appendix D to Part 192; 193; 195, except 195.1(b)(2), (3), and (4); and 199(~~October 1, 2012~~ October 1, 2015), including no future editions or amendments, which are incorporated by reference; on file with the Office of Pipeline Safety; and published by and available from the U.S. Government Printing Office, 710 North Capital Street N.W., Washington DC 20401, and at http://www.gpo.gov/fdsys/. For purposes of 49 CFR 192, "Business District" means an area where the public congregate for economic, industrial, religious, educational, health, or recreational purposes and two or more buildings used for these purposes are located within 100 yards of each other.

C. No change
1. No change
2. No change

D. No change

E. No change
1. No change
2. No change

F. No change

G. No change

H. No change
I. No change
J. An operator of an intrastate pipeline transporting LNG, gas, or a hazardous liquid shall use a cathodic protection system designed to protect the metallic pipeline in its entirety, in accordance with 49 CFR 192, Subpart I, ~~October 1, 2010 (and no future amendments),~~ as incorporated by reference in subsection (B), ~~and copies available from the Office of Pipeline Safety and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, except~~. Sections (I)(A)(2) and (3) of Appendix D to Part 192 shall not be utilized. This modifies 49 CFR 192.463(a), 193.2629, and 195.571.
K. No change
L. No change
M. No change
N. An operator of an intrastate pipeline transporting gas or hazardous liquid that constructs an underground pipeline system using plastic pipe shall bury the installed pipe with at least 6 inches of sandy type soil, free of any rock or debris, surrounding the pipe for bedding and shading, unless the pipe is otherwise protected as approved by the Office of Pipeline Safety. Steel pipe shall be installed with at least 6 inches of sandy type soil, free of any debris or materials injurious to the pipe coating, surrounding the pipe for bedding and shading, unless the pipe is otherwise protected as approved by the Office of Pipeline Safety. This modifies 49 CFR 192.321, 192.361, and 195.246.
O. No change
P. No change
Q. No change
1. In the case of all gas except LPG, leakage surveys and grading shall be performed pursuant to the standards set by ASME Guide for Gas Transmission and Distribution Pipeline System, Guide Material, Appendix G-11-1983, including no future editions or amendments, which is incorporated by reference; on file with the Office of Pipeline Safety; published by and available from ASME, ~~Three~~ Two Park Avenue, New York, NY 10016-5990; and modified by omitting 4.4(c) and by replacing "should" with "shall" each time it appears.
2. In the case of LPG, leakage surveys and grading shall be performed pursuant to the standards set by ASME Guide for Gas Transmission and Distribution Pipeline System, Guide Material, Appendix G-11A-1983, including no future editions or amendments, which is incorporated by reference; on file with the Office of Pipeline Safety; published by and available from ASME, ~~Three~~ Two Park Avenue, New York, NY 10016-5990; and modified by replacing "should" with "shall" each time it appears.
3. No change

R. No change
S. No change
T. An operator of an LNG facility shall ensure that nondestructive testing is completed for each weld performed on newly installed, replaced, or repaired pipeline or an appurtenance. This modifies 49 CFR 193.2303.

~~T.~~**U.** No change
1. No change
2. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
3. Within 48 hours after receiving telephonic notification pursuant to subsection (~~T~~ U)(2), the Office of Pipeline Safety shall:
   a. No change
   b. No change
      i. That the operator must have the removed portion of pipeline tested, in accordance with Office of Pipeline Safety directions, by an independent laboratory selected by the Office of Pipeline Safety as provided in subsection (~~T~~ U)(5), to determine the cause or causes of the failure; or
      ii. No change
4. After providing telephonic notice as provided in subsection (~~T~~ U)(3)(b), the Office of Pipeline Safety shall confirm its notification in writing;
5. No change
   a. No change
      i. Determine, as provided in subsection (~~T~~ U)(6), the independent laboratory that will do the testing and the period of time within which the testing is to be completed;
      ii. No change
      iii. No change
   b. No change
      i. No change

ii. No change
iii. No change
iv. No change
v. No change

6. In determining an independent laboratory to perform testing required under subsection (~~T~~ U), the Office of Pipeline Safety shall:
   a. No change
   b. No change
      i. No change
      ii. No change
   c. No change
      i. No change
      ii. No change
   d. No change

~~U.~~**V.** No change
~~V.~~**W.** No change
~~W.~~**X.** No change

R14-5-203. Pipeline Incident Reports

A. No change
B. No change
1. No change
   a. No change
      i. No change
      ii. No change
      iii. No change
      iv. No change
      v. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
   g. No change
   h. No change
2. No change
   a. No change
      i. No change
      ii. No change
      iii. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
      i. No change
      ii. No change
      iii. No change
      iv. No change
   g. No change
3. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
   g. No change

C. No change
1. No change
   a. No change

i. No change
ii. No change
iii. No change
iv. No change
v. No change
b. No change
c. No change
d. No change
e. No change
2. No change
a. Form PHMSA F 7100.1: Incident Report – Gas Distribution System (~~June 2011~~October 2014), including no future editions or amendments;
b. Form PHMSA F 7100.2: Incident Report – Natural and Other Gas Transmission and Gathering Pipeline Systems (~~December 2012~~October 2014), including no future editions or amendments; or
c. Form PHMSA F 7100.3: Incident Report – Liquefied Natural Gas (LNG) Facilities (~~June 2011~~October 2014), including no future editions or amendments.
3. An operator of an intrastate pipeline transporting hazardous liquid shall file a written incident report completed using Form PHMSA F 7000-1: Accident Report – Hazardous Liquid Pipeline Systems (~~December 2012~~July 2014), including no future editions or amendments, which is incorporated by reference, on file with the Office of Pipeline Safety, and published by and available from PHMSA as set forth in subsection (C)(2), any time the operator would have been required to make a notification as required under R14-5-203(B)(2).
4. No change
a. For an LNG~~,~~ or gas ~~-~~ incident, within 20 days after detection; and
b. No change
5. No change
6. After an incident involving shutdown or partial shutdown of a master meter system, an operator of a gas pipeline system shall request and obtain a clearance from the Office of Pipeline Safety before turning on or reinstating service to ~~a~~ the master meter system or portion of the master meter system that was shut down.

R14-5-204. Annual Reports

A. No change
1. Form PHMSA F 7000-1.1: Annual Report for Calendar Year 20__ Hazardous Liquid Pipeline Systems (June ~~2011~~2014), including no future editions or amendments, which shall be completed in accordance with the PHMSA instructions for the form;
2. Form PHMSA F 7100.1-1: Annual Report for Calendar Year 20___ Gas Distribution System (~~January 2011~~May 2015), including no future editions or amendments, which shall be completed in accordance with the PHMSA instructions for the form;
3. Form PHMSA F 7100.2-1: Annual Report for Calendar Year 20__ Natural and Other Gas Transmission and Gathering Pipeline Systems (~~December 2012~~October 2014), including no future editions or amendments, which shall be completed in accordance with the PHMSA instructions for the form; or
4. Form PHMSA F 7100.3-1: Annual Report for Calendar Year 20__ Liquefied Natural Gas (LNG) Facilities (~~June 2011~~October 2014), including no future editions or amendments, which shall be completed in accordance with the PHMSA instructions for the form.

B. No change

R14-5-205. Commission Investigations

A. No change
B. While investigating an incident, accident, or event, the Commission~~,~~ or an authorized agent of the Commission may:
1. No change
2. No change
3. No change
4. No change
5. No change
6. No change

R14-5-207. Master Meter System Operators

A. No change
B. An operator of a master meter system shall comply with this Section as a condition of receiving service from a provider. Noncompliance with this Section by an operator of a master ~~meters~~ meter system constitutes grounds for termination of service by the provider when informed in writing by the Office of Pipeline Safety. In case of an emergency, the Office of Pipeline Safety may give the provider oral instructions to terminate service, with written confirmation to be furnished within 24 hours.
C. No change

D. No change
1. No change
2. No change

E. No change
1. No change
2. No change
   a. No change
   b. No change
   c. No change

F. No change
G. No change
H. No change
I. No change
J. No change
K. No change
L. No change
1. No change
2. No change
3. No change
4. No change

M. No change
N. No change
1. No change
2. No change
3. No change
4. No change

O. No change
1. No change
2. No change
3. No change
4. No change

P. In the event of an unknown failure of a gas pipeline resulting in a master meter system operator's being required to provide a report under subsection (Q) and in the operator's removing a portion of the failed pipeline, the following shall occur:
1. No change
2. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
3. No change
   a. No change
   b. No change
      i. No change
      ii. No change
4. No change
5. No change
   a. No change
      i. No change
      ii. No change
      iii. No change
   b. No change
      i. No change
      ii. No change
      iii. No change
      iv. No change
      v. No change
6. No change
   a. No change
   b. No change

i. No change
ii. No change
c. No change
i. No change
ii. No change
d. No change

Q. No change
1. No change
a. No change
i. No change
ii. No change
iii. No change
iv. No change
v. No change
vi. No change
vii. No change
viii. No change
b. No change
c. An event involving permanent or temporary discontinuance of service to a master meter system or any portion of a master meter system due to a failure of a leak test or for any purpose other than to perform routine maintenance; or
d. No change
2. No change
a. No change
b. No change
c. No change
d. No change
e. No change
f. No change
g. No change
3. No change

R. No change

S. To ensure compliance with all applicable provisions of this Article, the Commission or an authorized representative thereof, may enter the premises of an operator of a master meter system to inspect and investigate the property, books, papers, electronic files, business methods, and affairs that pertain to the operation of the master meter system.