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Suggested Clarifications for Compressed Air Dryer Proposal

Additional submitted attachment is included below.

November 5, 2026

Subject: Docket # 25-BSTD-03
Recommended Modifications to Clarify and Improve Proposal for Compressed Air Dryers

The Compressed Air & Gas Institute (www.cagi.org) provides the comments below regarding proposed energy efficiency provisions for compressed air dryers. CAGI appreciates the goals of the proposal and generally supports the proposal; however, after in-depth review, we suggest the following modifications will help better achieve the stated goals. Our intent is to clarify and improve the proposal.

Section 201 Definitions (page 2-58)

POINT-OF-USE AIR DRYER ***is an air dryer, typically of the membrane or desiccant type, that is ~~dedicated to a single end use~~ installed in close proximity to a specific end use and dedicated to conditioning air for that end use when it requires a pressure dew point that differs from the rest of the plant.***

905.1.6 *[New Section]* Compressed air dryers.
Compressed air dryers designed to remove moisture from a compressed airstream being supplied at pressure values not exceeding 230 PSI and excluding point-of-use air dryers and their controls shall comply with Section 905.1.6.1, Section 905.1.6.2, and Section 905.1.6.3.

Rationale: For compressed air systems operating above 230 PSI, these represent specific system designs which are highly specialized and do not represent the norm of compressed air system designs.

905.1.6.1 Refrigerated air dryers.
[Where the required facility compressed air dew point is greater than 35°F, compressed air dryers shall be refrigerated air dryers.]

Propose revising text to: *For facilities requiring compressed air dew-point values greater than 35°F and where the combined HP for a single piped system is 25 HP and greater (above 100 SCFM), a refrigerated dryer with automatic capacity control to reduce energy consumption during part load shall be specified for use.*

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~~Each *refrigerated air dryer* shall include *automatic* capacity control features that reduce energy consumption during *part load operation*.~~ Such features may include:

1. *thermal mass cycling;*
2. *digital scroll modulation;*
3. *variable speed driven refrigeration compressors;*
4. *phase change refrigerated dryers designs, and*
5. *digital cycling designs which turn off the refrigeration compressors at lower load conditions.*
6. *automatic capacity-control features that reduce energy consumption in response to varying compressed air load* can also be employed provided that the technology is capable of reducing energy consumption at reduced load conditions.

Exception 1 to 905.1.6.1: *Refrigerated air dryers* specified for applications with documented *process* requirements requiring precise dew point control across operating conditions.

905.1.6.2 Desiccant air dryers.

For single piped compressed air systems requiring dew-point values to be in-between -40 to -69°F, desiccant air dryers shall be utilized and shall meet one of the following:

1. *Desiccant air dryers (including heatless, heated purge, blower purge, zero purge, and vacuum purge type excluding heat of compression desiccant dryers) rated for 100 SCFM and larger shall have dew point regeneration controls that maximize the use of desiccant drying capacity and delay regeneration cycling based on measurement of the desiccant material moisture load; or*

2. *Heat-of-compression dryer that uses recovered waste heat from air compressors to aid in regeneration of the desiccant material. Heat of compression dryers can also be provided with supplemental heating systems that are required for the dehumidification process. Energy savings control can be exempt for heat of compression dryers due to the nature of the operation of the system; or*

3. *For desiccant air dryers that are rated 300 SCFM and greater designed for -40°F dew-point applications, shall utilize internal or external heating to reduce purge air consumption.*

~~*Desiccant air dryers with capacity of 300 cfm or greater shall have internal or external heating to reduce purge air consumption.*~~

Exception 1 to 905.1.6.3: *Compressed air dryers serving applications requiring dew points less than -40°F.*

Exception 2 to 905.1.6.3: *Air dryers specified for applications that must maintain a precise / narrow dew point profile across all operating conditions (including -40°F dew-point conditions) or for applications which require compressed air to be supplied at dew-point levels below -70°F, heatless dryers or other types of desiccant dryers can be utilized for these applications. The use of regeneration delay cycle monitoring can be exempt due to the nature of these applications.*

Sincerely,



R. Christopher Johnson
Executive Director
Compressed Air and Gas Institute