

From: [Kenny Morrison](#)
To: [Hoc, HOO X](#)
Cc: [Richard Knott](#); [Douglas VanTassell](#); [Ross Lorberbaum](#)
Subject: [External_Sender] 10CFR Part 21 Final Notification P21-09182026-FN Rev 0
Date: Thursday, October 15, 2026 13:32:02
Attachments: [P21-09182026-FN, Rev. 0 - NRC Final Notification.pdf](#)

Good Afternoon,

Please see attached final written notification provided per 10CFR Part 21 section 21.21(d)(3) (ii).

I confirm that no proprietary, legally privileged, and/or confidential information is included in the attached notification.

Please contact me if you have any questions or concerns.

Regards,



Kenny Morrison
Vice President, Quality Assurance
(817)-229-3402 (c) | www.ParagonES.com
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Date: 10/15/2026

To: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

10CFR Part 21 Final Notification: P21-09182026-FN, Rev. 0

Subject: Defect with Ingersoll Rand/Paragon Compressor Part Number H7100X15 / H7100X10-MOD

Pursuant to §10CFR 21.21(d)(3)(ii), Paragon is providing final notification of a defect associated with the Paragon/Ingersoll Rand compressors as noted in the table in section (ii) below

The following information is required per §10CFR 21.21 (d) (4).

(i) Name and address of the individual or individuals informing the Commission.

Kenny Morrison, Vice President Quality Assurance
Paragon Energy Solutions, LLC
7410 Pebble Drive
Ft. Worth, TX 76118

(ii) Identification of the facility, activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

Plant	Client PO#	Item #	Paragon Project #	Part #	Serial #	QTY.
AEP – DC Cook	C1005034	049704193201	PR22001090	H7100X10-MOD	016708-01-00001 (CBV866734)	1
	C1013348	7000001040	PR24001033	H7100X15	CBV982263, CBV982264, CBV982265, CBV982266, CBV982267, CBV982268	6

(iii) Identification of the firm constructing or supplying the basic component which fails to comply or contains a defect.

Components were originally supplied by:

Paragon Energy Solutions, LLC
7410 Pebble Drive,
Fort Worth Texas 76118

Paragon Energy Solutions, LLC
7410 Pebble Drive • Fort Worth, Texas • 76118
817-284-0077 • Fax 817-590-0484

(iv) Nature of defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

DC Cook reported failures in four compressors used during the starting sequence associated with Emergency Diesel Generators. Paragon conducted an initial detailed failure analysis with an Ingersoll Rand field technician, which identified the compressors second stage valve plate gasket had blown out between the first- and second-stage pressure boundary. This resulted in increased back pressure to the first stage and reduced pressure output to the receiver. Failed gasket material became entrapped in the valve seat, causing high back pressure to be applied to the first stage. This, in turn, caused the first-stage relief valve to lift, limiting the output pressure from the compressor significantly below the design value. This same failure mode has been apparent with all identified failed compressors. Limited output of the compressors could contribute to limited air receiver pressure which may impact the ability for the Emergency Diesel Generator to start or actuation of critical system components therefore, if this condition is left uncorrected, it could contribute to a safety hazard.

(v) The date on which the information of such defect or failure to comply was obtained.

09/16/2026

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for being supplied for, or may be supplied for, manufactured or being manufactured for one or more facilities or activities subject to the regulations in this part.

See section (ii) above.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Paragon entered this issue into our Nonconformance Reporting Program (NCR-1348 & 1360). Paragon with an Ingersoll Rand field technician conducted a detailed failure analysis on the original failed compressors (S/N's 016708-01-00001 (CBV866734) and CBV982266) which identified the compressors second stage valve plate double layer stainless steel reinforced Grafoil gasket had blown out between the first and second stage pressure boundary, which caused increasing back pressure to the first stage and reduced pressure output to the receiver. Failed gasket material was entrapped in the valve seat causing high back pressure to be applied to the first stage. This in turn caused the first stage relief valve to lift limiting the output pressure from the compressor significantly below the design value. This same failure mode has been apparent with all identified failed compressors that have been returned to Paragon.

To date, Paragon has confirmed this same failure mode on the failed compressors reported by DC Cook. Paragon has coordinated with the Original Equipment Manufacturer (OEM), Ingersoll Rand, and determined that the compressor high-pressure valve plate and gasket design was updated in 2022, subsequently all compressors that experienced this same failure mode were manufactured in 2022 and after. Post-2022 gasket configuration contains a double layer stainless steel reinforced Grafoil gasket rather than a single layer Grafoil gasket per the pre-2022 design. There have been no documented occurrences of this failure mode on compressors manufactured prior to

2022. The OEM was contacted for technical guidance and assistance in determining the reason for this new gasket configuration. However, the OEM provided no support for the change or confirmed the acceptability of the installed gasket arrangement. Based on the available physical evidence, the double layer stainless steel reinforced Grafoil gasket design is considered a potential contributing cause to the failure. Therefore, Paragon is taking a conservative approach and considers all compressors manufactured and supplied in 2022 or later are affected by this notification.

To further bound the extent of condition, Paragon reviewed industry operating experience for these compressor model numbers dating back to 2001 and did not identify any failures attributed with the same failure mode. This evidence supports the conclusion that the extent of condition can be limited to the compressors supplied in 2022 or later, as indicated in the table in section (ii) above. Paragon's corrective actions are focused on collaborating with DC Cook to rework compressors manufactured and supplied in 2022 and after to the original qualified design based on learnings from our failure analysis. In addition, Paragon has updated and implemented the following revised test and inspection plan and applicable commercial grade dedication plan to perform replacement of the high-pressure valve plates and gaskets to the originally qualified design (pre-2022):

- 1) Paragon revised test and inspection plan, TIR-H7100X15-1, detailing necessary steps to replace the high-pressure valve plates and gaskets using the qualified original design parts procured from Ingersoll Rand (OEM).
- 2) The applicable commercial grade dedication plan, CGD-H7100X15-1, was updated to incorporate a step to call out replacement of the high-pressure valve plates and gaskets per TIR-H7100X15-1.
- 3) Paragon is coordinating with DC Cook to supply replacement compressors retrofitted and dedicated to the revised documents above.

(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

Paragon recommends that DC Cook return the remaining compressors documented in section (ii) above. Paragon will provide compressors retrofitted and dedicated using the revised test and inspection plan and commercial grade dedication plan detailed above.

Sincerely,

Kenneth Morrison

Kenny Morrison
Vice President, Quality Assurance
Paragon Energy Solutions, LLC.

cc. Douglas VanTassell – President / CEO
Ross Lorberbaum – Vice President, General Manager
Richard Knott – Vice President, QA Mirion North America