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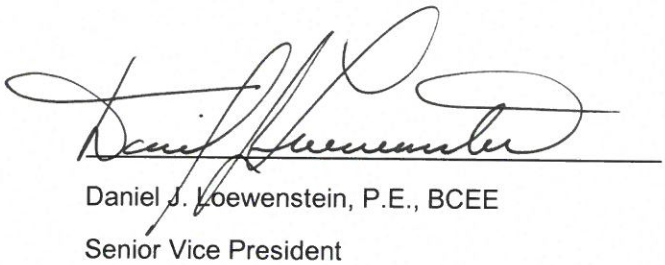
New York State Department of Environmental Conservation

PERIODIC REVIEW REPORT

Goulds Pumps Cobalt Site – Site No. C850012

June 2016



Daniel J. Loewenstein, P.E., BCEE

Senior Vice President

GOULDS PUMPS COBALT SITE PERIODIC REVIEW REPORT

Site Number C850012

Prepared for:

Ms. Charlotte Theobald

Site Manager

New York State Department of Environmental Conservation – Region 8

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01257CBT.2016

Date:

June 2016

CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis of New York, Inc.
EC	Engineering Control
EWP	Excavation Work Plan
ft bgs	Feet below ground surface
IC	Institutional Control
ITT	ITT Inc.
NWSA	Northwest Storage Area
NYSDEC	New York State Department of Environmental Conservation
PCB	Polychlorinated biphenyl
PRR	Periodic Review Report
RI	Remedial Investigation
SCO	Site Cleanup Objective
Site	Goulds Pumps Cobalt Site (NYSDEC Site Number: C850012)
SMP	Site Management Plan
SVOC	Semi-volatile Organic Compound
TCL	Target Compound List
TIC	Tentatively Identified Compound
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This Periodic Review Report (PRR) for the Goulds Pumps Cobalt Site (the Site) (NYSDCE Site Number C850012) has been developed by Arcadis of New York, Inc. (Arcadis) on behalf of ITT Inc. (ITT) and in accordance with the Site Management Plan (SMP) (O'Brien & Gere Engineers, Inc., 2014). This PRR documents the findings and observations associated with the monitoring program for the Site for the reporting period December 30, 2014 to May 31, 2016.

Based on previous investigations, the soil and groundwater at the Site were found to have been impacted with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, pesticides, and polychlorinated biphenyls (PCBs). As a result of the Remedial Investigation (RI) conducted in 2014 and 2015, the SMP (O'Brien & Gere Engineers, Inc., 2014) summarizes the following remedial actions that were performed:

- Multiple soil excavation events performed in an effort to remove impacted soils that exceeded Site Cleanup Objectives (SCOs).
- Placement of supplemental cover over impacted soils and fill materials subsequent to new building construction.
- Construction and maintenance of a soil cover system.
- Restriction of land use with an Environmental Easement.
- Inspections, maintenance, and reporting associated with the installed covers.
- Development and implementation of the SMP.

The SMP has established measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate impacts at the Site (O'Brien & Gere Engineers, Inc., 2014). The following summarizes these measures:

- Soil cover system monitoring
- Groundwater monitoring
- Site-wide inspection

This PRR provides details on the monitoring and inspection activities performed between 2015 and 2016 as well as providing conclusions and recommendations for moving forward with management of this Site.

At the time of this PRR, no changes to the SMP are recommended and these management measures should be continued.

1 SITE OVERVIEW

1.1 Location and Features

The Site is an 11.4 acre parcel located at 240 Fall Street, Seneca Falls, NY 13148. This is a rural area in Seneca County and adjacent to the Village of Seneca Falls. New York State Department of Environmental Conservation (NYSDEC) (2016) has a detailed Site Record for this Site. The Seneca County Tax Map has this property Section, Block, and Lot defined as 09-1-04.11 (O'Brien & Gere Engineers, Inc. 2014). A description of the neighboring properties/land types is as follows:

- North: New York State Electric and Gas substation
- South: Residential/Commercial structures and the Seneca River
- West: former ITT Goulds Pumps landfill (Inactive Hazardous Waste Disposal Site Number: 850002)
- East: Goulds Pumps Facility (Brownfield Cleanup Program ID Number C850013)

Key features of the Site area are:

- Building 900 – known as the Project Cobalt building
- Hazardous Waste Storage Area – known as the Northwest Storage Area (NWSA)
- Parking lot
- Chip Storage Building

Figure 1 presents the Site, neighboring boundaries, and features.

1.2 Site History and Remediation

According to the Site Record (NYSDEC, 2016), Goulds Pumps began operation in the mid-19th century as a manufacturer of industrial, agricultural, and consumer pumps. The Site was historically an open area with a parking lot and several small storage buildings located in the southeast area of the property. In 1997, Goulds Pumps was acquired by ITT.

The remediation history at this Site is summarized below from the Site Record (NYSDEC, 2016):

- Property-wide Phase I Environmental Site Assessment was conducted in 1999
- Property-wide Phase II groundwater survey was conducted between 2006 and 2007
- A Brownfield Cleanup Agreement was originally executed in October 2004 for the NWSA.
    - Amendments were developed to divide portions of the property into their own separate areas
    - The Certificate of Completion for the Site was executed on December 30, 2014 and leaves the Site under Site Management
- NWSA Soil Removal
- Project Cobalt Building Soil Removal

Following the completion of the remedial actions, the SMP (O'Brien & Gere Engineers, Inc. 2014) was developed to guide the monitoring of the Site.

2 REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The purpose of the remedial actions conducted at the Site, is to protect human health and the environment from any remaining impacted soil and groundwater beneath the Site, as described in the SMP (O'Brien & Gere Engineers, Inc., 2014).

Exposure to the remaining impact is prevented by the Site-wide soil cover system that was installed. This soil cover system includes a variety of surface media, including asphalt (pavement), topsoil/grass, riprap, concrete, gravel, and a cap comprised of various stone, granular fill and geotextile demarcation layer for the NWSA cap. This cover system also includes the buildings and sidewalk areas that have been developed for the facility operations.

The SMP (O'Brien & Gere Engineers, Inc., 2014) specifies three Institutional Controls (ICs) that are required to be met:

- Implement, maintain, and monitor Engineering Control (EC) systems
- Prevent future exposure to remaining impact by controlling disturbances of the subsurface impact
- Limit the use and development of the Site to industrial purposes only

The inspections and groundwater monitoring that are actively taking place fulfill the first requirement.

The prevention of future exposure by controlling disturbances of the subsurface impact is established with the Excavation Work Plan (EWP) developed as part of the SMP (O'Brien & Gere Engineers, Inc., 2014). The SMP states:

> "*any work that will penetrate the soil cover/cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in accordance with the Excavation Work Plan that is attached as Appendix E to this SMP" (*O'Brien & Gere Engineers, Inc., 2014)

Lastly, the limitation of use and development at the Site is fulfilled by the Environmental Easement that was placed on the Site deed for current and future owners. This action fulfills the third requirement established by the SMP.

Based on current Site management practices, including inspections, groundwater monitoring, and the Environmental Easement that has been put in place for the Site, it appears that the remedies have withstood the Site conditions (weather, etc.) and have been performing as they were intended.

The following sections provide details and documentation associated with the Site inspections and groundwater monitoring program during the reporting period.

3 OPERATION AND MAINTENANCE

The ECs and ICs that have been implemented for the Site are required to protect human health as well as the environment. This section describes the EC/IC at the Site and the monitoring/inspection activities taking place to verify their continued effectiveness.

Since investigations and remedial actions began at the Site, the areas/caps/covers have had various identifiers. Table 1 presents a list of the ECs installed at the Site and references the areas and past identifiers. Please refer to Figure 2-1 in the SMP (O'Brien & Gere Engineers, Inc. 2014) for a visual representation of the specific areas.

Table 1. Engineering Controls

Inspection Form Cap/Cover Area	Cap/Cover Type	Description
A1	Pavement	Parking lot south of Building 900
A2		Heavy Duty pavement north of Building 900
A3		Pavement along southeast of Building 318 (SGW-14 Cover)
B1	Topsoil/Grass	Stormwater Filtration and Management System topsoil/grass area
B2		Topsoil/grass area bordering Building 900 on south side
C1	Riprap Spillway	Riprap that is part of the Stormwater Filtration and Management System
C2		
C3		
C4		
C5		Riprap slope protection area on the southeastern side of Building 900
D1 – D12	Concrete	Concrete pads located around Building 900
E1	Gravel	Gravel area west of Building 900
E2		Gravel area east of Building 900
E3		Gravel area north of Building 900/southwest of Building 318
E4		Gravel area south of Building 605 (B-02/SB-T3D and SB-T3F Cover)
E5		Gravel area between NWSA and northwest of Building 318 (SBRI-17 Cover)
F	NWSA Cap	NWSA Cap Area

The following subsections discuss the observations during inspections conducted at the Site during the reporting period December 30, 2014 to May 31, 2016. The inspections monitor the cap/cover types listed above and the Site Fence that borders the neighboring landfill area (west of the Site), as well as providing for a general inspection of the conditions of the monitoring well network. Appendix A includes the three semi-annual reports prepared during the reporting period. The reports present the field forms with complete notes and details for the completed inspections.

3.1 Pavement Areas

Inspections of the pavement areas conducted in May 2015, November 2015 and May 2016 resulted in acceptable conditions overall. At Pavement Area A2 there was an observation during the 2015 inspections of some seepage from a storm drain with an orange-rust-coloured staining on the asphalt; although this was not observed during the May 2016 inspection. The May 2016 inspection observed some loose stone around the outside of Area A2 and also some minor scoring from pallet storage at Area A3. Both of which were simply commented on and did not require any maintenance at this time.

3.2 Topsoil/Grass Areas

During the May 2015 inspections, the overall conditions were acceptable for the topsoil/grass areas, but had some minor vegetation growth taking place, as well as some dead grass/patches in a few small areas near Building 900.

At the November 2015 inspection, these vegetative growth/dead grass/bare patch conditions were not observed anymore, however at area B1, some minor animal burrowing was observed and noted as potentially requiring minor filling, grading, or reseeding work to repair. During the May 2016 inspection, all topsoil/grass areas were determined to be in acceptable condition.

3.3 Riprap Areas

All inspections (May 2015, November 2015 and May 2016) of the riprap areas indicated acceptable conditions. During the May 2015 inspection it was noted that there was some minor vegetation/weed growth in the C3 and C4 area, but not a condition that required maintenance.

3.4 Concrete Areas

There were not any concerns or observations noted during the inspections conducted during May 2015 or November 2015 for any of the concrete areas. The May 2016 inspections had some minor observations:

- Hairline cracking off main access road at Area D4
- Stone and minor debris present at Area D5
- Minor chipping on edges, corners at Areas D7 and D8, respectively.

None of the observations during the May 2016 inspection required any maintenance actions.

These areas were all determined to be in acceptable condition.

3.5 Gravel Areas

During the May 2015 inspection, some vegetation/weeds were observed growing up through the gravel, but were not a major concern. The November 2015 inspection revealed that Gravel Area E2 had some erosion of the gravel into a nearby storm drain and Gravel Area E3 had some irregularities in the surface, possibly requiring some tamping or evening out with a roller. Neither of these observations was considered major and the conditions were still deemed acceptable with some maintenance. A small

amount of debris (pieces of pallet wood, plastic wrap, pieces of paper) was observed during the May 2016 inspection, but did not require any maintenance action and conditions were determined to be acceptable.

3.6 Northwest Storage Area Cap

Both the May 2015 and November 2015 inspections indicated that conditions were acceptable for the NWSA Cap Area. It was observed that some vegetation was growing, but no substantial or woody vegetation was observed. The May 2016 inspection resulted in similar conditions, with a small amount of debris observed (pieces of pallet wood, plastic wrap, pieces of paper). There was not any need for maintenance action and conditions remain acceptable.

3.7 Site Fence

Following the May 2015 inspection, a hole in fence near MW-26 was observed. This was noted as requiring maintenance. The hole was repaired and the November 2015 and May 2016 inspections resulted in acceptable conditions and no further maintenance was required.

3.8 Monitoring Well Network

During the May 2015 inspection, some well locations required maintenance. There was a great level of improvement in the November 2015 inspection with only some minor items noted for possible improvement or to check following the winter months.

The May 2016 inspection of the monitoring well network resulted in the wells being found in acceptable condition with only some minor observations noted. However, the following wells were noted as requiring new locks:

- MW-23S
- MW-26B
- MW-26I
- MW-26S

The locks will be replaced during the next monitoring event.

4 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program is conducted in an effort to monitor the continued reduction of localized residual impact in the groundwater around the NWSA of the Site. Additionally, this monitoring will also provide an understanding of the flow potentials at the Site (O'Brien & Gere Engineers, Inc., 2014).

4.1 Groundwater Sampling

The groundwater monitoring network is comprised of 18 wells, generally focused on monitoring the shallow silt and clay up to 20 feet below ground surface (ft bgs). There is also a cluster of three wells that monitor the shallow silt and clay, the intermediate sandy silt layer (53 to 58 ft bgs) and the bedrock (87.5

to 89.5 ft bgs) (O'Brien & Gere Engineers, Inc., 2014). Figure 2 presents the monitoring well locations for the Site.

The SMP specifies that groundwater sampling at 9 locations (MW-18SR, MW-19SR, MW-24S, MW-26S, MW-34, MW-35, MW-36, TW-BRW-01R, and TW-BRW-01S) will be conducted twice per year for the first three years, followed by a transition to annual sampling after three years with NYSDEC approval. The locations, well construction specifications, required actions, and the analyses to be performed are all described in the SMP (O'Brien & Gere Engineers, Inc., 2014).

The sampled well locations will be analyzed for Target Compound List (TCL) VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260, plus tentatively identified compounds (TIC) and PCBs by USEPA Method 8082.

4.2 Groundwater Sampling Results

Groundwater sampling was conducted:

- May 2015
- November 2015
- May 2016

Appendix A presents the reports generated from the events that were submitted to NYSDEC. At the request of the NYSDEC, this report serves as the mechanism to submit the 2016 First Semi-Annual Groundwater Monitoring and Sampling Event and is included in Appendix A. Table 2 summarizes the well locations, sampling event, and compounds that were detected above NYSDEC Class GA groundwater standards.

Table 2. Groundwater Exceedances Summary

Monitoring Well	May 2015	November 2015	May 2016
MW-18SR	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene
MW-19SR	1,4-dichlorobenzene; Total PCBs	1,4-dichlorobenzene	1,4-dichlorobenzene
TW-BRW-01S	Total PCBs	Total PCBs	1,4-dichlorobenzene, Total PCBs
MW-24S	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene	1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene
TW-BRW-01R	*No exceedance*	1,1-dichloroethane	*No exceedance*

5 OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In general, the NYSDEC-approved SMP is working effectively at the Site. Site conditions have been generally consistent and have only required minimal maintenance on the cover system. The groundwater conditions have also been generally consistent between the monitoring events.

There does not appear to be any observation or sampling result indicating necessity to change Site management at this time.

5.2 Recommendations

At the time of this report, the recommendation is to proceed with the inspections and monitoring as specified in the SMP.

6 SUMMARY AND CERTIFICATION

See Appendix B for the completed NYSDEC Certifications.

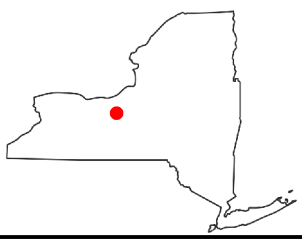
7 REFERENCES

New York State Department of Environmental Conservation. 2016. Environmental Site Remediation Database Search Details. Site Number C850012. Available online at: http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3.

O'Brien & Gere Engineers, Inc. 2014. Site Management Plan: Goulds Pumps Cobalt Site. NYSDEC Site Number: C850012. Prepared for ITT Corporation.

FIGURES

0 80 160 320 480 640 Feet



N

Legend

- Approximate NWSA Boundary
- Approximate Site Boundary

GOULDS PUMPS COBALT SITE
240 FALL STREET
SENECA FALLS, NEW YORK
NYSDEC SITE NO. C850012

SITE LOCATION AND FEATURES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

Document Path: G:\GISMOD\01257117.0000\SiteMap.mxd

0 120 240 480 720 960 Feet

Legend

- Abandoned Well
- Monitoring Well
- Approximate Site Boundary

N

GOULDS PUMPS COBALT SITE
240 FALL STREET
SENECA FALLS, NEW YORK
NYSDEC SITE NO. C850012

MONITORING WELL LOCATIONS

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FIGURE 2

Document Path: G:\GISMOD\01257117.0000\Wells.mxd

APPENDIX A

Monitoring Reports

APPENDIX B

NYSDEC Certifications

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C850012

Site Name Goulds Pumps Cobalt Site

Site Address: 240 Fall Street Zip Code: 13148
City/Town: Seneca Falls
County: Seneca
Site Acreage: 11.4

Reporting Period: December 30, 2014 to May 31, 2016

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☑
If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.		
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☑	☐
If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.		

SITE NO. C850012

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
09-01-4.11	Goulds Pumps Administration, Inc.	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan IC/EC Plan

Institutional Control: Imposition of an institutional control in the form of an environmental easement for the controlled property that:

* Requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
* Allows the use and development of the controlled property for industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
* Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
* Requires compliance with the Department approved Site Management Plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
09-01-4.11	Cover System

Cover System: A site cover system will be required to allow for industrial use of the site. The cover system will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil/fill material cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the cover system is required it will be a minimum of one foot of soil/fill material, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for industrial use. If a vegetation layer is needed the upper six inches of the soil of the cover system will be of sufficient quality to maintain the vegetation layer. Any soil/fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. C850012

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JEFF STANEK (print name) at ITT INC, 56 TECHNOLOGY DRIVE, IRVINE CA (print business address),

am certifying as REMEDIAL PARTY (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Jeff Stanek
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

6/27/16
Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Daniel J Loewenstein at 855 Route 146, Clifton Park, NY 12065
print name print business address

am certifying as a Professional Engineer for the Remedial Party
(Owner or Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

6/29/16
Date

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