



## Reduction and Phaseout of PFOS in Priority Sectors (P152959)

EAST ASIA AND PACIFIC | China | Environment, Natural Resources & the Blue Economy Global Practice |  
Global Environment Project | Investment Project Financing | FY 2017 | Seq No: 13 | ARCHIVED on 21-Dec-2023 | ISR59276 |

Implementing Agencies: Foreign Environmental Cooperation Center of Ministry of Ecology and Environment, PEOPLE'S REPUBLIC OF CHINA

**Key Dates****Key Project Dates**

Bank Approval Date: 07-Apr-2017

Effectiveness Date: 04-Sep-2017

Planned Mid Term Review Date: 31-Jan-2021

Actual Mid-Term Review Date: 05-Feb-2021

Original Closing Date: 31-Mar-2023

Revised Closing Date: 30-Jun-2024

**Project Development Objectives**

Project Development Objective (from Project Appraisal Document)

The project development objective is to reduce PFOS in selected sectors and enterprises in China in a sustainable manner.

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

**Components Table**

Name

Component 1: PFOS Production Reduction:(Cost \$3.20 M)

Component 2: Reduction of PFOS Use:(Cost \$81.23 M)

Component 3: Policy and Technical Assistance:(Cost \$56.08 M)

Component 4: Project Management:(Cost \$8.05 M)

**Overall Ratings**

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Moderately Satisfactory	<input type="checkbox"/> Moderately Satisfactory
Overall Risk Rating	<input type="checkbox"/> Substantial	<input type="checkbox"/> Substantial

**Implementation Status and Key Decisions**

Continued progress has been achieved over the past six months. A project restructuring was conducted in March 2023 to extend the project closing date by 15 months from March 31, 2023 to June 30, 2024, to allow for completion of existing activities and reprogramming of grant savings to new activities that will enhance project impact. A detailed implementation plan for the remainder of the project life was developed as part of the restructuring and is being closely followed to ensure timely completion of the existing and new activities.

**Risks****Systematic Operations Risk-rating Tool**

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	☐ Moderate	☐ Low	☐ Low
Macroeconomic	☐ Low	☐ Low	☐ Low
Sector Strategies and Policies	☐ Moderate	☐ Low	☐ Low
Technical Design of Project or Program	☐ Moderate	☐ Moderate	☐ Moderate
Institutional Capacity for Implementation and Sustainability	☐ Moderate	☐ Moderate	☐ Moderate
Fiduciary	☐ Moderate	☐ Low	☐ Low
Environment and Social	☐ Substantial	☐ Substantial	☐ Substantial
Stakeholders	☐ Substantial	☐ Moderate	☐ Moderate
Other	--	☐ Moderate	☐ Moderate
Overall	☐ Substantial	☐ Substantial	☐ Substantial

**Results****PDO Indicators by Objectives / Outcomes**

To reduce PFOS in selected sectors and enterprises in China in a sustainable manner				
▶ Amount of PFOS used yearly reduced (Tons/year, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	44.00	44.00	44.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p>The indicator end-target is met, as recorded since Feb 2021 for calendar year 2020. This indicator measures overall progress towards reduction of PFOS production and use in various sectors. The target corresponds to the 2015 production (baseline year for the project as reported in the CS-1 consultant project preparation report) for the three main uses still allowed with exemption under the Stockholm Convention (metal plating, oil production and RIFA). These three uses are no longer allowed after the 2019 issuance by 11 ministries including the Ministry of Ecology and Environment of the ban on the production, circulation, use, import, and export of PFOS other than acceptable uses. Based on project records and data from the National POPs Chemical Survey and Reporting Information System as reported by FECO through project half yearly progress reports, as of the end of 2020, there was zero annual use of PFOS for metal-plating, enhanced oil recovery, and pest control. The use is therefore considered reduced by the 44 tons representing the 2015 baseline.</p>			
▶ Control and monitoring system for tracking PFOSF production and sale established and operational (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	Yes	Yes	Yes



Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p>The indicator end-target is met through the adoption in June 2021 by MEE and the National Bureau of Statistics of the “Statistical survey system of controlled substances of international convention on chemicals” (as elaborated in the February 2021 MTR and September 2021 mission aide-memoires).</p>			
<b>► Direct project beneficiaries (Number, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	7,216,500.00	7,216,500.00	7,200,000.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p><u>The indicator end-target is met.</u>            The direct beneficiaries for the project are defined as including (i) the number of workers in the four enterprises with PFOSF production in 2015 (negligible); (ii) the number of people living in the three counties where these production facilities were located (two counties in Hubei and one county in Fujian) that are now closed (two producers in Hubei/ two producers in Fujian); (iii) the number of workers in metal plating demonstration enterprises (negligible); (iv) the number of workers in participating firefighting foam manufacturers (negligible); and (v) the number of people that previously sprayed PFOS-containing sulfluramid in project areas and no longer do so.            As noted in the PAD, the actual number of beneficiaries is expected to be higher given the transboundary nature of PFOS pollution, but is impossible to estimate given the global distribution of PFOS in the environment.            - Number of people living in the counties with production enterprises in 2015 that are now closed: 1,366,500 (target achieved: all enterprises that were still producing PFOS in 2015 have now stopped production).            - Number of people previously spraying sulfluramid in project areas: over 5.85 million. Based on estimate at appraisal from the National Agro-Tech Extension and Service Center (NATESC) that 19,500 village-level cadres would be trained, each training at least 300 villagers (5.85 million in total). Given the latest report from NATESC of 63,056 people trained, it is estimated that that target is at least achieved. Given the lack of reliability of this estimate, possible achievement beyond the target is not reported.            The percentage of female beneficiaries is based on 50% for “Number of people living in counties with production of PFOS in 2015”, and estimate from NATESC for the ratio for the 5.85 million “Number of people previously spraying sulfluramid in project areas”; the latter will be confirmed by NATESC in their completion report.</p>			
<b>□ Female beneficiaries (Percentage, Custom Supplement)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	40.00	48.00	47.00

### Intermediate Results Indicators by Components

Component 1: PFOS Production Reduction				
<b>► Amount of PFOSF production capacity dismantled (Tons/year, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	20.00	20.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p>The indicator end-target is met. Target has been met on completion of dismantling at Youshida, which was verified and accepted in July 2023.</p>			



Component 2: Reduction of PFOS Use				
<b>► Number of contracts signed with enterprises for demonstration of PFOS phase-out in the metal plating sector (Number, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	2.00	2.00	2.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	The indicator end-target is met with signature of two contracts for demonstration of "closed loop systems" (NEG, 1 Nov 2021; Baoxin, 11 Nov 2021). The demonstration at both enterprises were verified and accepted in September 2023.			
<b>► Yearly reduction in water effluents containing PFOS from demonstration industrial parks (Tons/year, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	720,000.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	This indicator measures improvement of wastewater treatment operations in selected industrial parks. Sub-grant agreements were signed with Gaoping and Haofeng in March 2023 and the target will be met once the implementation at these two industrial parks is completed, expected by March 2024.			
<b>► Number of firefighting foam manufacturers developing non-PFOS-based fire-fighting foam (Number, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	4.00	4.00	4.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	The indicator end-target is met. This indicator measures the progress towards uptake of non PFOS fire-fighting foam with signature of four planned sub-projects (Waysmo 6 Dec 2021; Langchao 13 Jan 2022; Nenglin, 25 Jan 2022; Su products have been verified and acceptance is expected to happen in January 2024.			
<b>► PFOS containing waste collected and disposed of (Metric ton, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	30-Jun-2021	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	This indicator measures the progress towards waste fire-fighting foam disposal. The agreements for implementing this activity in three provinces have been signed in October 2023, while the last agreement is expected to be signed by December 31, 2023. Timely implementation and completion will be closely followed up by FECO.			
Component 3: Policy and Technical Assistance				
<b>► Number of PFOS related environmental standards developed (Number, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	3.00	7.00	9.00
Date	16-Jan-2017	30-Mar-2023	15-Dec-2023	30-Jun-2024



Comments:	<p>A number of standards are developed as part of TA activities. Baseline is zero and target was increased from five to six during the June 2021 restructuring and to nine during March 2023 restructuring to reflect the added studies to be developed.</p> <p>The following three standards were developed and adopted to date:</p> <ul style="list-style-type: none"> <li>- Standard for implementing professional control of Solenopsis Invicta Buren (NY/T 3541-2020) issued on March 20, 2020 (developed under contract by NATESC).</li> <li>- Determination of perfluorooctane sulfonyl compounds (PFOS) in fire extinguishing agent (XF/T 3020-2023) issued on July 19, 2023 and become effective on Oct 19, 2023 (developed under contract by the China Certification Center for Fire Products, CCCF).</li> <li>- Assessment indicator system of cleaner production in fluoride chemical industry (T/FSI 101-2023), issued on Feb 28, 2023 and became effective on Mar 30, 2023.</li> </ul> <p>In addition, four more standards are already developed. They are:</p> <ul style="list-style-type: none"> <li>- Technical guidelines for the disposal of PFOS-containing Waste – expected to be adopted soon</li> <li>- Technical specification of wastewater and waste gas pollution treatment in Hubei fluorine chemical industry</li> <li>- Electroplating discharge standard in Guangdong province</li> <li>- PFOS discharge standard for the electroplating industry in Jiangsu</li> </ul> <p>The other two standards will be developed by Jun 30, 2024.</p>			
<b>► Land area under demonstration for RIFA non-PFOS alternative treatment (Hectare(Ha), Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	1,100.00	1,100.00	1,064.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p><u>The indicator end-target is met.</u></p> <p>This indicator measures the area of land (in ha) where red imported fire ant non-PFOS alternative treatment has been piloted. Based on 10 total demonstration sites in 7 provinces covering 32 ha each (500 mu) and repeated in new sites for four years. Baseline is zero. In 2021, ten demonstration sites were implemented in the seven participating provinces, adding 5000 mu to the area under demonstration (approx. 333 ha), bringing the total number of demonstration sites to 34 over the period 2018-2021, and completing demonstration activities under this sub-component. (See September 2021 mission aide-memoire for further justification).</p>			
<b>► Number of technicians and farmers trained in alternatives for RIFA control at the city/county levels (Number, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	63,056.00	63,056.00	19,500.00
Date	16-Jan-2017	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p><u>The indicator end-target is met.</u></p> <p>Based on latest NATESC progress report.</p>			
<b>Component 4: Project Management</b>				
<b>► Grievances recorded through project level-grievance redress mechanisms are resolved satisfactorily (Yes/No, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Yes	Yes	Yes	Yes
Date	30-Jun-2021	28-Mar-2023	15-Dec-2023	30-Jun-2024
Comments:	<p>There have been no complaints received and reported to the Bank by FECO or the two provincial PMOs to date.</p>			



## Performance-Based Conditions

### Data on Financial Performance

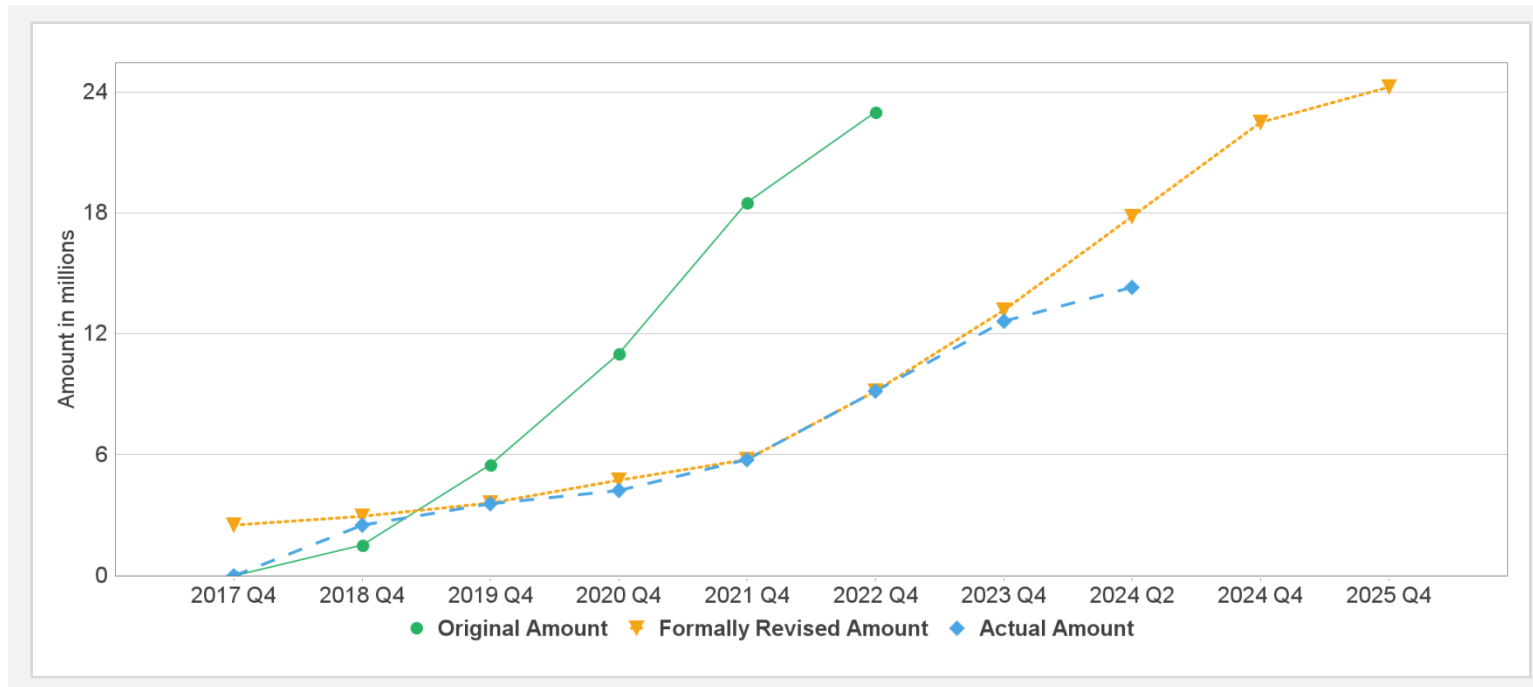
#### Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P152959	TF-A4337	Effective	USD	24.25	24.25	0.00	14.29	9.96	59%

#### Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P152959	TF-A4337	Effective	04-Apr-2017	06-Jun-2017	04-Sep-2017	31-Mar-2023	30-Jun-2024

### Cumulative Disbursements



### Restructuring History

Level 2 Approved on 23-Jun-2021 ,Level 2 Approved on 31-Mar-2023



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### Related Project(s)

There are no related projects.

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