



**Department of
Environmental
Conservation**

Hazardous Waste Reduction Planning (HWRP)

Annual Status Reports (ASRs) and Biennial Updates (BUs)

May 2018

Today's Focus:

Developing an ASR or BU that meets the requirements *and* helps to maximize hazardous waste reductions



Agenda

- **The HWRP Law and general program requirements**
- **Annual Status Reports**
- **Biennial Updates**
- **Tips for Table 1 and Table 2 (applicable to ASRs and BUs)**
- **Recent program changes**
- **Questions**



Acronyms

HWRP = Hazardous Waste Reduction Plan

ASR = Annual Status Report

BU = Biennial Update

TPY = Tons Per Year

TSDF = Treatment, Storage & Disposal Facility

ECL = Environmental Conservation Law

ROI = Return on Investment

AC = Annualized Cost

IRR = Increased Rate of Return

NPV = Net Present Value

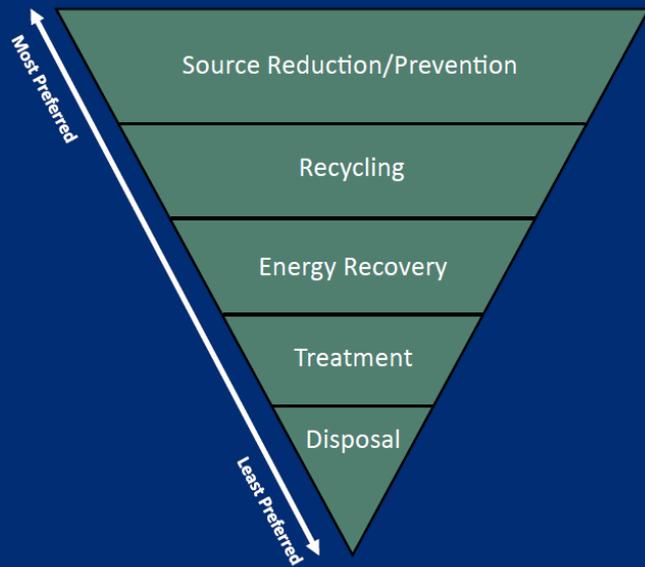
PP = Payback Period

PI = Profitability Index



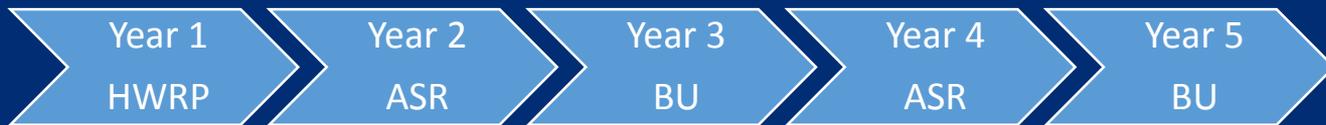
Hazardous Waste Reduction Planning

- Established under Article 27, Section 0908 of the Environmental Conservation Law (ECL 27-0908)
- Applicable to generators ≥ 25 TPY or TSDFs
- Intent of program:
 - To reduce volume and quantity of HW through reduction planning
 - Promote waste management hierarchy



Program Requirements

- Develop, implement and submit a written HWRP by July 1
- Submit ASR one year following submittal of HWRP, by July 1
- Submit BU one year after ASR, by July 1



Which waste streams to include

- $\geq 90\%$ of HW generated (*this includes hazardous wastewaters*); OR
- Waste streams ≥ 5 TPY
(*Whichever represents greater amount*)
AND
- All acute hazardous waste streams



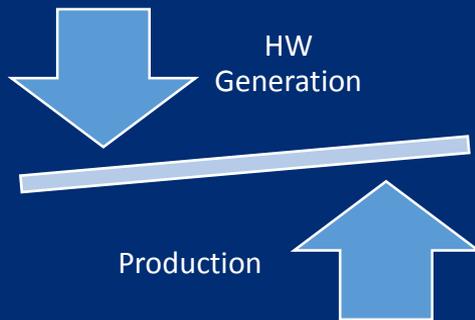
These waste streams go into Tables 1 & 2

ASRs



ASRs

- Update Table 1 and Table 2 (→ *More discussion after BU slides*)
- Describe progress in achieving time schedule for implementation laid out in HWRP (or BU)
- If not implemented as planned, provide reason
- If reduction alternative is not achieving reductions, another alternative may be selected (briefly describe action in ASR, more detailed account in BU)

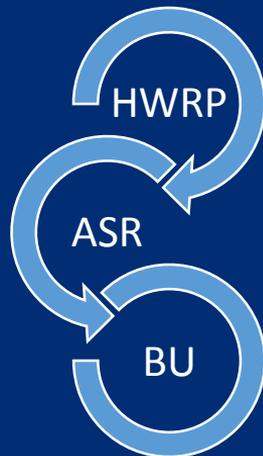


ASR Common Omissions

- Waste generation quantity discrepancies – make sure the numbers in Table 1 match the numbers in the Annual Hazardous Waste Report;
- If implementation schedule changed, provide reason, update Table 2; and
- Need estimated waste reductions or goal dates in Table 2



BUs



BUs

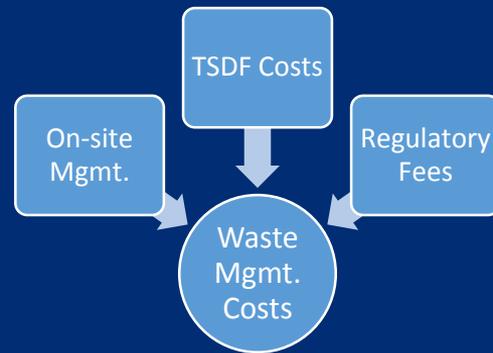
- Describe changes in waste generation and reduction plans since HWRP or previous BU;
- Updated Table 1 – be sure to include new acute waste streams, streams over 5 TPY or streams newly included in 90%
 - If new streams, plan should also include:
 - Narrative description of source of generation, method of disposal;
 - Productivity index;
 - Evaluation of feasibility and practicability of implementing reductions (incorporate this into Table 2)
- Updated waste management cost estimates;
- Updated Table 2 – be sure to note any completed plans, re-evaluate existing plans, and provide updated schedules as necessary;
- Updates to training program (if any); and
- Updated corporate goals, resources, etc.



Updated Estimate of Waste Management Costs for BUs

If figures are available, please estimate using the following:

- Transport/disposal costs
- Treatment costs (chemicals, electrical, etc.)
- Storage costs (drums, warehouse space, etc.)
- Regulatory fees
- Labor costs



Re-evaluate Waste Reduction Alternatives

- Substitution of non-toxic/less toxic inputs
- Reformulation or re-design of end products (i.e., product re-design)
- Modification or re-design of production processes or equipment (e.g., increased efficiency)
- Changes in usage, storage, and handling (e.g., inventory control)
- Closed-loop reclamation, re-use, and recycling (i.e., recycle waste back into process)
- On-site/off-site recycling to reduce amount to be treated/disposed (e.g., off-site reclaim)

Waste Stream	Material Substitution	Product Re-design	Process Modification	Storage and Handling	Closed-loop reclaim	On-site/Off-site Recycle
WS-1	Feasible	Won't meet spec	Feasible	Feasible	Attempted (Ineffective)	Not Available
WS-2	ROI > 5 years	Won't meet spec	Feasible	ROI > 5 Years	Feasible	Feasible

Waste Reduction Alternatives Re-evaluation

Any waste reduction alternatives that are selected (feasible/practicable) need to be put into Table 2, along with:

- Estimated waste reduction (in tons);
- Schedule for implementation;
 - If multi-step implementation – give schedule for next step
- Return on Investment (ROI);
 - Various methods – Payback period, annualized costs, increased rate of return

BU Common Omissions

- Waste generation quantity discrepancies – make sure the numbers in Table 1 match the numbers in the Annual Hazardous Waste Report;
- If new waste streams – need full details similar to HWRP write-up;
- Updated costs for waste management needed;
- Estimated waste reductions and goal dates needed in Table 2; and
- If no evidence of re-evaluation of waste reduction alternatives in past submittals, this needs to be done in the BU

Text from a DEC
comment letter:

fully comply with the HWRP requirements, please ensure that your future HWRP submittals address the following items:

- There is a discrepancy between the hazardous wastewater generation quantities reported on Table 1 of the BU and the quantity reported in the Annual Hazardous Waste Report form. Please either correct this discrepancy, or provide justification; and
- The BU needs to include updated estimates of the costs incurred for the management of hazardous wastes

Failure to address these items in your next HWRP submittal could result in the department rejecting your submittal for not complying with the requirements of Article 27, Section 0008 of the Environmental Conservation Law.



Table 1

COMPANY NAME	EPA I.D. NUMBER
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TABLE 1

WASTE STREAM ID NUMBER	NAME OF WASTE	EPA HAZARDOUS WASTE CODE(S)*	SOURCE OF GENERATION	DISPOSAL MANAGEMENT METHOD CODE**	QUANTITY OF WASTE GENERATED (TONS)				PRODUCTIVITY INDEX BASE INDEX = 1 (YEAR HWRP FIRST SUBMITTED)				
					2012	2013	2014	2015	2012	2013	2014	2015	

Tips for Table 1

- Be sure to include EPA Waste Codes and Disposal Management Method Codes for each waste stream
- Waste generation quantities need to be in tons
- In initial HWRP submittal, Productivity Index = 1
 - Following years should be based on “production” in current year compared to base year:

$$Prod. 2017 = \frac{Prod. 2017}{Prod. Base Year}$$

Please include a sample calculation in your submittal

Example: $Prod. 2017 = \frac{50,000 \text{ fidget spinners in 2017}}{48,000 \text{ fidget spinners in 2016}} = 1.04$

Table 2

COMPANY NAME	EPA I.D. NUMBER
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TABLE 2

WASTE STREAM ID NUMBER	NAME OF WASTE	WASTE STREAM AFFECTED	REDUCTION PLANS/PROJECTS	ESTIMATED WASTE REDUCTION (TONS)	METHOD USED TO CALCULATE *ROI	*ROI (EST)	GOAL DATE	REMARKS

Tips for Table 2

- Reduction Plan/Project – Provide brief description of each plan/project
- Estimated Waste Reduction – Estimate based on knowledge of waste stream, or can be based on formal calculation
- Return on Investment (ROI) – Several different methods available
- Goal Date – Date by which reduction plan will be implemented
- Remarks – Provide additional details on any of the previous columns



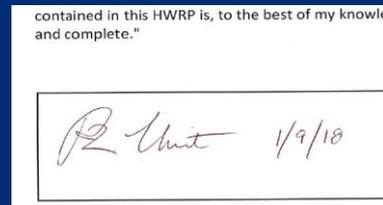
Recent Changes (HWRPs, ASRs, and BUs)

- Fillable PDF forms available on our website (includes fillable PDF Tables 1 and 2);
- Excel Tables 1 and 2 available for sites that can't use PDF option;
- We have included a certification page in our fillable PDFs;
 - Signed by senior level staff member who:
 - Is familiar with contents of plan and knowledgeable of program requirements and
 - Can commit resources to implementing reduction plans
 - For fillable PDF, digital signatures are acceptable; hand-signed, scanned also accepted if fillable PDF is not used.

Digital
Signature:



Signed and
Scanned:



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Resources

On NYSDEC Website:

- Guidance Document for Hazardous Waste Reduction Plans, Annual Status Reports & Biennial Updates ([link](#))
- HWRP fillable form ([link](#))
- ASR fillable form ([link](#))
- BU fillable form ([link](#))
- HWRP Template ([link](#)) – Use as guidance if not using fillable forms.

Other Resources:

- NEWMOA Pollution Prevention Website ([link](#))
- EPA Pollution Prevention Website ([link](#))



Support From NYSP2I



NYSP2I is dedicated to helping NYS residents and businesses find implementable and cost-effective sustainability solutions.

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Partners



10 Regional Technology Development Centers

Funding provided by the New York State
Department of Environmental Conservation.
Printed on Recycled Paper



HAZARDOUS WASTE SUPPORT

Hazardous Waste Reduction Plans can be complex and challenging. We help companies find innovative and sustainable solutions to reduce hazardous waste.

EXPERIENCED, PROFESSIONAL, AFFORDABLE HELP!

New York State provides us with funds to help companies reduce hazardous waste. Projects are confidential and typically take two to four months with most companies contributing a modest cost share.

Our knowledgeable staff has over 230 years of technical experience and will help:

- identify a baseline
- identify opportunities to reduce the volume or quantity and toxicity of waste
- identify opportunities to reduce hazardous waste through implementing technically feasible and economically practical waste reduction technologies, process or operational changes, material substitutions, or by other means

TESTIMONIAL:

"With assistance from NYSP2I, we have significantly reduced the amount of hazardous waste generated from acid etching operations used to manufacture titanium alloy turbine blades. We have increased our efficiency and profitability, and have increased consistency in operations."

Paul McAndrew,

Quality Control Manager, TECT Power Corporation

**TOGETHER WE CAN HELP YOU TO ACHIEVE
YOUR SUSTAINABILITY GOALS!**



CONTACT US TODAY
585-475-2512
nysp2i@rit.edu

- **NYSP2I** can assist with finding waste reduction alternatives, but is not available to assist with writing the HWRP (or ASRs or BUs).
- **NYSDEC** staff can assist with any questions on the development of the HWRP.



**Department of
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Questions?



Thank You

Pollution Prevention Unit

Division of Materials Management

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