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Stories of Lean

Reflections from State Environmental Agency Lean Leaders

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Introduction

State environmental agencies have adopted a variety of business process improvement methodologies to help them cope with tight budgets and protect our states' natural environment in a more efficient manner. The Environmental Council of the States (ECOS) has developed reports, tools, and other materials to showcase the Lean successes of our member agencies, demonstrate the benefits of Lean in the environmental regulatory field, and provide guidance and information to states seeking to expand their Lean activities.

Advocates of Lean principles and Lean projects must understand the cultural opportunities and obstacles to dealing effectively with colleagues, customers, and other stakeholders. Aspiring states do not only need technical information on how to implement Lean, but also information on these cultural and interpersonal challenges and how to manage and respond to them effectively. In this latest item in our Lean series ECOS is featuring a selected group of narratives, each describing a certain project or aspect of a given state's Lean experience. These writings focus on the personal and cultural elements of implementing Lean and similar Business Process Improvement (BPI) methodologies, offering partner states new perspectives, advice, and a sense of how it feels to make the transition to a Lean culture and organization.

Table of Contents

1. Cross-Sector Lean Partnerships at the Delaware Department of Natural Resources and Environmental Control
 2. Two Takeaways from Iowa's Department of Natural Resources
 3. An Overview of Minnesota Pollution Control Agency's Lean Culture
 4. Pennsylvania DEP's Continuous Process Improvement Initiative
 5. Frontline Lean at Rhode Island DEM: Records Retention
 6. Texas Commission on Environmental Quality and U.S. EPA Region 6' Shared LEAN Process
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1. Cross-Sector Lean Partnerships at the Delaware Department of Natural Resources and Environmental Control

Beginning in 2016, the Delaware Department of Natural Resources and Environmental Control (DNREC) entered into a collaborative multi-year agreement with the University of Delaware to provide training and support services in the area of process improvements and Lean implementation to the agency's Division of Air Quality and DNREC at large. The agreement was that the University would provide the Air Quality Division with Process Improvement learning solutions to assist its strategic process improvement efforts.

The agreement included 6 solutions:

- 1- Corporate Associate MBA interns (6) to assist with three discreet projects related to financial forecasting, human resources and process improvement;
- 2- Change leadership coaching sessions on change leadership for the Air Director (16);
- 3- Data analytics and visualization R workshop for the Division of Air staff (1 Session);
- 4- Process improvement champions seminar (2) for mid- to senior-level DNREC managers so that they can effectively lead process improvement efforts;
- 5- Lean Six Sigma Green Belt Certificate (2) for select DNREC mid-level managers so they can become proficient in managing process improvement teams at the Green Belt-level;
- 6- Technology & Business Improvement Consulting Teams (4) comprised of College Management Information Systems and Operations Management students (seniors) to assist the Division with discreet process improvement projects.

The Department hoped to lay the groundwork for a culture of continuous improvement and a community of practitioners by providing education through the Process Improvement Champions Seminars and the Lean Six Sigma Green Belt Certificate classes. The effort failed in delivering that foundation for two main reasons. First, the education did not reach far enough and may not have been the right starting place. The education was given to approximately 64 employees. DNREC employs anywhere from 750 to 1000 full and part time employees annually. Although the intent was to educate a group of managers and early adopters to help spread the news, most of the employees who participated in the education events (especially those who attended the Green Belt course) felt the information was good but had difficulty seeing how they could implement any improvements or educate others.

Additionally, the expectations were unrealistic. The education effort didn't yield the expected results because it lacked clarity on what was expected from the participants after they finished the course and there was no action plan that identified next steps after the courses. Many attendees felt the courses put the cart before the horse and that they should have first experienced training and execution of some Process Improvement basics. Some said if they had known they were expected to engage with other staff as a Green Belt leading teams throughout the agency they would not have agreed to participate. They felt that simply attending the course did not make them experienced enough to lead teams and events on their own, and with their current workloads they also didn't have the time to do so.

We learned a few valuable lessons, to ensure there's clear communication and direction and an action plan. Those two things may have somewhat changed the outcome but would have still left us with majority of the staff population not having the basic tools to continuously improve. As a result of lessons learned and feedback received, we decided to take a step back and start at the grass roots by educating all employees on continuous improvement and problem solving so we implemented a curriculum. We feel this approach will assimilate the knowledge and help develop the culture of continuous improvement we are striving to achieve. Now we have a 2-yr Continuous Improvement Plan with a goal to utilize continuous improvement and lean principles and practices to engage and empower employees, improve organizational efficiency and effectiveness, and promote innovation to better achieve our vision. The CI Plan has two primary focuses; to increase employee general awareness level and knowledge of problem solving, continuous improvement and lean through education and communication; and to identify, initiate and implement process improvement projects throughout DNREC.

2. Two Takeaways from Iowa's Department of Natural Resources

Be Prepared for what is Valuable to the Customer

The Iowa Department of Natural Resources (DNR) approached farmers and their consultants with the idea to move a paper, hard copy application to an electronic submission. The manual process required farmers to deliver a hard copy of their application to each of 99 counties they do business in, and receive a receipt to submit with the application to the DNR. We thought farmers would benefit by saving gas and time driving to each county, reducing time to obtain all their documents, and eliminate mailing or driving costs to provide copies to a local DNR office. But they were fine with driving to their county seat mainly to chit chat face to face with their county representatives, have some coffee, and catch up on the local news.

Next the Department thought paying online would help the farmer be more accurate in the price to pay with their application and more timely as to not incur late charges. Again, we were surprised when they were comfortable with manually calculating their total and if wrong, having to write another check. They enjoyed stopping in the office to have a conversation with the DNR team. They often enjoyed bringing a box of treats to share with the DNR team.

It was surprising to find out the amount of paper collectively among all farmers was what caught their interest. When about 8,000 farmers submit an annual application ranging from 1-200

pages long, the pile of applications would be almost 30 stories tall -- higher than many skyscrapers. Just one person's paper submission didn't seem like much but when added together, they stack up!

After a year of offering online submission and payment and a lot of marketing of the option (those who wish can still perform the manual submission process), about 73% of the 8,000 farmers utilize the online submission process, with many opting to pay online, too.

Sometimes we have to find just the right concept to spark someone's interest!

Making Room for the Team

The Iowa Department of Natural Resources utilized the concepts of 5S (Sort, Set in Order, Shine, Standardize, and Sustain) and Kanban boards for a surprise office move. A leased office with about 70 team members received a three-month notice the lease would not be renewed. Instead of finding a new leased location, the team chose to move into DNR's headquarters. But it was no small task!

The main office had to shuffle cubicles to make room for the newcomers. About 200 team members sorted and cleared out items no longer of use for their offices, common spaces, shared spaces, and storage areas. After pairing down items, those 200 team members packed up and moved spaces similar in size to a full sports game or movie theatre. Some moved twice--to temporary locations while their new space was configured. As headquarters consolidated unused spaces, they freed up an entire section of the building for the new offices.

Kanban boards were everywhere for teams to know their tasks and where in the process teams were at with achieving the tasks. Some were electronic and some were hung in hallways or on doors based on who needed the information.

With some grumblings and a few bumps in the road, the team pulled together to achieve the challenge to make room and fit the entire team under one roof.

3. An Overview of Minnesota Pollution Control Agency's Lean Culture

Since 2003, Minnesota Pollution Control Agency (MPCA) has focused on reviewing, improving, and designing more efficient and effective processes. The MPCA has had numerous process improvement successes over the years and has remained committed to continuously evaluating the effectiveness of our processes through several changes in State Government Administrations. Continuous Improvement (CI) is also included in every person's position description and Division Directors regularly report to the Deputy Director on their CI projects. Our engagement survey also includes questions on level of support of CI in the organization. The Commissioner's office, along with the Organizational Improvement leadership establishes a calendar year direction for supporting continuous improvement activities through a "Roadmap" that is used for development of a CI Deployment Plan for leadership and the CI Management Team's (CIMT) approved fiscal year work-plan. The CI Roadmap lays out the timing for the Quarterly CI project check-ins with Senior Leadership: CI training for Leadership and staff; Monthly CI

newsletters; Gordie Award acknowledging individual process improvement contributions; CIMT review of Strategic Plan results for potential CI projects; and CIMT report out at Agency Managers meeting.

The use of a wide variety of continuous improvement (CI) tools provides for a structured method to assess our processes, gather customer input, collect and utilize data, analyze current problems and root causes, and improve ways to accomplish our work. At a high level, the MPCA uses PDCA (Plan, Do, Check and Adapt) to routinely monitor the effectiveness of our processes. When the need calls for a deeper look at how a process is performing the MPCA uses the DMAIC (Define, Measure, Analyze, Improve and Control) methodology. Kaizen events are used when appropriate. Results Based Accountability fosters better measures and reporting of results. CI project selection and management is accomplished at two levels within the Agency. All divisions identify opportunities and needs for improvement of processes both at the division and/or Agency level, at least annually. Division management will then develop a priority on how to manage the work with respect to the opportunities and track management and results of those projects in the CI Project Tracker database. Division management may assign the project to participants in the CI for Leaders training class. The CIMT reviews the adaptations suggested in the Strategic and Operational Agency Performance Management Reviews and contacts the assigned Managers to discuss whether continuous improvement tools or an assigned team would improve progress on that measure. Senior Managers also identify agency-level processes to be improved or designed, based on based on results/comments from the Employee Engagement Survey or areas where they believe there is a need for improvement based on their experience. If the improvement project requires multiple divisions or other state agencies to be involved, then the potential project is also discussed and approved by Senior Managers. The Organizational Improvement Unit has four CI coaches assigned to design, coach and facilitate CI projects. The CI coaches also provide data analysis assistance and conduct DMAIC, Lean, Results Based Accountability training for Leadership and staff. The CI coaches also work with CIMT to provide a monthly newsletter that highlights recent CI projects, along with CI tips for successful project execution. The state has also established a Minnesota Office of Continuous Improvement, which helps support government agencies as they build CI into their organizational culture and day to day business practices. They offer training, tools and templates and highlight results in a quarterly newsletter available to state employees. The Governor's Office hosts an annual Governor's CI Award, to recognize individual and organizational CI efforts.

Mapping hundreds of business processes has been especially helpful with the transfer of work knowledge from retirements and improving clarity and communication about roles and responsibilities. Improvement projects have been focused on standardizing, streamlining, making major improvements and redesigning work. As a result, our employees experience increased job satisfaction (or decreased frustrations) with their work, understand the goals and objectives of our processes, and are more productive. As staff experience the benefit of improving their work, they are passing on a more accepting attitude toward process improvement. This has created a positive culture for CI and supports our "learning organization" value. Definitive improvements in key work processes such as Permitting and Compliance and Enforcement has improved relationships with external customers, including the

legislature. Our tracking of results and improvements has also helped us respond to audit questions from the legislature and EPA.

4. Pennsylvania DEP's Continuous Process Improvement Initiative

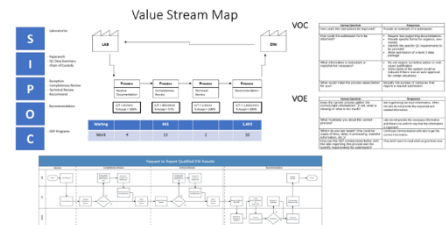
The Department of Environmental Protection (DEP) within the Commonwealth of Pennsylvania has started a Continuous Process Improvement (CPI) initiative. To accomplish this task, DEP is using the DMAIC approach. The following describes this approach, the Lean tools that will be used in each step of the process, and the final report used to inform management of the resulting improvement(s).

DEFINE

The define step is where we will determine key elements of the process to be improved.

Tool(s):

1. SIPOC (Supplier, Inputs, Process, Outputs & Customer).
2. Value Stream Map – high level map of the process & metrics to be measured.
3. VOC/VOE (Voice of the Customer & Voice of the Employee).
4. Process Map – detailed map of the process steps.



MEASURE

The measure step is important because this will inform us of our current performance of the process, the baseline, and will feed metric information into the analyze step.

Item	Description	Unit	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	300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Tool(s):

1. Standard Work Spreadsheet – models cycle time and lead time.
2. Pareto Diagram – models cycle time and lead time.
3. Histogram - models cycle time and lead time.

IMPROVE

The Improvement step is used to attack opportunities for process improvement.

Tool(s):

1. A3 Problem Solving Spreadsheet containing the following:
 - a. Problem Statement
 - b. Background
 - c. Current Condition
 - d. Root Cause Analysis
 - e. Target Condition
 - f. Counter Measures
 - g. Action Plan

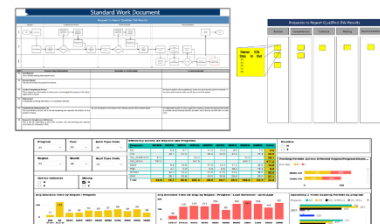
A3 Problem Solving Spreadsheet	
Problem Statement The problem we are attempting to solve is the need for information on the status of the project. The information is used to determine the status of the project and to provide a basis for decision-making.	Current Condition The current condition is that the project is not progressing as planned. The information is not being provided in a timely manner.
Background The project is a new product development project. The project is currently in the design phase. The project is being managed by the project manager.	Target Condition The target condition is that the project is progressing as planned. The information is being provided in a timely manner.
Root Cause Analysis The root cause of the problem is that the project is not progressing as planned. The information is not being provided in a timely manner.	Counter Measures The counter measures are that the project is being managed by the project manager. The information is being provided in a timely manner.
Action Plan The action plan is that the project is being managed by the project manager. The information is being provided in a timely manner.	Follow Up The follow up is that the project is being managed by the project manager. The information is being provided in a timely manner.

CONTROL

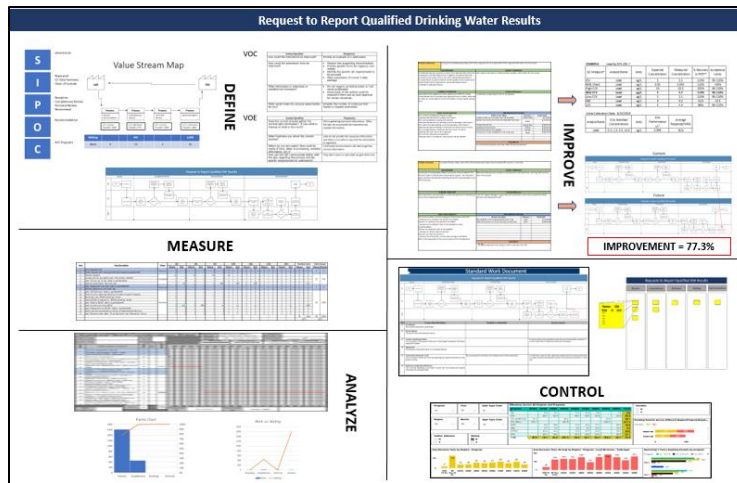
The control step is used for sustainment.

Tool(s):

1. Standard Work Document containing the following:
 - a. Process Map
 - b. Table
 - i. Detailed description of each step
 - ii. Desirable/Undesirable for each step
 - iii. Lessons Learned for each step
2. Kanban Board – used for visual management during process use.
3. Power BI Reports – visualization of metrics across all DEP programs/processes.



At the conclusion of some CPI projects, the staff may be required to report to senior management the results of the improvement. The following report will be used as a standard reporting tool for this purpose.



This will be a storyboard, describing the process used to identify, implement and track the improvement to the process. Hard copies of this report will be made available to the senior management team on 11x17 paper.

6. Frontline Lean at Rhode Island DEM: Records Retention

Once upon a time, there were a group of public servants at the Rhode Island Department of Environmental Management (RIDEM) in the Office of Water Resources (OWR). Day in and day out, they worked hard to protect one of the Ocean State's most valuable resources – Narragansett Bay, and the state's other water bodies. These resources make Rhode Island a desirable vacation destination and are central to the state's economic well-being. Despite the hard work and commitment of these public servants, their efforts might not be acknowledged by visitor if the entry area to their office was overflowing with records boxes, as it was in 2013:



This clutter was demoralizing to OWR's staff and visitors alike. What to do?

The Rhode Island Department of Environmental Management (RIDEM) has been involved in implementing Lean since 2012 via a Lean Team, with some programs having Lean efforts prior to that time. This case study focuses on one aspect of Lean (developing a records retention schedule) in RIDEM's largest office (OWR). Although the follow through to this project is still ongoing, OWR and the Lean Team has learned some valuable lessons from this project on how to implement Lean.

Because OWR did not have a records retention schedule, this meant that all records needed to be save permanently. Our office undertook an effort to document what records we had and set retention times, put that information in a draft records schedule. The process took us 6 years, but we did get the schedule approved.

Here are some lessons we learned along the way, which may be relevant to other Lean improvement projects:

Start with “why”. In the early stages of developing the schedule, we found it important to remind staff involved why we were undertaking this project. We had boxes clogging up cubicles and overflowing into the front hall. The “why” had to do with explaining that creating a system to organize records and destroy records which were no longer needed would (1) make it easier for staff to locate records (2) enable our office to better present itself to guests. During the development of the schedule these points were repeated in training presentations to staff, and pictures were used to illustrate the urgency of the problem.

Get the involvement and input from stakeholders ahead of time. There are more than ten programs and subprograms in OWR. During the process of developing the schedule, program and subprogram heads were repeatedly consulted and it became clear that each program had its own needs with respect to the schedule. Rather than taking a one-size-fits -all approach, the needs of each program were listened to and incorporated into the draft schedule. This gave programs some degree of a sense of ownership of the process, and after the schedule was finalized, they know that they have been involved in its development. So program heads weren't just stakeholders, they became co-project managers. Additionally, the involvement of other leaders and offices (such as DEM Upper Management, DEM Legal,

the RI Attorney General's Office, RI Sec of State's Office, and the RI Auditor General's Office) were key to the decision-making and approval processes. So OWR took the time to develop those contacts, and keep in touch to gather input, receive guidance, and ask for help moving the process along. This help was vital to getting the schedule approved.

Follow through. Having a finalized schedule was a significant milestone, but by itself, it accomplished little. In order to realize the benefits of the schedule, the next step was to meet with each program, and train them on how to use the schedule. This involves developing and explaining how to use the **Standard Work** and **5S** Lean tools to implement the schedule, destroy records that are no longer needed, and reorganize the workplace to facilitate locating records quickly.

Although the implementation of this project is still ongoing, the records retention effort drew attention to the importance of maintaining a neat and tidy office. This not only enables staff to locate documents more easily, it allows the office to present itself in a more professional way:



7. Texas Commission on Environmental Quality and U.S. EPA Region 6' Shared LEAN Process

In FY2017 the Office of Water at the Texas Commission on Environmental Quality (TCEQ) started to see a number of Texas Pollutant Discharge Elimination System (TPDES) water quality permits becoming backlogged due to the Environmental Protection Agency (EPA) objections. In some cases, EPA's review extended beyond its 45-day review period. These delays frequently involved pending permit applications that were more environmentally protective than existing permits. This increasing number of permits were "stuck" and there seemed to be no path forward for moving the permits. Both agencies wanted the process to be more efficient and less cumbersome.

EPA Region 6 and TCEQ's Office of Water agreed to try the LEAN approach. The agencies agreed to have a three-day workshop with leadership and staff of both groups at TCEQ headquarters in Austin. The leadership pledged their staff's full commitment to finding solutions and common ground.

Both agencies agreed upon the following objectives:

- Reduce the amount of time to review TPDES permits submitted by TCEQ
- Reduce resolution time
- Reduce pending permit backlogs
- Reduce EPA objections to TCEQ
- Develop a mechanism to move forward with national/programmatic issues
- Reduce the number of permits reviewed by EPA

Staff worked tirelessly for those three days in small and larger groups with a facilitator walking staff through the LEAN process. The meeting in Austin between EPA Region 6 & TCEQ was immensely successful.

Permit packages are now posted on TCEQ's FTP website instead of being mailed. EPA "no objection" letters are concurred at the Section Chief level and an approval e-mail is forwarded instead of a letter. EPA has added a screening process to determine if a full review is necessary or if review can be declined. Programmatic issues are now elevated quickly with intentions for quick resolution. One programmatic issue, which is now resolved, took longer to resolve than expected, so there are still lessons to be learned. However, overall EPA has reduced the number of objections to TPDES permits. All these numerous changes were implemented and have greatly reduced the review processing times. In fact, the previous TPDES permit review backlog has been largely eliminated and there is a better and more efficient review process moving forward. Thanks in large part to the LEAN Process and the dedicated staffs, we have found better ways to communicate and review permits.

At the end of the workshop, we ask for direct feedback from TCEQ and EPA Region 6 staff about their thoughts with the process.

- Mutual interest in issuing permits, resolving issues, and running a good program.
- Periodic reevaluation is a good
- Details were important
- Opportunities to go paperless
- Appreciated good will to problem solve
- Good dedicated people in both agencies

In Depth Study of the Processes



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