



The South Dakota Engineer

April 2016

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SDES

2016-2017

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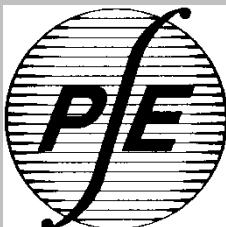
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President's Message

Brian S. Jenner, PE 2016-2017 President

Thank you all for your continued support of SDES. Without each of you, we would not be successful. Thank you for allowing me to be your President for this SDES term. Thank you to Stacy Froelich for leading us this past year. Thank you to all the State and Chapter leaders that help our organization thrive. Your time and commitment to SDES is extremely valuable to our success.

The 56th Annual Conference in Sioux Falls was a great success. The event had over 200 registrants. Thank you to the Eastern Chapter for all the hard work in planning and hosting the event. Thank you to all of you that supported and attended the event.

For those of you that do not know me, here is some information about me:

- Originally from Fort Pierre, SD
- Graduated from SDSMT BSCE 1994 MSCE 1996
- Currently employed with Forterra (formerly Cretex) in Rapid City, SD

I look forward to working with you and for you as your President for the next year and visiting with you at the Fall PDH Conference and 57th Annual Conference.

Thank you all again!
-Brian S. Jenner, PE

NSPE
Leadership Toolbox

Have you remembered to pay your membership dues? If you need an invoice, please go to www.sdes.org, where you can pay your dues online or contact Gail Boddicker at 394-6674 or gail.boddicker@sdsmt.edu for a copy of your invoice.

It is a good idea to periodically check your records to be sure your contact information is correct. You can update your information online or contact Gail with the information.

SOUTH DAKOTA ENGINEERING SOCIETY 2015 STATE AWARDS

The South Dakota Engineering Society annual presentation of awards to honor the engineers and projects in South Dakota was held on Thursday, April 7, 2016, at the Sioux Falls Holiday Inn City Centre during the SDES 56th Annual Conference.

YOUNG ENGINEER OF THE YEAR TRAVIS CLARK, PE, SIOUX FALLS, SD

This award is established to recognize young SDES members who have made outstanding contributions to the engineering profession and their communities during the early years of their careers.

Travis Clark, PE, was honored as the South Dakota Engineering Society's 2015 Young Engineer of the Year.



Pictured are (l to r) Travis Clark, PE, and Brad Ludens, PE, SDES Awards Chair, who presented the award on behalf of the South Dakota Engineering Society.

Travis has been the project engineer (including design, supervising/overseeing EIT's and Engineering Technicians for Design/Drafting, project coordination with project stakeholders including Owners/Clients, surveyors, private utility companies, landowners and the general public) resulting in the following successful projects:



ENGINEERING A STRONGER PROFESSION

NSPE is on a mission of organizational innovation and development to effectively serve the licensed professional engineer and those on the licensure path.

If you haven't already seen the video and other resources related to the Society's new Statement of Strategic Direction, check out www.nspe.org and the link to "Mission: Engineering a Stronger Profession."

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WEBINARS

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info

- Benson Road from I-29 to Marion Road
 - Southeastern Avenue from 18th Street to 26th Street
 - Sycamore Avenue from 57th Street to 69th Street
 - 69th Street from Vineyard Avenue to Sycamore Avenue
 - Cathedral Area Neighborhood Reconstruction Projects
 - Concrete Pavement Rehabilitation on 41st Street from I-29 to Kiwanis Avenue
 - Curb Replacement on Minnesota Avenue from 22nd Street to 41st Street
 - Minnehaha County Highway 149 Reconstruction Project
 - Roundabout in Dawley Farm Village
 - Quality Control Manager for Army COE Big Sioux River Flood Protection Project Phase 3 (in Sioux Falls, SD)
- Travis has been the construction inspector or project manager on all of the above except the Roundabout.

ENGINEER OF THE YEAR JASON KJENSTAD, PE, SIOUX FALLS

This award is established to recognize SDES members who have made outstanding contributions to the engineering profession, the public welfare, and/or humankind.

Jason Kjenstad, PE, was honored as the South Dakota Engineering Society's 2015 Engineer of the Year.



Brad Ludens, PE, (R) SDES Awards Chair, presented the 2015 Engineer of the Year Award to Jason Kjenstad, PE.

Jason, a Vice President at HDR, was recently promoted to lead HDR's

transportation operations in the Dakotas and Wyoming. His responsibilities as the Dakotas/Wyoming Transportation Business Group Manager include managing and training 55 transportation staff members in South Dakota, North Dakota and Wyoming and managing the profitability of the transportation projects in these offices. In addition, Jason continues to manage key projects as needed in the Sioux Falls office.

OUTSTANDING ENGINEERING ACHIEVEMENT AWARD SOUTH DAKOTA ELLSWORTH DEVELOPMENT AUTHORITY REGIONAL WASTEWATER TREATMENT FACILITY

This award is established to acknowledge the accomplishments of the engineering profession. Each year SDES recognizes engineering achievements that have captured the innovative and dynamic spirit of a profession dedicated to public service.



Brad Ludens, PE, SDES Awards Chair, presented the Outstanding Engineering Achievement Award to Patti Craddock, PE, Principal, Regional Practice Center Leader, Short Elliott Hendickson, Inc., St. Paul, MN.

The City of Box Elder (City) and Ellsworth Air Force Base (EAFB), each with individual wastewater treatment facilities operating at their design capacities, were subject to more stringent effluent limitations for ammonia. In response to the EAFB near closure in the 2005 Base Realignment and Closure process, the South Dakota Ellsworth Development Authority (SDEDA) was created to provide social and economic support and enhance the value of the EAFB. Understanding

that each entity's wastewater treatment facility required improvements, the City and EAFB unified, with the assistance and management of SDEDA, Short Elliott Hendrickson Inc. (SEH®), and Project Solutions Inc. to design, finance, construct, operate and maintain a Regional Wastewater Treatment Facility (RWWTF) meeting regulatory and future growth requirements.

South Dakota Engineering Society 2016 – 2017 SDES Board

Pictured is the 2016-2017 SDES Board of Directors available at photo time. Photo was taken on April 7, 2016, at the SDES annual conference.



L to R: Kayla Fawcett, CE Chapter President; Andrew Bruels, CE Chapter State Director; Stacy Froelich, Past President; Brian Jenner, President, Philip Gundvaldson, President-Elect; Ryan Johnson, Vice President.

The remaining 2016-2017 SDES board members are:

Secretary/Treasurer - Steven Myer

BH Chapter State Director - Steve Bareis

BH Chapter President - James Warne

Eastern Chapter State Director - Ben Scholtz

Eastern Chapter President - Kurt Peppel

NSPE/SDES and ACEC/SD MEMBERS Meeting with Congressional Leadership

American Council of Engineering Companies of SD (ACEC/SD) members, (but also NSPE/SDES members) and colleagues met with Senator John Thune on April 19, 2016. The ACEC (National) Annual Conference is held each year in April in Washington DC. A primary event during the conference is meeting with the U.S. Congressional leadership regarding issues near and dear to the engineering industry. Discussions included: the FAST Act, the FAA bill, the energy bill, and the DOL bill. The delegates were thanked for their support of the FAST Act, congratulated for the FAA bill passing in the Senate, and requested their support for S. 2707 and H.R. 4773 that would require better economic analysis of the DOL's proposed rule before it goes into effect. The DOL's proposed regulations under the FLSA will impose significant costs to the public and private sector. Please let me know if you have any questions about the above mentioned bills. It was a successful trip as we also had the opportunity to meet with Representative Noem and Senator Rounds.



Pictured are: *Terry Helms, Gail Boddicker, Steve Hoff, Senator Thune, Kim McLaury, David Odens, Brad Wermers, and Doug Feterl.*

Welcome New SDES Members

Black Hills Chapter

James Warne

NSPE NEWS

GET FEATURED IN NSPE'S PE MAGAZINE

David Siegel, Communications Director, National Society of Professional Engineers, wrote the following, "According to our 2015 PE Reader Survey, "project stories" was the third highest ranked topic of interest (ethics and leadership/management came in first and second, respectively).

To deliver on this area of interest, we recently started "Project PE" to highlight the work of NSPE members. The first article was about the project to replace the motor generator sets and related controls on the trams that take visitors to the top of St. Louis's Gateway Arch.

The second Project PE article will appear in the May/June issue. It's about a member involved in the design of a net-zero education facility at the University of South Carolina.

If you know of any member involved in an interesting project – whether in construction, government, industry, high education, or private practice – please let me know. We'd love to continue spreading the word about our members' work and the role of PEs."

NSPE/SDES members – here is a great opportunity for you to highlight the amazing projects that are occurring in the state. NSPE is, "not asking them to write the article. Just need to know what the project is, what makes it special, and what their involvement is. That's enough to start."

Don't be shy! I hope a NSPE/SDES member will consider submitting a project to NSPE so that South Dakota and SD engineer(s) are portrayed in the magazine! Please let me know if you have any questions. Gail – 394-6674

NSPE Executive Director's Report to the BoD

FROM: Mark J. Golden, FASAE, CAE, Executive Director

DATE: 18 April 2016

RE: Board Update: April 1-15, 2016

"Is the PE still relevant?" The answer to this question is a resounding **yes**. In fact, the license is as vitally important today as it was at the time it was first created. I will go a step further: the role of the professional licensed engineer is necessary today more than ever, both in the traditional built environment and in emerging fields of technology innovation. And its importance extends far beyond the vital role the license plays in protecting those who hold the designation and engage in the practice of professional engineering; its importance to the *public that the licensed engineering community serves and protects* cannot be overstated.

Increasing public awareness of that fact has always been core to NSPE's mission, and activism by NSPE (as a nation-wide partnership of national and its state partners) has never been more intense as it is today.

That activism is evident in the increased scope, frequency and intensity of direct intervention in the state, federal and even local regulatory and legislative proceedings that I report on regularly in these updates, are pushed through NSPE's aggressive social media campaigns, and are front-and-center on the [NSPE Now](#) section on the NSPE home page. Click on it today, and headlined stories report on NSPE and ASPE challenging the Alaska Rural Utilities Service's flawed view of the role PEs play serving rural villages, our major statement to NHTSA on the importance of PEs to emerging autonomous vehicles, comments by national (supported separately by a dozen of our state partners) to the EPA supporting requirements to include PEs in risk assessments, and opposition to Louisiana legislative proposals that would weaken licensure requirements.

(But things change fast ... these specific stories might have been displaced from the home page by even more current actions by the time you click on that link. But none of this valuable content is ever lost and it can always be found from the [archive](#).)

That is just one dimension of this activism, however. Equally important are efforts to make the public aware of why this stuff is important to them: why *they* should care. Central to my [testimony](#) to NHTSA on autonomous vehicles was the message that real life is messier than the design NSPE Executive Director's Report to the BoD laboratory and controlled testing environments; and that public safety is best served when there is someone in the decision chain who has a duty that overrides competitive pressures to be first to market or surpass other manufacturers' offerings. Someone who has a clear and enforceable duty that overrides even peer pressure to be a team player and not the department or group within the corporation whose legitimate safety concerns might delay a high-stakes project. Someone with not only appropriate technical expertise, but also ethical and safety accountabilities. In short: a licensed professional engineer.

This message resonated and was picked up on the AP wires, was extensively covered domestically (see, to cite just one example, the [PBS NewsHour](#) coverage) and has been carried overseas (for example, by the [London Daily Mail](#).) And if you don't regularly follow Twitter, LinkedIn, Facebook ... and not just the engineering streams, but independent public feeds ... you missed a veritable tsunami of public engagement on the important role PEs play in protecting health, safety, and welfare.

Autonomous vehicles are a hot topic just now, but stirring public awareness crosses *all* disciplines and areas of practice. A great summary of the multitude of reasons why, now more than ever, the PE matters to the public, will be the cover story in the May/June *PE* magazine, in production now.

None of this happens by accident. It takes intensive, constant and concerted efforts to push, respond, repurpose, and promote, through traditional media and the Twitter-sphere. Several communications directed to the public on the role and importance of the PE in areas ranging from autonomous vehicles to water safety to infrastructure, are in final stages as I speak, and will be aggressively pushed through both traditional and non-traditional media channels. And these aren't one-off projects, check them off and done. They are part of a continuous and increasing effort by NSPE to get the story out.

We are all in this together, and we are beginning to make a difference. That's why NSPE's integrated partnership of national, state, and local components is so vital now, both to our members and to the public interest they protect.

1. Advocacy

I started this update with a summary of the extensive (and I hope you will agree, impressive) public awareness gains we have achieved. But none of that would be possible if it wasn't backed up by a monumental volume of effort behind the scenes. You can't get the public interested in your story if you don't have a great tale to tell of concrete actions taken and outcomes achieved. And that story is only built through the less glamorous, even sometimes tedious work that goes on outside the public spotlight. That is the work of member-driven committees and task forces at both the national and state levels, and a key role national plays is in amplifying impact through coordination and by concentrating focus. Earlier updates reported on national's recent involvement in bringing focus to our issues at national meetings of NCEES and ABET. In the week just ahead, President Tim Austin, President-Elect Kodi Verhalen and I will be meeting with national leadership of the National Academy of Engineering and the American Association of Engineering Societies (AAES) at their annual convocation in Washington, including a public policy symposium on Capitol Hill. It might be "inside baseball" stuff that the public (and even rank-and-file members) aren't particularly interested in, but you have to produce the hits and runs for there to be a box score to report.

2. Member Value

Pre-registration for the joint NSPE/TSPE [Professional Engineers Conference](#) in Dallas is over 100 (and nearly half of the available room block at the Fairmont Dallas has been reserved.) This is a strong, pre-registration for 10 weeks out, as members tend to register late in the process. Early bird registrations expire **April 30th**, so now would be a good time to urge members to make the commitment. McKinley Advisors continues to work with the NSPE membership committee and staff on three short-term membership marketing stimulus programs, intended to increase the intensity of marketing within the current membership dues model.

1. **NSPE Unite**, a member-get-a-member campaign, is in the field. To date, it has generated disappointing levels of support and engagement. At the request of

some members and state societies, and in the hopes of building more of the grassroots effort and support necessary to the campaign's success, it has been extended into May. Staff will continue to strongly communicate the campaign and encourage members, state societies, and leaders to participate, *but more involvement by the NSPE Board of Directors in recruiting members and urging their peers to do likewise would be helpful to build momentum.*

2. **NSPE lapsed member campaign** launched on March 28th. The lapsed member campaign consists of targeted, segmented e-mails to former members between the ages of 30-39 and 40+ on varying subjects of interest to members, such as: career advancement; networking; staying current on developments in the field; and supporting the profession.

3. **Career Stage Campaign:** Copy and timelines are being drafted for the Career Progressions marketing campaign to newly-licensed PEs and EITs and will be shared with the Membership Committee for review shortly. List acquisition has begun.

In all candor, inertia faced by McKinley and staff in our efforts to launch these programs and the initial performance results from these campaigns to date have been disappointing. It does serve to underline the fact that while there will be benefits, *simply increasing the intensity of marketing efforts for NSPE's current membership offerings alone will **not** generate the increases in membership sales and retention that we need.* Something more is required: the membership business model itself needs to be reworked if the three-tiered membership model is to be sustained and grown for the benefit of the organization at all levels. Fortunately, these short-term stimulus efforts are only half, of the two-pronged strategy undertaken by the board in the McKinley initiative. On the board's April 27th call, McKinley will outline the membership model that emerged from field interviews with stakeholders at all levels and the board's discussions in Washington. Based on this input, McKinley is finalizing a draft concept for a simplified and uniform three-tier (integrated) membership model. McKinley will brief this concept on the call, confirm it is consistent with the board's direction, and advance discussions of market research and analysis to gain proof of concept and to benchmark against organizations that have successfully adopted similar strategies, leading up to fuller discussion with all of our partner organizations at the annual meeting in Dallas.

3. Content

The earning potential of professional engineers, on the whole, is better than unlicensed engineers, according to the latest Engineering [Salary Survey](#) report by the AAES¹. Even at the earliest stage of an engineering career, a PE is likely to have a higher salary than an unlicensed engineer. The median salary of a PE five years after earning a bachelor's degree is \$71,900, while the median salary of an unlicensed engineer five years after earning his or her bachelor's degree is just \$62,283.

(1 NSPE is a founding member and continues to be active in AAES. This annual salary survey is made possible, in part, through NSPE's engagement and support.)

For the first half of engineers' careers, this median salary gap expands and contracts, at one point shrinking to less than \$3,000. But in the latter half of engineers' careers, the gap stops fluctuating and it is clear professional engineers have significantly better earning potential, on the whole, than unlicensed engineers.

Beginning 18.5 years after unlicensed engineers earn their bachelor's degrees, their median salary plateaus at \$94,107. Professional engineers, on the other hand—whose median salary 18.5 years after earning their bachelor's degrees is \$100,000—continue to see that salary increase for another 14.5 years (33 years after earning their bachelor's degrees), eventually reaching \$115,200.

The report also includes salary information on PEs in supervisory positions and with master's degrees. The median salary of PEs in supervisory roles reaches a high of \$122,600, while the median salary of PEs in nonsupervisory roles reaches a high of \$107,000. Similarly, the median salary of PEs with master's degrees reaches a high of \$121,900, while the median salary of PEs with bachelor's degrees reaches a high of \$111,900.

Recent American Association for the Advancement of Science data indicates that research funding in engineering fields is not only growing, but has surpassed other scientific and engineering fields. (Source: American Society for Engineering Education.)

4. Collaboration

Engineers Week activities extend beyond our national borders. A recent [article](#) in a defense industry publication highlighted how US Army Corps of Engineers' activities in the Japan district used this event to extensively promote the importance of "passing the baton" to the next generation of engineers

After a meeting with Arizona State Society members and leadership in Phoenix last month, NSPE advocacy, marketing and communications staff has followed up with some recommended steps the society can take to revitalize membership interest and involvement. The killer combination of an active and committed core membership in the state and the resources of the combined community of NSPE partners will, we hope, help ASPE build momentum and make a mark.

5. Member Engagement

The March/April *PE* magazine [cover story](#) detailed how professional engineers play a critical role in designing PE exams that can determine who has the right experience to protect the public. NSPE is currently encouraging members to share their stories on how they felt when they passed the exam and why they felt

pursuing licensure was important. (Stories should be shared with pemagazine@nspe.org.) This content will be mined for use in promoting the license, membership and other purposes.

6. Professional and Leadership Development for the Licensed Professional Engineer

A recent article in the *McKinsey Quarterly* (“[Decoding leadership: What really matters](#)”) analyzed the plethora of leadership literature and boiled it down to a list of 20 distinct leadership traits. McKinsey then surveyed 189,000 individuals in 81 diverse organizations to assess how frequently these leadership behaviors were applied within their organizations and how they performed. They found that *4 behaviors explained 89 percent of the variance between strong and weak organizations:*

- ☑ solving problems effectively;
- ☑ operating with a strong results orientation;
- ☑ seeking different perspectives; and
- ☑ supporting others².

(2 With grateful acknowledgment to my colleague Tom Dolan, the retired CEO of the American College of Healthcare Executives, for bringing this article to my attention.)

7. Finance, Administration, Operations and Staff Alignment

Staff has completed a base-line budget for FY17 and projections for three years, based upon current operations. President Tim Austin invited board input into development of a three-year business plan and both he and Vice President Tom Roberts have provided suggested strategies and areas of focus to be considered in this context. I shared a structural model for a possible business plan with Tom and Treasurer Julia Harrod, breaking the NSPE budget and operations into four, broad lines of business or business units: membership, NICET, building, and other (mission-advancing, non-dues revenue programs and mission-driven programs, with or without a financial return on investment). All of these inputs will be collated into a starting point for business plan discussions. The officers (who also serve as NSPE’s finance committee) will engage in this material in the weeks ahead, to refine it into a concrete business plan, which can then be incorporated as revisions to the base-line budget, in time for a formal FY17 budget proposal and three-year business plan to be presented to the board for final approval at the board meeting in Dallas in June.

8. Governance

The annual General Assembly of the House of Delegates in Dallas is only ten weeks away. And preparations to ensure it is a productive and high-impact meeting are building. State societies and the coordinating role of regional representatives on the NSPE board need to be kicking in now to ensure we hit the ground in Dallas prepared to move forward and use that limited time to maximum value. Key

issues for the national and state leadership that will be addressed at the General Assembly (and associated meetings throughout the conference leading up to the formal, Saturday meeting) will address the future of the profession, membership and business models, and finalization of changes to [public policy statement 168](#) on engineering education.

Please mark your calendars now, and start getting your representatives prepared for the pre-HoD briefing and agenda webinar at 1 PM Eastern on May 23rd. Details on the webinar will be distributed shortly.

Finally, please remember that access to NSPE leadership resources is always available to you in the Leadership Toolbox at www.nspe.org/toolbox. You will need to log in with your user name and password.

This includes [links](#) to current talking point scripts and presentations for use by NSPE officers, board members, and other leaders during state visits, chapter meetings, or other venues to promote NSPE and its activities. There are three versions of the presentation to suit your presentation style and skill – an animated PowerPoint with moving graphics and text, a static PowerPoint with no animation, and a Word document with an outline overview of the presentation.

You will also find other [sample presentations](#) for volunteer leaders, [sample promotional](#) and other materials for membership, advocacy, association management, meetings, governance and other areas, and the [latest advocacy news](#).

There is also great material on NSPE's purpose, mission, vision and a history of the *Race for Relevance* and the resulting Strategic Plan in a section called "[Who We Are and What We Do](#)."

You can also review a detailed calendar of NSPE and state society events on the website at: <http://www.nspe.org/membership/about-nspe/master-calendar-of-events>



Introducing NSPE Unite

[Home](#) » Introducing NSPE Unite

Become a part of the inaugural group today. Let us know who our newest members might be.

REFER A PE 

Date extended to May 13.

NSPE is committed to advancing the engineering profession and is the only national organization committed to addressing the professional concerns of licensed PEs across all disciplines.

[Click on this link](#) to learn more about the program.

Special thanks to the following firms for their support of the South Dakota Engineering Society:

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